

**PROTECTION OF FARMERS' RIGHTS IN INDIA-
CHALLENGES FOR LAW IN THE CONTEXT OF PLANT
BREEDERS' RIGHTS**

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Certificate

This is to certify that this thesis entitled “*Protection of Farmers’ Rights in India- Challenges for Law in the Context of Plant Breeders’ Rights*” submitted by Ms. P.S.Seema for the degree of *Doctor of Philosophy*, is, to the best of my knowledge, the record of bonafide research carried out under my guidance and supervision from 15th January, 2002 at School of Legal Studies, Cochin University of Science and Technology. This thesis or any part thereof has not been submitted elsewhere for any other degree.

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This is to certify that the important research findings included in the thesis entitled “*Protection of Farmers’ Rights in India- Challenges for Law in the Context of Plant Breeders’ Rights*” have been presented in a research seminar at School of Legal Studies, Cochin University of Science and Technology on 8th December, 2011.

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Declaration

I declare that the thesis entitled “*Protection of Farmers’ Rights in India- Challenges for Law in the Context of Plant Breeders’ Rights*” for the award of the degree of *Doctor of Philosophy* is the record of bonafide research carried out by me under the guidance and supervision of Dr. N. S. Soman, Associate Professor, School of Legal Studies, CUSAT. I further declare that this work has not previously formed the basis of the award of any degree, diploma, associate-ship or any other title or recognition.

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Preface

Man is considered as the most intelligent living being, with the most advanced brain. This brain is behind all his creativities, which contribute to the added pleasures in his life as well as others'. Intellectual Property Rights (IPR) is a means for rewarding these creativities. There are various IPR like copyright, trademark, patent right, rights relating to Geographical Indications (GI) and Plant Breeders' Rights (PBR). But of all these rights, it is only in the case of PBR that, there was a need for a counter right, due to the problems it caused to a vital and fundamental fragment of any society called the farmers. The Farmers' Rights (FR) is thus the product of the need of the hour, and also the reaction of the Law as part of equity, fairness and justice. This is because, when the plant breeders are given IPR for having developed a new, distinct, uniform and stable variety, the farmers who developed, conserved and preserved various varieties which are in tune with nature, along with traditional knowledge(TK) associated with them, are not given any such rights.

The farmers' varieties are not only used by the world community for consumption, but also by the plant breeders for developing new varieties. This shows the dual role played by farmers towards food security on the one hand, and their role as contributors to agrodiversity, and thus a sustainable environment on the other. They also ensure food safety, as the varieties they conserve, preserve and develop are in tune with nature, and thus not harmful to the health of living beings. The case with new varieties is not that certain. There are arguments for and against newly developed plant varieties especially the Genetically Modified (GM) plants.

This leaves a kind of uncertainty about the safety of such food items, which is to be very carefully tackled by law. So, to compare both plant breeders and the farmers, farmers deserve more rights and protection than the breeders. However, the reality is in the reverse. Farmers are not given any substantial right like property rights in the international level, and the international documents have left the job of filling the gap with the State parties.

India being a country 70% of whose population depends on agriculture, who is very rich in plant genetic resources for food and agriculture (PGRFA), and who is the leading producer of many crops like the rice, and wheat, She has to give utmost priority to the welfare of Her farmers. So, while giving effect to the international laws, as well as while making legislations otherwise, everyone expects India to do the maximum for Her farmers. But to the great disappointment of every one, India has not even given effect to the minimum mandate given in the international laws for the protection and welfare of Her farmers. Even where certain rights are created in Her legislation, due to lack of clarity, and confusion there, it is too much to expect that these rights will be available to the farmers. Thus, there is a need to relook at the existing Indian laws in this regard to create as much rights as possible for the farmers so as to nullify the negative effects of the exclusive property right created for the plant breeders. This is more a facet of equity because modern plant breeding is possible only due to the age long efforts, and intelligence of the farmers.

This state of affairs has prompted the author to select this area as the subject for research. At this juncture, the Author uses this opportunity to thank all those who were giving her various kinds of supports in the

completion of this work, The Almighty works through many to help the needed, and the Author considers all those who helped her as different forms of the Almighty.

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ABBREVIATIONS

ABS	-	Access and Benefit Sharing
ASEAN	-	Association of South East Asian Nations
AU	-	African Union
BDA	-	The Biological Diversity Act, 2002 (India)
BMC	-	Biodiversity Management Committee
CaMV	-	Cauliflower Mosaic Virus
Case W.Res. J.Int'l L.	-	Case Western Reverse Journal of International Law
CBD	-	The Convention on Biological Diversity
CMS	-	Cytoplasmic Male Sterility
CoFaB	-	Convention on Farmers and Breeders Rights
CGRFA	-	Intergovernmental Commission on Genetic Resources for Food and Agriculture
CPGR	-	Commission on Plant Genetic Resources
CULR	-	Cochin University Law Review
DNA	-	Deoxy Ribonucleic Acid
DUS	-	Distinct Uniform and Stable
FAO	-	Food and Agriculture Organisation of the United Nations
FR	-	Farmers' Rights
GB	-	Governing Body (ITPGRFA)
GI	-	Geographical Indications
GMOs	-	Genetically Modified Organisms
GURT	-	Genetic Use Restriction Technology (technologies)

IARCs	- International Agricultural Research Centres
ICCPR	- International Convention on Civil and Political Rights
ICESCR	- International Convention on Social Cultural and Economic Rights
ILO	- International Labour Organisation
IPR	- Intellectual Property Rights
ITPGRFA	- International Treaty on Plant Genetic Resources for Food and Agriculture
IUPGRFA	- International Undertaking on Plant Genetic Resources for Food and Agriculture
JWIP	- Journal of World Intellectual Property Rights
MLS	- Multi Lateral System of Access & Benefit sharing
NBA	- National Biodiversity Authority
NBPGR	- National Bureau of Plant Genetic Resources
PBR	- Plant Breeders' Rights
PGR	- Plant Genetic Resources
PGRFA	- Plant Genetic Resources for Food and Agriculture
PIC	- Prior Informed Consent
PIIPA	- Public Interest Intellectual Property Advocates
PPA	- Plant Patent Act

PPVFRA	-	Protection of Plant Varieties and Farmers' Rights Act (India)
PVPA	-	Plant Variety Protection Act (U.S.)
SBB	-	State Biodiversity Board
SMTA	-	Standard Material Transfer Agreement
T-GURTs	-	Trait Use Restriction Technologies
TK	-	Traditional Knowledge
TRIPS	-	Agreement on Trade Related Aspects of Intellectual Property Rights
UDHR	-	Universal Declaration of Human Rights
UNCED	-	United Nations Centre for Environment and Development
UNEP	-	United Nations Environmental Programme
UPOV	-	Union pour la Protection des Obtentions Vegetales (French).(International Convention for the Protection of New Plant Varieties)
UNCLOS	-	United Nations Convention on the Law of the Sea
V-GURT	-	Variety Use Restriction Technology
WIPO	-	World Intellectual Property Organisation
WTO	-	World Trade Organisation

INTRODUCTION

Human beings are the most intelligent among the creatures of the Earth. That is what they believe. However, they are only part of the system, and not the centre. Every creature has its own value and position in the system. Human activities often forget this fact. They tend even to propertise other creatures or living things. Actually in the ancient scriptures of India like Ramayana and Mahabharata, Puranas, and Vedas almost every creation has prominent places, and many are even worshipped. The five elements called the Earth, Water, Fire, Air, and Space without which life is not possible, are given a divine place, and the first four elements are actually worshipped as Gods. (Earth as Goddess Earth, water as Lord Varuna, Fire as Lord Agni, and Air as Lord Vayu). Almost all animals, birds and trees are respected for one reason or other. To illustrate, rat, lion, ox, tiger, elephant, cow, snakes, parrot, peacock, banyan tree, Thulsi, koovalam, neem tree, and karuka grass, are worshipped as associated with Gods either as their favourite, or as their vehicles¹. The trees mentioned here are all of immense medicinal values. And even though in the name of religion, what is done is the conservation and preservation of many medicinal plants, animals and trees and thus biodiversity. The “kavu”, where the Snake King (Naga Raja) is worshipped helps in preserving the thick forests in many places.

¹ Rat is supposed as the vehicle of Lord Ganapathi, lion as that of Lordess Durga, tiger as that of Lord Ayyappa, elephant as that of Lord Indra, peacock as that of Lord Muruka, and Ox as that of Lord Siva. Snakes are worshipped due to many reasons. One, snakes themselves as Gods. The other is due to the snakes' association with Lord Siva as his ornament, and with Lord Vishnu as his seat. Snakes are also equated with the Kundalini, and also with salvation.

But this culture gave way to modernization, and is now condemned as mere dogma. Thus, this culture is practiced only by a minority even in its birthplace called India. Elsewhere the culture was totally different, especially in the western countries, where human beings consider themselves as the centre of the universe, and every other creature as goods for consumption. In such a culture, propertisation of anything is possible, because everything, including living things is just commodities, with commercial value. This is reflected in the Locke's theory of property, in Hegel's theory of property and any other property jurisprudence, where they advocate that when a person catches a bird, that bird becomes his property. (This is exactly opposite to the above mentioned concept of human beings' relation with nature and the living things around them in the Indian tradition.) As Science and technology developed, this human nature which considered everything as property got different dimensions. For finding out the hidden mysteries of nature, property right is given. Patent laws allow patenting of even living things over which the holder is given exclusive right. For having found out peculiarities of certain plants also patent was given. However, patenting of life forms was condemned by many countries, as they believe that natural things are not to be the property of anyone. However, for the efforts involved in breeding new plant varieties were to be recognized also. Thus, a new type of IPR was to be created.

It is as a solution to this that the Plant Breeders' Rights (PBR) emerged. That means the countries which consider patenting of life forms as opposed to morality shall opt for PBR. But slowly, even the PBR took the shape of patent right, or even more. Due to this development, the sufferers or losers were the most important segment

of the society called the farmers. This is because many of their freedoms were curtailed due to PBR. While the efforts of the plant breeders for having developed a new variety were recognized in the form of exclusive intellectual property rights, the farmers who spent even their lifetime for conservation and preservation of certain varieties are given no property right at all.

Though the word Farmers Rights (FR) is used as the counterpart of PBR, in essence, they are in no way comparable. While the latter is a solid, concrete and well defined property right, FR is yet to be even conceptualized. Even the definition given in the international documents for FR is only a skeleton. International law is also not addressing the issue of FR in any document which exclusively deals with FR. On the contrary, FR is defined in a document which is for preservation of plant genetic resources for food and agriculture (PGRFA). This means that increased food production is the main aim of the document, and FR is respected just because they make available the PGRFA for plant breeding, or for any other research purposes. PBR is very strongly implemented as it forms part of the TRIPS. The International Convention for the Protection of new Plant Varieties (UPOV) is also followed by countries without much change as it is considered as the model international law for the protection of PBR (*sui generis* law in the language of TRIPS). Such a strong background is lacking in the case of FR.

All these make these two rights as totally different, and they are as different as chalk is from cheese. In fact, the conflict between these two rights mainly occurs when the plant breeders seek access to the plant genetic resources (PGR) and traditional knowledge (TK) of the farmers, and when farmers try to use the PGR of the

protected variety. Any law which addresses the issues of FR will have to concentrate on these two areas. The plant breeders' rights and their relationship with the newly bred variety is very clear. However, no serious attempt is done in the international level to solidify the farmers' relationship with the PGR or TK conserved or preserved by them. The main reason for this is the difficulty in identifying even the country of origin of certain PGR or TK, as they have become so commonly available and known. So, to find out even a particular community within a country as the holders of certain PGR or TK is even more difficult.

This has prompted the international law to take uneven shapes. In fact this difficulty has driven international law to leave the core matters to the State parties. So, what is found in the international law is that only certain residuary rights (rather privileges) are attempted to be given to the farmers. However, these attempts created many unknown concepts like seeking of prior informed consent (PIC) of the farmers before access is given, and benefit sharing of at least two types- bilateral and multilateral. These two types of benefit sharing are also the outcome of the difficulty in identifying the conservers or preservers of certain PGR or TK. However, these are not yet in the form of rights in the international level. But enough space is left for the State parties to develop them into rights. These are the moot problems in the area of plant breeders' access to the PGR or TK of the farmers.

As was stated in the context of PBR, the strength of it lies in the fact that it is a recognised right in the TRIPS. So, for FR to be at par with PBR, FR should also find a place in the TRIPS. In other words, FR should also be given the status of IPR. But then there is a

problem. Most of the existing IPR are private, temporary and alienable rights, as against the FR which are collective, and inalienable, and which requires permanent protection. Can FR be included in TRIPS then? This is also another area pondered into by this thesis.

Coming to the other area, of farmers' access to the PGR of the plant breeders, the things are slightly different. Here, the farmers are now seeking access to an exclusive property. The PBR created by the UPOV 1991 is preventing anybody else (without authorization) from producing, reproducing, marketing, distributing, selling, or even saving the propagating material or the harvested material of the protected variety. Only if the PBR gives a space for the farmers in the form of an exception, that the farmers can use, re-use, save, exchange or sell farm saved seed of the protected variety. Though UPOV has given a space in the form of an optional exception, it does not cover all these rights. However, another international law in the same field mandates the States to give to their farmers all these rights. This is an area of anomaly which the thesis is trying to solve.

Also, the re-use of the protected variety can be substantially controlled by the genetic use restriction technologies (GURT) like terminator technology. This is also another area of problem for the farmers. Quite naturally a question may come to the mind of the reader here. Why should the farmers try to use the seeds of the protected variety, as nobody prevents them from using their traditional seeds? The justification for giving this right is also tried to be given in the thesis, while discussing on farmers' right to use, save, exchange and re-use the seeds, based on the history of farmers.

The international laws which deal with the farmers' right to use, save, exchange and sell the seed are the UPOV, and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). The international laws which deal with the rights of the farmers while access is given to the plant breeders to their PGR and TK, are the Convention on Biological Diversity (CBD), and the ITPGRFA.

With this international scenario in the background, this thesis proceeds to the situation of farmers in India, in the context of PBR. Farmers were always subject to exploitation and torture in India throughout her history. Except during the reign of Chandra Gupta Mourya, in no other period in history farmers were given enough recognition for their efforts in feeding the world. They were considered only as the means for extracting revenue. For this purpose, they were always treated very cruelly as the history says. Though the farm produce were the attraction of their blood suckers, the PGR or TK were solely left to them. But with the advent of gene technology, the PGR and TK assumed great economic significance and thus, the so called worthless things suddenly turned to be gold. This is like the hiking of the price of land when a development takes place in the vicinity.

This changed scenario gave the PGR and TK, and their holders some importance. India being an immensely rich country in biological diversity, and also a country whose economy is based upon agricultural economy has a very great responsibility in recognizing the rights of the farmers over their PGR and TK. She has also the great responsibility of filling the gaps in the international law in a very fruitful manner. However, this is possible only if all the PGRFA in the

country, and the holders of the same are identified. So, legislation to that effect is also necessary. This thesis is examining the legislation/legislations in India in this regard, with their effectiveness. The thesis also examines the legislation/ legislations which deal with the farmers' rights over their PGR and TK, and the farmers' rights when access is given to the plant breeders to their PGR and TK.

The legislation which deals with identification of PGRFA, and the rights of the farmers when access is given to the plant breeders to the PGRFA and TK is the Biological Diversity Act (BDA). The legislation which deals with the farmers' right to use, save, exchange and sell the seeds, and benefit sharing, and some additional rights is the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA). India has benefit sharing provisions in both BDA and PPVFRA. PPVFRA gives PBR to the farmers who developed new varieties using traditional methods. It also gives property rights to the farmers' varieties by registering them. India is the first country in the world who registered the farmers' variety. PPVFRA gives farmers all the rights over the PGR of the protected variety, and also added rights when using the seeds of protected variety.

This seems to be a perfect situation, and the best utilization of the space in the International laws. This will also make a reader to think that PPVFRA is an *effective sui generis* law for the protection of FR. *However*, things are not that rosy. Behind this colourfulness lie some grave problems with both the legislations. If in the case of BDA the problems are very obvious on the plain reading of the legislation, in the case of PPVFRA, the problems are revealed only after an in-depth analysis of the Act, with the help of Rules and Regulations. What are the problems? How can they be solved? These are the major

questions that are tried to be answered in the area of Indian legislations. Lessons from various legislations in the world are drawn for suggesting solutions.

With this introduction, this thesis moves to Chapter I which deals with the areas of conflict between the FR and PBR, and the need for balancing them. This Chapter also deals with the history of FR and PBR in the international law in order to find out the background, and politics which played behind their development, or shrinking as the case may be. The history of farmers in India is also traced to find out what all were their freedom on farming down the ages, mainly to find out their freedom or control over the seeds. Depending upon the situation, (farmers' access to the PGR of plant breeders, plant breeders' access to the PGR or TK of farmers) farmers require different sets of rights. Due to the diversity of the persons who are related to agriculture, there are different types of farmers who need certain rights. The holder of PGR, the holder of TK, and the farmer who accede to the PGR of the protected variety can be three different persons/ group of persons. So, separation of farmers for the purpose of entailing rights is different, which makes defining the farmer a necessity. So, a "definition of farmers" is attempted in Chapter I. A jurisprudential analysis of these rights based on the theories of John Locke, Hegel, and Marx is also attempted in a brief manner, in order to churn out a case for property rights for farmers.

Now let us move to Chapter I, *Farmers' Rights and Plant Breeders' Rights- Areas of Conflict and need for balance.*

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**FARMERS' RIGHTS AND PLANT BREEDERS'
RIGHTS-AREAS OF CONFLICT AND NEED FOR BALANCE**

The importance of farmers cannot be undermined in any country in general, and in developing countries in special, as they need special protection due to their dependence on farming for their survival. In developing countries like India, farming is not yet an industrial activity, neither the farm produces just commodities. Farmers may be there with or without ownership over the land. This diversity demands classification of farmers into several categories. While some among these categories did not, or do not face much problems relating to their livelihood, some others have always suffered oppression, and torture throughout the history in India, by whatever name they may be called. They had thus always several problems connected with their profession. But, they had lots of freedoms such as the control over the seeds as to how to use them, to exchange them with other farmers, to save and re-use them. In all the phases of the Indian history where farmers had to face torture in the hands of the ruling class also, the tax collectors' eyes were on the farm produce and not on the seeds. This was because the seeds were not of any economic value.

With the advent of the new intellectual property right (IPR) called the plant breeders rights (PBR); there emerged new problems for the farmers, and thus the need for new solutions. In fact, with the emergence of this new IPR, the farmers were compelled to defend themselves in order to continue their freedoms as before. So, there

were attempts in the international level which had its impact in the national levels as well.

In this Chapter, the potential areas of threat to farmers' sovereignty (in their profession), due to the advent of PBR are examined. These are called the areas which require strong State intervention through legislation. Thus, these are the areas of farmers' rights (FR) as per this thesis. As the entire thesis is revolving on farmers' rights in the context of PBR, a definition is necessary to locate the people on whom the rights should be bestowed, in the context of PBR. So, a definition is also given to farmers in this Chapter. However, it is an interesting aspect that the FR as understood in the international level and in the Indian level is different. This is because, due to the difficulties in identifying the farmers who conserved and preserved the PGR in the international level, farmers are not just persons, or even community of persons, but even the State itself. Thus, it is a highly collective right. In the Indian level however there are a lot of differences in applying the FR. So, separate discussion is given regarding the development of FR in the international level as well as in the Indian level.

It is to be noted here that it is the creation of PBR which *compelled* the making of FR. So, first a brief discussion about the various types of plant breeding, the merits and demerits of plant breeding and an analysis of the development of PBR is needed, and then a perusal into the eventual follow up of FR in the international level and then in the Indian level.

Plant breeding is the art and science of changing the genetics of plants in order to produce desired genetic characteristics.

Plant breeding can be accomplished through many different techniques ranging from simply selecting plants with desirable characteristics for propagation, to more complex molecular techniques. The modern plant breeding techniques are, the marker assisted selection¹, and through genetic modification, by creating transgenic plants². In the marker assisted selection, the breeder identifies the particular gene of interest to him from among many genes that control the trait of a plant. This is done by using tools such as molecular marker, or DNA (Deoxy Ribonucleic Acid) fingerprinting. Genetic modification indicates the adding of specific gene or genes to a plant to produce a desirable phenotype.

This clearly shows that, for a modern plant breeding to take place, the PGR of a traditional variety, or a wild variety is needed as a basis. It is also a fact that, along with the PGR, if TK is also available, the job of the plant breeder becomes much easier. Because then he need not find out that particular character of the plant, which is contained in the TK. This shows the enormous amount of work the breeder could skip thanks to the farmers' preservation of the PGR as well as TK. So, this requires the law to reward the farmers for that.

As this thesis is centered on the problems caused during the intersection of PBR, and FR, it is necessary to have a brief discussion about the modern plant breeding, and the historical development of the PBR. In the discussion about the modern plant breeding, the merits as well as the demerits of the same are also essential so as to give a balancing picture about it.

1. For details, see http://en.wikipedia.org/wiki/Plant_breeding. Visited on 20-03-2010.

2. *Ibid.*

1.1 Modern Plant Breeding-Merits and Demerits

Actually plant breeding helps the agricultural production very much, by adding positive characters like high yield, resistance to draught, saline water, pest, and herbs, and many other qualities, and nourishments which the naturally occurring produces do not have. There are many who attack the arguments against transgenic crops as anti-environmental³, and many who consider them as the very ender of the world. It is interesting to note the equally strong arguments for and against newly bred varieties of plants, especially agricultural plants. Those who argue in favour of them say: “All of our more than 200 varieties of dogs were bred from wolves, yet who would argue that greyhounds or French poodles should be banned as unnatural abominations? It happens in food, too, where few of our staples would flourish in nature.”

They also argue, “There will be nine billion of us by 2050 and food demand will have increased by 56% to 120% compared with 2000. At the same time, food producers will be contending with increasing climate instability as well as loss of arable land by salinisation and erosion. Only about 18% of the planet’s surface is arable land and, unless we can bring more into production, that percentage will be further reduced by the demands of housing and transport. Feeding the world means a constant race for improved methods, and standing still isn’t an option. That’s why the scare

3. Gordon Cornway, Professor of International Development, Imperial College London, said that the farmers must use the best aspects of organic methods and GM technology to maximize yields while limiting damage to ecosystems. More details are available at <http://www.timesonline.co.uk/tol/news/science/earth-environment/article6985295.ece>. Visited on 20-03-2010.

stories and pseudo science pedalled by the anti GM-lobby must be taken head on⁴.”

But there are even scientists who are there to oppose. In an “Open letter from World Scientists to All governments concerning Genetically Modified Organisms (GMOs), signed by 828 scientists from 84 different countries (most number of scientists from UK (115), USA (78), Canada (64), India (56), Australia (44), and France (36)) “called for the immediate suspension of all environmental releases of GM crops and products, both commercially and in open field trials, for at least 5 years; for patents on living processes, organisms, seeds, cell lines and genes to be revoked and banned; and for a comprehensive public enquiry into the future of agriculture and food security for all⁵.” Their main reason is that

“Genetic engineering introduces new genes and new combinations of genetic material constructed in the laboratory into crops, livestock and microorganisms. The artificial constructs are derived from the genetic material of pathogenic viruses and other genetic parasites, as well as bacteria and other organisms, and include genes coding for antibiotic resistance. The constructs are designed to break down species barriers and to overcome mechanisms that prevent foreign genetic material from inserting into genomes. Most of them have never existed in nature in the course of billions of years of evolution. These constructs are introduced into cells by invasive methods that lead to random insertion of the foreign genes into the genomes (the totality of all the genetic material of a cell or organism).

4 Available at <http://www.timesonline.co.uk/tol/news/world/ireland/article6926771.ece>. Visited on 02-02-2010.

5 Available at <http://www.i-sis.org.uk/list.php>. Visited on 15-05-2010.

This gives rise to unpredictable, random effects, including gross abnormalities in animals and unexpected toxins and allergens in food crops.”

Among various other reasons pointed out as the dark and highly dangerous sides of the GMO's, some reasons point towards everlasting health hazards to the living kingdom as such. The Scientists caution that “the potential hazards of horizontal transfer of GM genes include the spread of antibiotic resistance genes to pathogens, the generation of new viruses and bacteria that cause disease and mutations due to the random insertion of foreign DNA, some of which may lead to cancer in mammalian cells. The ability of the CaMV (cauliflower mosaic virus) promoter to function in all species including human beings is particularly relevant to the potential hazards of horizontal gene transfer.”

The above said arguments are brought to the notice of the reader just to analyse the pros and cons of the new plant breeding. As most of the new plant varieties are bred using gene technology, most of them are transgenic crops. There are negatives as well as positives as pointed out. But, it is for the law to decide whether to put a blanket ban on all the newly bred varieties using gene technology, or any other technology, or to allow them to be used, with strict observance of law. Law can decide which all regulations should be put on the seeds, or the products of GMOs, or other newly bred varieties. That is not the concern of this discussion because, as the PBR are already a reality, there is no question of denying them their rights on the negatives of the newly bred varieties. The negative sides of it are left to the legal control.

The reason why the merits and demerits of new plant breeding are examined is to highlight two aspects. One is the possibility of using the new varieties, for improving and increasing food production. The other is, the amount of intelligence, effort, money, and energy spent in improving a new variety. These two factors cannot be overlooked while discussing the PBR. These are the justification for their existence, and the reason for their development. Their importance cannot thus be ignored not only due to these two points, but also due to another reason which is stronger than these two. And this reason is the economic and political reason which played very strongly to make the PBR almost equivalent to a patent right. The political play was forced due to the economy involved in having the PBR as an exclusive right. This takes us to the development of the PBR, in the international as well as national level, with highly diplomatic dramas underpinning.

The history of the PBR is necessary due to the fact that it is in the context of this right, and the possible problems this right is going to pose to the farmers that this study is analyzing. So, it is necessary to know the possible political and economic connotations, and thus the political as well as economic reasons, more than legal reasons which built this right. To fight such a right, the FR must also have strength of the same stature. The discussion about the history of the PBR will also help us to know the background of the model international law for the protection of plant varieties (which gives rights to the plant breeders) called the UPOV which is under study in the next Chapter.

As was pointed out earlier, something which never faces any threat does not need recognition in the form of rights. When the

seeds and the TK were not of any economic value, and there was no threat of someone snatching them from the people who developed them, there never arose a question of any right over them. But, in the context of PBR, the basic material which is so essential for the development of new plant varieties, and the TK associated with them if any, are now of high demand. Developing countries had the experiences of biopiracy⁶ in many ways. All these strongly tend to suggest that there is a need to positively assert the rights of the farmers over the PGR and TK which they developed. As the result of using this PGR or TK ends up in a property right with high economic return, question also arises as to whether any share of such profit is due to the holders of the PGR and the TK. So, some kind of a right of the farmers over the PGR and the TK is now to be recognized by law. This is surely not a right hitherto known to the farmers. Thus, surely these rights are *new generation rights*.

Another area where the farmers require rights is their relation to the seeds or the PGR of the protected (by PBR) variety. Here the question is, if the PBR put restrictions on the farmers to use, save, re-use and exchange the seeds of the protected variety, are farmers having a better rights over this property right, so that they should be given this right? Because, the farmers always had the freedom to use, save, exchange, and re-use their seeds. This can be called as a customary right. So, in the light of PBR, if they put restriction on the farmers in their exercising their customary right, the intervention of the law is necessary. Apart from this, another reason

6. For example, the neem case and basmathi rice cases in India. Patricia Lucia Cantuaria Marin, *Providing Protection for Plant Genetic Resources*, Kluwer Law International, New York, 2002, p.62.

also suggests for the intervention of law in this matter. Farmers are the food producers of any nation. The method of farming differs from country to country. In India, we still have the traditional farming system with the traditional farmers, as different from the capitalistic farming system. While the present system of farming in India is substantially traditional, unless the present farmers are allowed to continue their farming with the advanced technology, the result will be their disappearance. In the era of plant breeders, the landlords are not a threat to the extinction of our farmers. If food production is to be continued as such, and India has to retain her domestic food production, all those who are engaged in the food producing activities today are to continue to do it. Otherwise, the food production will be controlled by the corporate.

1.2 The Historical Journey to the Plant Breeders' Right

In the international level, to trace the history of the breeders' rights which has the effect of putting the farmers (the wider canvass being the indigenous or local people's) rights into peril has two very crucial level. One is the development of legal or judicial response towards *patenting of life forms* especially the plant life, and the second one is the development of liberalization in trade related matters. While the first one resulted in allowing intellectual property (patent or patent like) rights in all human made inventions (sometimes even discoveries) overthrowing the oppositions against morality, the second one allowed the patent holders, or the like right holders to easily have access to the markets of the developing countries as the State protections in the form of restrictions were taken away. An analysis of the international documents are made in this Chapter to

find out how these developments in various parts of the globe, especially the United States resulted in unifying the law in this regard in the International level.

1.2.1 Patenting of life- History- Resulting in TRIPS and the UPOV 1991

Patenting of life forms was always objected on the ground of morality, public order and law of nature, as the patent law results in converting natural products into private property. It is also opposed on the ground that in biotechnology, there is no invention, but there are only discoveries. For example, if a scientist found out that a particular gene is responsible for causing diabetics in human beings, and by removing that gene, the disease can be cured, is it a discovery or an invention? He has only 'discovered' that peculiarity of the gene, which already existed in nature. But, contrary to discovering a substance that laid hidden somewhere, in this case, there was an enormous amount of intellectual input, which makes this 'discovery' different. So, the question is, should the amount of intellectual labor that is put for the discovery or invention that matter, or should the amount of modification, and remoteness from the naturally found form that matter? Those who argue against intellectual property being given for biotechnological 'inventions' however feel that the amount of modification, and the remoteness from the naturally found living form is the basis for the distinction between invention and discovery. So, they were totally against allowing patent or like intellectual property rights on discoveries.

However, against all these arguments grew the patent and the PBR as those who argued for it were mighty and wealthy people as against the poor illiterate (in the formal education sense) traditional people like the traditional farmers. This happened first in the U.S. soil, spread to Europe to some extent and, finally to the international level, thereby binding all the nations in one way or the other. Let us thus have a very brief history about what happened in U.S. regarding patenting of life forms in general and plant life in particular. This is important because, the traces of the laws in U.S. sometime back is still found in the international laws, and as an influence (though not India is a party to it) in the Indian law also.

1.3 A brief history of Plant Breeders' Rights and patenting of life forms in U.S.

1.3.1 Plant Breeders' Rights -1930-1970 (From Plant Patent Act to Plant Variety Protection Act)

Before 1930, there was no law for patenting of plant life in U.S., though there was the history of patenting of life substances elsewhere in the early nineteenth century when Louis Pasteur patented a culture of yeast cells in 1873. Adrenaline and insulin were also patented in early 20th century⁷. It is interesting to note how the development of law in this regard most often crisscrossed with the International development, and how they influenced each other.

In 1930, the U.S. started with the Plant Patent Act (PPA) which gave patent protection to distinct and new plant varieties, against its asexual reproduction. This was a very limited protection

⁷ Graham Dutfield, *Intellectual Property, Biogenetic Resources and Traditional Knowledge*, Eastern Publishers, London, 2004, p.1.

because only the asexual reproduction by third parties was prevented. So, reproduction as such was not prevented. Anybody could have reproduced the patented plant through sexual reproduction (through seed) and thus deprived the patent holder the 'exclusiveness' of his right, which left the breeders very much dissatisfied. However, this dissatisfaction led to strong protest and pro arguments by the breeders saying that new varieties of plants through breeding are required for more productivity. However due to the aftermath of world war II, and due to industrialization, the need to promote inventions was felt very badly and in the International level there was a move to protect the plant breeders' rights by way of an International Convention for the Protection of Plant Varieties which is called UPOV (which is the abbreviation of the French word Union pour la Protection des Obtentions Vegetales) in 1961. (discussed later).

Almost the same pulse was felt in U.S. which enacted the Plant Variety Protection Act (PVPA) in 1970. This legislation gave patent like protection to sexually reproduced materials contrary to the 1930 Act which gave patent like protection to novel varieties of sexually reproduced plants. The Act provides for a certificate of plant variety protection to those persons who breed *distinct, uniform and stable* plant varieties. (the same words are used in the UPOV 1991). This certificate confers upon the owner the right to 'exclude others from selling, offering for sale, reproducing (through any means, sexual or asexual) importing, exporting the variety, or using it in producing a hybrid or different variety there from⁸'. However, there were two very important exceptions in effect took away the 'exclusiveness' of this right to a very great extent. These exceptions

8 PVPA, Paragraph 2483.

were the research exemption and farmers' privilege. While the research exemption allowed the protected variety to be used for *bona fide* research purposes, farmers' privilege allowed farmers 'whose primary occupation is the growing of crops for sale for other than reproductive purposes, to sell such saved seed to other persons so engaged, for reproductive purposes'⁹. Some authors note that the broad exemption under farmers' privilege "provides for a wide distribution of certified seed without plant breeders receiving compensation for their 'protected' products. In just one crop cycle developers of new plant varieties have essentially lost all exclusive rights to market and sell their innovation"¹⁰.

This dissatisfaction prompted the plant breeders to fight for the traditional patent right to be given for the plant varieties. This was made possible through judicial decisions, and not through legislations. Its end however resulted in a very drastic change in the very jurisprudence of patenting of life forms in 1980 in the case of *Diamond v Chakrabarty*.

1.3.2 Patent rights on life forms including plants -From 1852-1980 (From *Le Roy v Tatham* to *Diamond v Chakrabarty* and *Ex parte Hibberd*)

This phase was marked by response of judiciary towards the arguments that even the natural substances are patentable if there is an intervention by human beings. Initially the American courts did not allow the patenting of natural products and the forces of nature. The U.S. Supreme Court decision, in *Le Roy v Tatham* (1852)

⁹ *Id.*, Paragraph 2543.

¹⁰ Patricia Lucia Cantuaria Marin, *Providing Protection for Plant Genetic Resources*, Kluwer Law International, New York, 2002, p.6.

confirmed that no power of nature is patentable. In 1939, the principle that a discovery was not patentable came under challenge in *Dennis v Pitner*¹¹ in which the claim was for the discovery of an effective insecticide in an extract from the root of a plant found in South America. The Supreme Court however, held that the subject matter was patentable as it felt that “an old substance with newly discovered qualities though possessed those qualities before the discovery, it is a refinement of distinction¹²”. But in 1948, in the US case in *Funk Bros Seed Co. v Kalo Inoculant Co*¹³ the Court expressed the view that nature was not to be patented. The Court held “ that natural products, like the heat of the sun, electricity, or the qualities of metals, are part or the storehouse of knowledge of all men.”

However, in 1980, the famous *Diamond v Chakrabarty*¹⁴, the court was of the view that patent can be granted to Ananada Chakrabarty of a modified micro-organism that could be used in oil spills on account of its capacity to break down the hydrocarbons in crude oil. The patent office rejected the claim saying that micro-organisms are “products of nature”, and that living things are not patentable subject matter under section 101 of the federal statute. It is to be noted that no naturally occurring bacteria had the property of reducing hydrocarbons to a simpler molecular structure to degrade the crude oil. So the court held that the “respondent’s micro-organism plainly qualified as patentable subject matter, and his claim was not to a hitherto unknown natural phenomenon, but to a non-naturally

11 106 F. 2d 142.

12 However, Justice Sparks disapproved the patentability of the cube roots utilized as an insecticide. This is because the judge felt that this mere discovery does not fulfill the conditions required for patent protection such as useful art, machine, manufacture, and composition of matter or any new or useful improvements.

13 333 US 127.

14 *Sidney A. Diamond v Ananda M. Chakrabarty* 447 U.S. 303.

occurring manufacture or composition of matter-a product of human ingenuity having a distinctive name, character and use”. In effect, the court was of the view that the Congress intended statutory subject matter to ‘include anything under the sun that is made by man.’

This highly pro-patent decision was of immense impact not only in other matters of patent, but also of plant varieties. In *Ex parte Hibberd*¹⁵ the Court held that even the plant varieties are patentable under the Patent Act, though the examiner rejected the claims on the ground that the subject matter is covered by the Plant Patent Act, 1930 and the Plant Variety Protection Act, 1970. The facts are as follows.

The case was an appeal from the examiner’s decision of rejecting the claims on maize plant technologies including seeds (claims 239 through 243¹⁶), plants (claims 249 through 255¹⁷), and tissue culture (claims 260 through 265¹⁸), which have increased tryptophan level or which are capable of producing plants of seeds having increased tryptophan content¹⁹. The examiner rejected the claim because he contended that 35 USC 101 (“Whoever invents or

¹⁵ 227 USPQ 443 Bd. Pat. App. 1985.

¹⁶ Claim 239: A maize seed having an endogenous free tryptophan content of at least about one-tenth milligram per gram dry seed weight and capable of germinating into a plant capable of producing seed having an endogenous free tryptophan content of at least about one-tenth milligram per gram dry seed weight

¹⁷ Claim 249: A maize plant capable of producing seed having an endogenous free tryptophan content of at least about one tenth milligram per gram dry seed weight, wherein the seed is capable of germinating into a plant capable of producing seed having an endogenous free tryptophan content of at least about one-tenth milligram per gram dry seed weight.

¹⁸ Claim 260: A maize tissue culture capable of generating a plant capable of producing seed having an endogenous free tryptophan content of at least about one-tenth milligram per gram dry seed weight, wherein the seed is capable of germinating into a plant capable of producing seed having endogenous free tryptophan content of at least about one tenth milligram per gram dry seed weight.

¹⁹ For the details of the claims in the patent application, see <http://www.google.co.in/patents?hl=en&lr=&vid=USPAT4581847&id=oLc9AAAEB AJ&oi=fnd&dq=Endogenous+free+Tryptophan&printsec=abstract#v=onepage&q=Endogenous%20free%20Tryptophan&f=false>.

discovers any new and useful process, machine, manufacture, or composition of matter ,or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title”) cannot be applied to give patent to a plant or plant variety, as the latter subject matter is covered by another legislation called the Plant Patent Act (PPA) and the Plant Variety Protection Act (PVPA). According to him, though the *Diamond v Chakrabarty* decision held that anything under the sun which is manmade is patentable, even a man made subject matter, which is exclusively covered by other legislations should be excluded from the purview of the Patent legislation, and thus the interpretation given to it in the *Diamond v Chakrabarty* decision. In a nut shell, the argument was that, *Diamond v Chakrabarty* dictum can be applied only to subject matters which are not covered by other legislations. However, the Board of Appeals rejected the examiners view and held that the language of the PVPA and PPA does not restrict the language of 35 SC 101. The Board held:

“The examiner does not point to any specific language in the plant-specific Acts to support his position that the plant-specific Acts restrict the scope of patentable subject matter under Section 101. We have examined the provisions of the PPA and the PVPA and we find, as did appellants, that neither the PPA nor the PVPA expressly excludes any plant subject matter from protection under section 101”

The Board, after examining the legislative history of the PPA and the PVPA came to the conclusion that there is nothing in the legislative history of these two Acts to show that their enactment was meant to narrow the scope of 35 SC 101. The Board held:

“The Supreme Court in *Diamond v. Chakrabarty*, addressed the legislative history and purpose of the plant specific Acts and noted that prior to 1930 there were two obstacles to obtaining patent protection on plants. The first was the belief that plants, even those artificially bred, were products of nature not subject to patent protection; the second was the fact that plants were thought not amenable to the "written description" requirement of the patent law. The Supreme Court noted that Congress addressed both of these obstacles in enacting the PPA. Congress explained at length its belief that the work of the plant breeder "in aid of nature" was patentable invention, and it relaxed the written description requirement in favor of a description "as complete as is reasonably possible." In our view, the Supreme Court's analysis of the legislative history of the plant-specific Acts makes it clear that the legislative intent of these acts was to extend patent protection to plant breeders who were stymied by the two noted obstacles” The Board also ruled out the examiners objection that the very presence of the two specific legislations implicitly repealed or narrowed section 101, as the Board was of the view that repeals by implications are not favoured, and that in the absence of conflict between two or three legislations, all should be given effect to. Thus the court was of the view that plant varieties are also patentable subject matter.

From then onwards, not only plant varieties, but also genes developed through genetic engineering, or even substances isolated from naturally occurring matter including genes whose prior existence

were unknown before the cell or any of its components were modified are also subject matter of patent²⁰.

Thus, it could be seen that after 1970, plant breeders had a better time, one through the PVPA which recognized wider rights to them, (though with very wide exception,), and the other through decisions like *ex parte Hibberd*. However, this was only a history, and as things stand today, the PBR have taken a substantially different shape just as the Lord Vamana grew to a gigantic figure from that of a dwarf, dethroning the King Mahabali²¹. This right is now capable of capturing huge profit to the holder. The economy of this right is such that, more and more multinational corporations come forward to invest in plant breeding, because they have a feeling that they will get huge benefit out of this investment. In order to ensure this huge return, they lobby very strongly in such a manner that many countries, including India are forced make legislation for the protection of PBR almost in tune with UPOV.

At this juncture, when a private right is created for the development of a new variety, one has to think of another set of people who conserved, and preserved and even developed in a natural way the PGR and TK for thousands of years and they are the farmers. Due to the emergence of PBR, the farmers were deprived of many of

²⁰ Verma S.K. "TRIPS and Plant Variety Protection in Developing Countries", 6 EIPR 281. 1995.

²¹ This is an epic that, once there was a King called Mahabali who ruled Kerala with much prosperity, honesty and richness. Alarmed by the growth of this Asura King, Lord Indra got scared and asked Lord Vishnu to help him to get rid of this King. Lord Vishnu took his fifth incarnation as a dwarf (Lord Vamana), and asked for three feet of land from the King. On Mahabali's agreeing this, the Vamana assumed a gigantic figure with the result that he measured the whole earth with one foot, the space with another, and waited for a place to put the third. The King Mahabali then showed his head for putting the third foot, and Lord Vamana kicked him down to Pathala (under earth) giving him the boon to come to Kerala to visit his subjects once in an year, and this day is celebrated as Onam in Kerala.

the freedoms they were enjoying, and just as the plant breeders are given property rights over the variety they developed, no such recognition was there with the farmers regarding their efforts in preserving and conserving the same. It is this contrast that prompted the discussions in the international level which led to the development of FR.

1.4 Historical Development of Farmers' Rights as a reaction to PBR in the international level

As was pointed out earlier, when a new right was created which impaired the freedoms and to a great extent the very livelihood of some people, the reaction of the later or on behalf of them will be to nullify the effect of the new right, or to balance it. In the international level, FR was developed in that manner. Concerns of the developing world and their advocates have been growing that strengthened IPRs in agriculture are harmful to small scale farmers and accelerate the erosion of agricultural biodiversity through the replacement of genetically diverse landraces by uniform modern varieties. Moreover, the perceived inequality in the distribution of benefits between farmers as suppliers of PGRFA and the producers of commercial varieties that ultimately rely on such germplasm have resulted in a counter concept to PBR²². The first use of Farmers' Rights as a political concept dates back to the early 1980s, when Pat Roy Mooney and Cary Fowler of the then Rural Advancement Foundation International (now ETC-Group) coined the term to highlight the

²² Daniel Alker and Franz Heidhues, "Farmers' Rights and Intellectual Property Rights-Reconciling Conflicting Concepts" in R.E. Evenson, V. Santaniello and D.Zilberman (Edrs.), *Economic and Social Issues in Agricultural Biotechnology*, CABI Publishing, UK, 2002, p.69.

valuable but unrewarded contributions of farmers to plant genetic resources for food and agriculture.

The idea came up as a countermove to the increased demand for plant breeders' rights, as voiced in international negotiations, to draw attention to the unremunerated innovations of farmers that were seen as the foundation of all modern plant breeding²³. Pat Roy Mooney argued that any legal arrangement which may hinder farmers in their practice of saving, reusing, improving and developing seeds should be condemned. According to Cary Fowler, the concept of FR can be traced back to the work of the renowned plant explorer, geneticist and plant breeder Jack R. Harlan (1917-1988), who spoke of farmers as the 'amateurs' who had in fact created the genetic diversity that had become subject to controversies. In fact, today's FR reflect both these aspects.

Moving on to the making of the FR formally, it first took place with the Food and Agriculture Organisation (FAO) of the U.N., in relation to the making of the International Undertaking on Plant Genetic Resources for Food and Agriculture (IUPGRFA). FR were reported as being addressed in an FAO forum for the first time was at the First Meeting of the Working Group in Rome, in 1986, which focused on legal and technical matters in addition to discussing the feasibility of establishing an international fund for plant genetic resources. In their analysis of country reservations to the IUPGRFA, the Working Group identified various categories of reservations, one of which involved PBR and considered ways and means to reach negotiated solutions to the problem so as to achieve widest possible

²³ Available at http://www.farmersrights.org/about/fr_history_part1.html. Visited on 20-08-2010.

adherence to the IUPGRFA. One solution found was to recognize the rights of plant breeders. It was in this context that FR were addressed for the first time. The working Group emphasized that, in addition to the recognition of PBR, specific mention should be made of the rights of the farmers of the countries where the materials used by the breeders originated. These materials were the result of the work of many generations and were a basic part of the national wealth. On the basis of the discussion in the Working Group on how to deal with country reservations to the IUPGRFA and attract greater adherence, a report was produced for the Second Session of the Commission on Plant Genetic Resources (CPGR), to be held in Rome in March 1987.

The Second Meeting of the Working Group of the Commission on Plant Genetic Resources took place in Rome in 1987, which prepared the ground for discussions in the upcoming Second Session of the Commission with regard to several agenda items. At this meeting, FR were addressed in greater detail, and thus this report is a milestone in the history of FR. The most important parts of the same are reproduced below:

“During the discussion of document CPGR/87/4, the Working Group agreed that the breeding of modern commercial plant varieties had been made possible first of all by the constant and joint efforts of the people/farmers (in the broad sense of the word) who had first domesticated wild plants and conserved and genetically improved the cultivated varieties over the millennia. Thanks were due in the second place to the scientists and professional people who, utilizing these varieties as their raw material, had applied modern techniques to achieve the giant strides made over the last 50 years in genetic improvements. In recent years some countries had incorporated the

rights of the latter group into laws as 'Breeder's Rights', i.e. the right of professional plant breeders or the commercial companies which employ them to participate in the financial benefits derived from the commercial exploitation of the new varieties. However, as document CPGR/87/4 pointed out, there was presently no explicit acknowledgement of the rights of the first group, in other words, no 'Farmers' Rights'. The Working Group considered such rights to be fair recognition for the spade-work done by thousands of previous generations of farmers. And which had provided the basis for the material available today and to which the new technologies were in large measure applied. The Group agreed, that what was the issue here was not individual farmers or communities of farmers but the rights of entire peoples who, though having bred, maintained and improved cultivated plants, had still not achieved the benefits of development nor had they the capacity to produce their own varieties. Alternative names such as 'right of the countries of origin' or 'gene donors', were proposed, but the conclusion was that the name 'Farmers' Rights' was the most expressive²⁴”.

The working group however had entrusted the further development of the concept of FR with a small contact group, which were to negotiate mainly three themes called the breeders' rights, farmers' rights, and the free exchange of genetic material. The Working Group concurred that Breeders' Rights and FR were *parallel and complementary rather than opposed*, and that the simultaneous recognition and international legitimization of both these rights could help to boost and speed up the development of the people of the

²⁴ Available at http://www.farmersrights.org/about/fr_history_part2.html. visited on 20-02-2011.

world. The idea of developing farmers' and plant breeders' rights simultaneously in order to seek a balance between the two also emerged at this meeting.

For the first time documented discussion on FR took place in the second session of the Commission on Plant Genetic Resources in 1987. The main discussions focused on the aspect that at par with PBR, FR should also be recognized. The important parts of the Report are reproduced below.

“On the question of farmer' rights, delegations expressed a wide range of opinion. Most delegations which intervened on the subject stressed the importance of the concept of Farmers' Rights, holding that these rights derived from centuries of work by farmers which had resulted in the development of the variety of plant types which constituted the major source of plant genetic diversity; many of these resources were now being exploited in other countries as well and had become, in fact, part of the common heritage of mankind. They considered that Farmers' Rights were up to a point comparable with breeders' rights, which even existed in the national legislation of many countries, and it was therefore fitting that Farmers' Rights should also be recognized²⁵.”

In the same session, in the summary Report of the contact group, deeper level of recognition of FR took place, which fell short of defining FR. The contact group found that recognizing the FR is a difficult task due to various reasons. This could be quoted as,

²⁵ FAO, 1987: *Report of the Second Session of the Commission on Plant Genetic Resources, 16-20 March 1987*, CL 91/14, paragraph 37.

“Breeders’ rights are already recognized by national legislation in many countries. The so-called 'Farmers' Rights', however, which stem from the work that farmers have performed over the centuries, which resulted in the formation of the land-races, have not found any recognition in the laws and institutions of nations. It was agreed that these rights, too, must be given some formal recognition. It was acknowledged that, while the so-called 'Farmers' Rights' could not yet be given a precise definition, some sort of compensation for their most valuable contribution to the enrichment of the plant genetic resources of the world was well-founded and legitimate. It was pointed out that one way of giving practical recognition to this right could be in a form of multifaceted international cooperation including a freer exchange of plant genetic resources, information and research findings, and training. Another way could be through monetary contribution for financing a programme for the furtherance of the objectives of the International Undertaking on Plant Genetic Resources²⁶.”

Thus, though the contact group also did not reach a precise definition of Farmers’ Rights, it paved way for further negotiations on this matter. The matter then reached the FAO council, and for the first time it was discussed in the Council. In this discussion, the Council expressed its satisfaction on the efforts of the Commission through its working Group in shaping the Farmers’ Rights. In the controversies on control over genetic resources in the 1980s, there were deep conflict lines between the parties. Eventually, William Brown, then

²⁶ *Report of the Second Session of the Commission on Plant Genetic Resources, 16-20 March 1987, CL 91/14, Appendix G.*

chair of the US National Board for Plant Genetic Resources, initiated a contact with the Keystone Center in Colorado, with the request of holding a dialogue on plant genetic resources among international stakeholders. The Keystone Approach was to invite stakeholders as individuals, to reduce conflict level and seek dialogue, to keep the discussions off the record, and to produce a report on the basis of consensus only. The Keystone Dialogues took place in 1988, 1990 and 1991, in Keystone, in Chennai and in Oslo respectively, and were chaired by the distinguished Prof. M.S. Swaminathan, who also led an Interim Steering Committee that gave direction to the dialogues.

One of the recommendations of the Keystone centre was that there should be an international fund for helping the farmers to conserve and preserve the genetic diversity, as a compensation which is as an obligation. A breakthrough of the FR took place in the twenty fifth session of the FAO in 1989, where it adopted a Resolution (5/89) on Farmers' Rights (more discussion in the Chapter dealing with ITPGRFA). As per this non-binding resolution, Farmers' Rights meant "the rights arising from the past, present and future contributions of farmers in conserving, improving, and making available plant genetic resources, particularly those in the centres of origin/diversity. These rights are vested in the International Community, as trustee for present and future generations of farmers, for the purpose of ensuring full benefits to farmers, and supporting the continuation of their contributions, as well as the attainment of the overall purposes of the International Undertaking)".

However, first of all there was no shape to this concept yet, as this definition did not make it clear as to what are the rights, who are to get these rights, and in what manner. Another thing was that

these Resolutions considered PGR as the “common heritage of mankind”, so that they should be freely available to all. The contradiction here was that, while the FAO Resolution 4/89 clarified that there is no incompatibility between UPOV and the IU (more discussions in chapter dealing with UPOV and ITPGRFA), it meant that, the PBR will be protected even while access is given. However, the PGR of the farmers will remain commonly available to all due to the “common heritage” concept.

However, it is to be noted that in the international law, the principle was the “permanent sovereignty of the nations over their natural resources”. This contradiction happened due to the following reasons. Common heritage of mankind (also common heritage of humanity, common heritage of humankind or common heritage principle) is a principle of international law which holds that defined territorial areas and elements of humanity's common heritage (cultural and natural) should be held in trust for future generations and be protected from exploitation by individual nation states or corporations²⁷. The common heritage concept first originated in the international law in the Outer Space Treaty of 1967, the main of which was that celestial bodies like the moon shall not belong to any particular nation by the claim of sovereignty, and these resources should be used for the welfare of mankind, and for peaceful purposes. This concept is also seen in the Moon Treaty and the United Nations Convention on the Law of the Sea (UNCLOS).

However, it is to be noted that these celestial bodies or the deep sea bed never formed part of the territory of the State. But,

²⁷ Available at http://en.wikipedia.org/wiki/Common_heritage_of_mankind. visited on 01-02-2010.

regarding the PGR, they belong to the territory of the State, and the extension of the common heritage principle to it was unacceptable. The principle acceptable here is the permanent sovereignty one. Fortunately this happened in the 1991 FAO Resolution. This time, the FAO Conference stated that the concept of genetic resources being the heritage of mankind, as applied in the IUPGRFA was subject to the *sovereignty of the States*. With the new formulations in Resolution 3/91, the FAO members also felt it necessary to state that the conditions for access to plant genetic resources required further clarification²⁸. This was a highly controversial issue, which caused heated debate. To balance between proponents and opponents and reach to a consensus decision, the Conference again adopted provisions on Farmers' Rights. Building on the negotiations in 1987 and the 1989 resolutions, the Conference decided to have an international fund of plant genetic resources for helping the farmers, which never materialized.

However, even the permanent sovereignty concept when applied can have problems. Because, when the entire natural resources are to be under the ownership of the State, the people who conserved them and preserved them will be deprived of their ownership over them. Thus, there is yet one step to move further to find a solution to that. In fact, if the State alone is made as the owner of the natural resources, the situation will be like the transformation of the concept of ownership over the land that took place in India during the British regime. In India, there was no concept at all like someone owning and selling land. Every land belonged to everyone or to none. The King is said to be the owner of the land of which he is the King.

²⁸ C 1991/REP, Conference Resolution 3/91, Paragraph d.

But that was only to show that he can do something *on the land*, for the benefit of all. But when the British came, they insisted for some owners for the land, and gave the tax collectors the title over the land. This deprived those who really tilled and cultivated the land of their ownership over the land, or even on the produce. (more discussions forthcoming, while discussing the position of farmers rights in India in this Chapter). Some vice like this will happen unless the permanent sovereignty concept is used very carefully by balancing the rights of the farmers over their PGR.

Thus, in the international level, this is the beginning of the FR. There are mainly two things to be noted. One is, FR is reaction towards the PBR. This happened only with one thing in focus, and that is access to plant genetic material, or PGR. In all the discussions on FR, one thing is clear that, it is difficult to identify any particular person, or even a community who could be held to have conserved or preserved these PGR or TK associated with them. So, in all the discussions, the proponents were suggesting that, not farmers, or community, but the country of origin should be rewarded. Another thing to be noted is the development of the concept of common heritage into the principle of permanent sovereignty in the Resolution, which is legally non-binding. So, in the forthcoming Chapters on International law, this development is also traced, with due emphasis to the role that is given to those who contributed to the development of some PGR where some communities are identifiable. In these discussions it was also clear that “farmers are to be given some rights while access is allowed to the PGR which they conserved, as a reward, and they should also be allowed to continue to use the PGR of the developed varieties for the future conservation”. So, farmers’ access

to the PGR of the plant breeders, and plant breeders' access to the PGR of the farmers are thus the central issue of the entire thesis. As this area is not yet conceptualized, and the international law leaves the entire matrix to the national legislation, the shape of FR could be found out only in the national legislations. Thus, this thesis tries to find out what types of rights are given to farmers during their access to the PGR of plant breeders, and during the plant breeders' access to their PGR and TK.

With this introduction of FR in the international level, there is a need to have a look at this from the Indian perspective, as the thesis concentrates on the Indian aspect. In the international level, a definition of farmer is not attempted at all, as the discussion shows, they are not identifiable easily. International discussions are more in favour of rewarding the country of origin, or the farmers of the country of origin. However, while coming to India, there is still a scope for defining farmer, (as it is in a national plane), following the principles in the international law. While dealing with the farmers in India, there has to be at least a brief discussion on the history of those who worked and toiled in the field and who ultimately lost their ownership over the land on which they were working. Actually, those who did really work in the field have conserved, preserved and developed the PGR. So, without tracing their history, a great injustice will be done.

1.5 Farmers in India- who are?

Though the word farmer is very familiar to all, it is very difficult to identify farmers or to define them. It is also a fact that, the word farmer will be used sometimes, and the word farmers, at other

times. This is because the very farming activity is a collective one. It is very rare that a single individual does farming activities, or develop or maintain traditional knowledge related to them. But, it is also possible that a single farmer develops new varieties, using the existing ones. Thus also, it is difficult to say that it is his, and only his, as he developed a very marginal change. The definition of farmer is very difficult because of the diversified persons who are involved in farming or agriculture, depending upon their relationship with the land. In fact, as this relationship varies, their rights also should vary. This makes the definition in such a manner that, there is a division in the definition itself so that, rights can be guaranteed accordingly.

In fact in the history of India, when there was no concept of ownership of land, there were people who worked in the land, and they were called as peasants, cultivators, ryots or tillers by the historians. They had good as well as bad times in the hands of the then rulers at different times²⁹. It is also a fact that, depending upon the

²⁹ During the Indus Valley period, farmers contributed to the prosperity of the civilization. They were having various rights even over the land. See <http://www.crystalinks.com/induscivilization.html>. Visited on 01-02-2010, and Bharatiya Vidya Bhavan, *History and Culture of the Indian People (vol,10)*, Vedic age, Bharatiya Vidya Bhavan, Bombay, 4th impression 1965. The position got reduced during the Vedic age, due to the caste system as per which agriculture belonged to the lower caste called the *vaisyas*, and thus the profession also was degraded. During the reign of Chandragupta Mourya (the time when Arthasasthra was composed) the farmers enjoyed a lot of privileges, and immunities, apart from receiving respect. A very good description of the Chandragupta Mourya Dynasty is given by Megasthenese in his "Indica", with a totally different perception about caste. According to him, during this period, there were seven castes, namely, the philosophers, husbandmen, neatherds and shepherds, artisans, military, overseers, councilors and assessors (Some authors astonish this classification, and feel that Megasthenese made this classification in line with the seven categories of persons in Egypt by Herodotus). The second category called the husbandmen is the farmers, who were exempted from fighting and other public services devoted the whole of their time to tillage. "nor would an enemy coming upon a husbandman at work on his land do him any harm, for men of this class, being regarded as public benefactors, are protected from all injury. The land, thus remaining unravaged, and producing heavy crops, supplies the inhabitants with all that is requisite for making life very enjoyable". (They are said to live only in countryside avoiding going to town at all.) This shows the kind of respect the rulers had towards the farmers,

relationship with the land, the farmers had different experiences in the past in India. It is a matter of great concern that those who really worked in the scorching sun in the production of agricultural goods, were reduced only to the level of workers, or labourers, due to the land ownership concepts of the British³⁰. Thus, throughout history, the persons who worked in the field toiled and produced food suffered so

and agriculture. The position during Chandragupta Mourya is available at Zum Beispiel, "Megasthenes: Indika-fragments", at <http://www.payer.de/quellenkunde/quellen1102.htm>. visited on 05-03-2010.

In Chanakya's Arthasasthra, the agriculture was primarily a State function, with a Directorate of Agriculture. R.P. Kangle (et.al.), *The Kautilya Arthasasthra, part ii*, (2nd Edn.-1972), Bombay University Press, Bombay-32, pp.9. 55-58, 127, 128, 148, 150 and 298. During the Delhi Sultanate, though agriculture advanced, the peasants suffered a lot due to the extraction of heavy tax from them. (Tapan Ray Chaudhuri (Edr.), *The Cambridge Economic History of India*, Vol. I, Cambridge University Press, U.K.(1st Edn.-1982),p.48.), The same problem continued in the Moghul Period also. (*Id.* at p.173, *Id.*, Vol.II, p.10). During this period, the peasant's position was worse even for many other reasons. In the description of the state of peasantry, Mr.Bernier wrote in his letter to Colbert that the peasants were not only deprived of their means of subsistence, they were also made bereft of their children, who are carried away as slaves. It was also mentioned that the cudgel and the whip compel them to incessant labour for the benefit of others. Nothing but sheer necessity or the blows of a cudgel keeps him employed; he can never become rich. If money be gained, it does not in any measure go into his pocket, but only serves to increase the wealth of the merchants. The peasants are reduced to great poverty, because if the governors become aware that they possess any property, they seize it straight away by right or by force. (Ram Gopal, *British Rule in India- An Assessment*, Asia Publishing House, Bombay,1963, at p.26).

During the British period, all these problems continued, but along with them a graver problem also was created. With the Permanent Settlement of Act of 1793, where the *zamindars* were given perpetual right over the land they held. Actually this was done due to two reasons. One was for the convenience of collecting tax, and to make a particular person liable for that. This was possible only by making him the owner. The second reason was that, the British never had the concept of an ownership without the right to alienate, or an ownership which does not exclude all others. The "private" aspect that was too much with the western philosophy of property could but think only of having a single owner with the right to alienate. This has actually crushed the property concept in India, resulting in the *zamindars* who had never tasted the heat of the torching sun, the pain of the toil, or the touch and love of nature became the absolute owners of land, throwing the unfortunate lot called the farmers who spend the lion's share of their day with the sun, the wind, and soil, who enjoyed the sprouting of the seeds, the blossoms, and the fruits of their toil, into the crossroads. It is also another fact that, due to the caste system that was prevalent, and the division of labour was also based on caste, the lower caste people, mostly the *vaisyas* must have got engaged in agriculture, throughout. This degraded agriculture into a low profession which needed only physical labour, while the occupations which needed intellectual labour were considered as superior. So, economically, socially, politically and educationally the farmers were "untouchables", as they belong to the untouchable class.

³⁰ *Ibid.*

much most of the times. This was because, in all the times, agriculture was the only permanent source of revenue to the State, and the peasants were the method through which it could have been extracted.

1.6 Farmers' Rights over the Seeds in the past (Plant Genetic Resources in the modern sense)

But, throughout history, what is sure is that, the peasants had enjoyed certain amount of freedom with respect to farming. These freedoms they enjoyed were, the freedom to do all the activities relating to farming, till the production. Any external force had demand only over the produce, (produce is the food product, which could be used for consumption) and not over the seeds for the next production. Here, seed means, that part of the plant which contains the hereditary unit of the plant, from which new plant could be produced. Though in the history this part is not expressly stated anywhere, it is to be assumed that the peasants (the name which they had then) could go on doing further production because they had the control over the seeds. Whether during Vedic age, Gupta period, Delhi Sultanate, Mughal period, or British period, the share to the King, or to the State was only in the form of 'produce'³¹. Actually in some historical descriptions, it is even stated that, during Delhi Sultanate, though there were so many sufferings to the peasants, and they did not have even right over their own persons, "among the undisputed rights, were the *right to own seed*, cattle and implements".

It is also to be noted that throughout history, till the right over the land is created by the British, nobody interfered with the

³¹ *Ibid.*

peasants' freedom to use, re-use and exchange the seeds. Even when the British created ownership over the land, and thus separated the owner, and the tiller, the *zamindars* or the landlords had their eye only on the produce, and not on the seed. This is exactly due to the reason that the produce and not the seed had the economic value. Thus, as all the rulers only wanted to get revenue, they wanted the peasants to continue cultivation, which was possible only if the peasants were having sufficient seed for sowing.

Thus, it should be logically concluded that, those who worked in the field had the freedom to use the reproductive part of the plant, which is mostly the seed. In fact, the rulers only helped and encouraged the peasants in the form of irrigation or loan³². This means that the rulers never interfered with the processes in agriculture, which included the freedom to save, use, exchange or re-use the seeds. From these discussions, one thing is clear that, the freedom which the peasants enjoyed is a traditional one. They never claimed any right over the seeds, because there was no need of it, *as there was no threat of anyone else claiming right over it then*. This means that, whenever there is a threat, this freedom must be retained, and it is possible only in the form of a right. Thus, this freedom turns to be a right. Another argument is also possible that, though the farmers/farmer had the right over the seeds, they did not choose to exercise that right, as seed was never monopolized by anyone then. This was because farming was always a collective venture, where nobody claimed ownership or right over anything. But, a collective right or even an individual right is

³² U.N.Ghosal, *A History of Indian public life (vol.ii)*, Oxford University Press, Bombay, 1966, p.88., Tapan Ray Chaudhuri (Edr.), *The Cambridge Economic History of India*, Vol. I, Cambridge University Press, U.K. (1st Edn.-1982), p.48.

kept in abeyance. In a situation where there is a threat to the maintenance of this position like that, this right must be revived.

The main reason why there was no threat was that, seed was not having any economic value. With the advancement of time, and technology, especially the biotechnology, things changed in such a manner that the so called seeds or the reproductive materials assumed an alarming rate of importance. This is because, using the gene technology, the characteristics of one plant could be inserted into another, and the resultant plant can have the produce having both these characteristics. This is called plant breeding, in the simplest sense. The plant breeder who could thus contribute to food production is now rewarded with the PBR. As this is an exclusive right with high economic value, (and also due to the propagation that modern plant breeding alone can meet the food crisis of the globe) plant breeding became an international concern. But, one contradiction exists. Most of the developed countries with advanced technology are poor in biological resources from which alone new plants could be bred. Most of the developing countries are rich in biological resources (includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity)but they lag in technology so that for them these resources remain much unutilized. This situation compelled the developed countries to device measures to have access to the biological resources of the developing countries.

Among the biological resources, for plant breeding the most essential thing is the plant genetic resources (PGR). As this word is the central point of this thesis, some definitions given in international law as well as national laws are given here. Convention

on Biological Diversity defines it as “genetic material of actual or potential value³³”. Biodiversity and Community Knowledge Protection Act of Bangladesh, 1998 defines it as “resources related to the genetic materials”. (The genetic material means any material of plant, animal, microbial or other origin containing functional units of heredity)³⁴.” The Biodiversity Act of Bhutan, 2003, and Biodiversity Act of South Africa, 2004 (with a very minor difference) defines it as “means any material derived from plants, animals, fungi or microorganisms which contains functional unit of heredity³⁵”. The ASEAN Framework Agreement on access to Biological and Genetic Resources, 2000 defines it as inclusive of genetic materials, organisms and parts thereof, population, or any other biotic component of ecosystems with actual or potential use or value³⁶.” Thus, the PGR assumed so great a significance that it has become a subject matter of protection in almost all biorich countries.

It is to be undoubtedly said that the PGR of the farmers act as the raw material of the new plant breeding techniques. Thus, as a group of persons who traditionally enjoyed right over the PGR which they produced, the farmers are entitled to the right to use, save, exchange, re-use and even sell the seed (PGR) of even the protected variety. This is apart from their right in the international level, as conservers and preservers of PGR. Thus, in the era of plant breeders, there is a need for a wider definition of farmers so as to give them the respective rights in the matters in which they enjoyed non-intervention from anyone, rather sovereignty.

³³ Definition in the Convention on Biological Diversity.

³⁴ Biodiversity and Community Knowledge Protection of Bangladesh, Section 4.

³⁵ Biodiversity Act of Bhutan, Section 52 (j), Biodiversity Act of South Africa, Section 1.

³⁶ ASEAN Framework Agreement, Article 3.

1.7 Farmer-Definition

The farmer require a definition because it is not a single person or group of persons who is/are involved in the production of food, and in the conservation of PGR and TK. Depending upon the nature of the way in which they are engaged in agriculture, the nature of the rights to be given to them also differ. Thus, now there is a need to have a look at the various types of persons, (with the ordinary nomenclature given to them) who are engaged in food production, and conservation of PGR and TK. Another very important matter to be remembered in this context is that, it is not a single person who is involved in all these activities. So, except in very few occasions, the effort of farmers is collective and not capitalistic. This is a striking contradiction with the PBRs which is capitalistic or individualistic in nature.

1.8 Types of persons involved in farming

The persons connected with farming can be numerous in number, with respect to their relationship with the land, the TK, and the direct involvement in the farming activities. There can be persons directly involved in farming activities, who possess the TK in common in farming, without any ownership over the land. Contrast to that, there are persons who do not even step into the field for farming, but engages others to work in the field, with ownership in the land. There are yet another types of person (with ownership over the land) who do not bother even to engage people for working in the farm, but just give the land for lease for others for the purpose of agriculture. There are also people who own the land, as well as work in the land. All these people are somehow or the other responsible for agricultural

production, and conservation of PGR. But only those persons who really work in the field have the traditional knowledge. So, a person who owns the land need not be the owner of the traditional knowledge. A person who owns the land can also have the traditional knowledge. A person who has the traditional knowledge need not be the owner of the land. (It is a fact that a single person holding TK will rarely happen, as it is always held by a group of persons. So, TK should be said to be shared.) In some cases, the land owner will be having the control over the PGR, as he will be managing the production. So, he will own the PGR. Thus, the owner of plant genetic resources and the traditional knowledge can be different, and in some cases it can be the same person.

The diverse types of persons connected with different types of ownership rights make the definition of the farmer a complex one. (One more problem that is intruding here is there are different types of farmers based on the nature of the things they cultivate. These include the horticulture, dairy farming, sericulture, and the cotton farming. This study excludes all the other types of farming than the farming of *food produce* like crops, vegetables, fruits, nuts, cereals, and pulses.) The following types of persons are engaged in agriculture. 1. The agricultural labourer- They are having no ownership or possession of land, and thus they do not employ anybody to work in their land. However, they go for work in others land. 2. The poor farmer- As the name indicates, they are called farmers, as they own or possess land, however small the area may be. They work in their own land, but do not employ anybody else to work in their land, and as the income from their small holding is so meager, they work in others land also. 3. The medium farmer- He is also owning or possessing land, works in his

own land, does not employ anyone in his land, and the difference with the second type is that, he does not work in others land. 4. The rich farmer- The rich farmer, who has almost all the characteristics of the medium farmers, differs only in that, he employs others in his land, as he has more area of land, and cannot manage it alone. 5. The capitalist farmer lord- These types of farmers, who are almost like the bourgeoisie, in the language of Karl Marx, own huge areas of land, do not work in the land, but employs others in the land. Here, he though not working at all, and make others work, and live like a parasite, is still doing something in his land, in the process of production. 6. The feudal farmer lord- In this type of farmer is seen the gravest form of exploiter, in the language of Marx, as he never does anything towards production, rather just uses his land as a means to make money, as the money lenders do with money. This type of farmer never keeps the land with himself, though he owns handsome acres of land, neither works on the land, nor employs anyone to work on it. He gives it for lease, and collects money from the lessee.

Now, in the context of plant breeding, the most important aspect that comes into picture is the PGR and TK. One, is the farmers' using, re-using, saving, and exchanging the PGR of the plant breeders, and the other is, the plant breeders' accessing to the farmers' PGR and TK. As was said before, thus, the crux of the whole thesis can be summarized in a formula thus,

*Farmers' access to plant breeders' PGR (and TK)
and plant breeders' access to farmers' PGR.*

As it is so, only the issues which are related to this theme need to come while defining the farmers. So, more than a relationship

to the land in the form of ownership, what matters here is, who is handling, or controlling, or holding the PGR and the TK. In other words, who are all going to be affected by the plant breeders' access to the PGR or the TK (calling this aspect as (a)), and by denial of access to, or the restriction regarding the use, or poor or non-performance of the PGR of the plant breeders' variety (calling this aspect as (b)) are to be brought within the definition of farmer. Regarding the first aspect (a), the persons who are going to be affected are, those who conserve and preserve, and hold the PGR and TK, by being engaged in farming (if there are many other common people who share this knowledge, without being engaged in farming, they are not included). Regarding the second aspect (b), all those who use the PGR for food production are affected. In this case, the person's relationship with the land will be a counting factor because a person who is working in other's farm will not be controlling the seed, and he will not be affected by the poor performance, or non-performance of the seed. Thus, these facts should be reflected in the definition of farmer.

Before arriving at a definition, the existing definition of farmers in various plant variety protection, and biological diversity protection legislations in the world may be examined. Actually although there are various legislations all over the globe for the protection of PGR of the farmers³⁷, these legislations are giving a collective right to farming community as a group, calling them local community or indigenous people. Thus, the definition given is not as

³⁷ The Biodiversity Act of Bhutan 2003, A Proclamation to provide for Access to Genetic Resources and Community Knowledge and Community Right of Ethiopia 2006, The ANDEAN Common Regime on Access to Genetic Resources, and Biodiversity Act, 2004 of South Africa, are some of them.

farmer. Likewise, even though there are many plant variety protection legislations in the world³⁸, these legislations give more importance only to plant breeders, and farmers find a very little role in these. Due to this reason the word farmer is defined only in a very few legislations, among which the Indian legislations stand as remarkable.

The Protection of Plant Varieties and Farmers Rights Act, 2001 of India defines a farmer as any person who—

- “(i) cultivates crops either by cultivating the land himself; or
- (ii) cultivates crops by directly supervising the cultivation of land through any other person; or
- (iii) conserves and preserves, severally or jointly, with any person any wild species or traditional varieties or adds value to such wild species or traditional varieties through selection and identification of their useful properties³⁹.”

The PPVFRA defines even an agricultural labourer as a farmer, as the only ingredient necessary is, cultivation of crops, irrespective of the ownership over the land. However, even a landlord is defined as a farmer, even if he does not cultivate it himself, but only supervises. An addition that is found in this definition is, a person who conserves and preserves, or adds value to wild or traditional varieties are also considered as farmer. This is a change in the definition of

³⁸ Act of Plant Varieties Registration, Control and Certification of Seeds and Seedlings of Iran, 2003, Rules for the Regulation on the Protection of New Varieties of Plants of China, 1999, Law, Plant Variety Protection Law of Republic of Indonesia, 2000, The Plant Variety Protection and Seed Act, 1998 of Japan, and The Law for the Protection of New Varieties of Plants, 2000 of Jordan are some of them.

³⁹ PPVFRA, Section 2 (k)

farmer which is caused due to the new plant breeders rights, and as this Act deals with PBRs as well this change is also adopted in the definition.

Though this definition covers many aspects of farmer, there are certain missing links, in the light of the central theme of this thesis. As the formula above showed, the definition should take into account two types of persons connected with farming. Among the various types of farmers mentioned above, the agricultural labourers actually work in the field, and they hold TK. But as the production is under the control of someone else, (it can be a feudal landlord farmer, or a person who took the land for lease from the capitalist landlord farmer), the agricultural labourers cannot be said to have control over the PGR. But, as far as the poor farmer, medium farmer and the rich farmer are concerned, they hold the TK as well as the PGR. The feudal landlord farmer surely holds the PGR, but he may or may not be holding the TK. But when it comes to benefit sharing, the persons who added to the value of the plant genetic resource, the preservers, and holders of the traditional knowledge, and the PGR will have to be considered as farmers. The farmers' rights are needed in the areas of (a) access to TK (b) access to PGR (c) access to the PGR (right to use, save, exchange and sell seed) of the plant breeders' variety. Along with this, while access is given to the farmers' PGR and TK, they need some rights over the same, like property rights, as in the case of plant breeders. So, the custodians, preservers and developers of TK and PGR will be eligible to get the rights associated with these two. The right to use, save, exchange and re-use seeds is due to all those who are engaged in farming, who control the production rather, who are going to handle seeds for further production. So, the

definition should cover all these persons separately, as their respective rights are also separate.

But one thing that is to be noted here is, in the international level, the rights of the farmers are recognised to their efforts in conserving, preserving and making available the PGR for further development. It follows from this that, only persons who do the above are entitled to FR. Thus, if there are a group of persons who were identified as the conservers of a particular variety of rice which is very commonly available, they can be given rights over the same. Based on the same reason, they are also entitled to the right to use, save, exchange and re-use the seeds of even the protected variety. Suppose that a person (in India) who gets engaged in farming after retirement is using the seeds of the protected variety. Are they entitled to the right to use, save, exchange, and sell the same? The answer is no based on the above reason for FR, because the latter person did not conserve, preserve and made available the PGR to the world. If that is the case, he will not be even called a farmer. Thus, he will not be entitled to the rights emanating from the right to use, called the right to compensation in case of non performance or poor performance of the seeds. (this is a right given in the PPVFRA).

So, unlike in the international level, in India, basis for rights given to the farmers during the first part of the central theme (rights when they access to the PGR of plant breeders), and the rights given during the second part of the central theme (while the plant breeders access to the PGR and TK) should be bifurcated. This is to help the farmers to continue in the profession, even if they did not contribute anything towards conservation or preservation of PGRFA,

or TK. This is also needed to see that the small scale farmers do not disappear from the profession, thereby leading to the monopolization of seeds by some multinational corporations.

In the light of this discussion, thus, the definition of the farmer is,

Farmer is defined as a person or group of persons who are engaged in farming directly or by supervision by engaging others and who (a) Conserve or preserve traditional knowledge associated with the plant genetic resources

(a) Hold the control of PGR and

(b) Save, use, exchange and re-use plant genetic resources.

As per this definition, the rights associated during access to TK go to those who hold TK. Rights associated with access to PGR go to those who hold the PGR, and the rights regarding the use, save, exchange, and re-use of PGR of the plant breeder go to those who are engaged in farming and are responsible for further production .

Property rights can be given to those who conserved, preserved or developed the respective PGR or TK. In this definition one question that can be asked is, is a corporate farmer, who does agriculture by employing agricultural labourers just for trading (selling, marketing, distributing, or exporting) in seed is covered by this definition. If he is covered, then he should also get the right to use, save, exchange and sell the seed of the protected variety. But, such farmers have not contributed anything to the conservation or preservation of the PGR. For them the seeds are just commodities. So, any right relating to the conservation and preservation are not to be

available to them, like the property rights and related rights like the PIC and benefit sharing. However, regarding the right to use, save, exchange and sell the seed, as the corporate farmer is controlling the seed, and the non-performance of the seed is going to affect him, one can argue that he should also be given this right.

The reason for giving this right to the farmer was explained above. It is to see that farmers do not disappear due to lack of this right. In the case of a corporate farmer, he has the capacity to purchase the seed every time. Also, the corporate farmer is in many ways equal to the plant breeder. So, such a farmer should be outside the purview of the definition of farmer for the purpose of this thesis. However, for the non-performance of the seed, such farmers can make use of the Seed Laws or Consumer Laws. It is to be noted that the thesis suggests that it is the State's duty to find out who conserved, preserved or developed which PGR or TK, and to give them respective rights and to protect them. In such a situation, if at all a corporate farmer is also found to have contributed to the conservation and preservation of PGR or TK, in any capacity, he will also be entitled to the FR.

These persons are thus covered by the definition of farmer. They have their own rights in relation to the contribution they have made in the farming. However, as the international law is vague regarding the concept of FR, there is a need to examine what all dimensions can be given to FR, for example, what all rights can be given to farmers during the phases of the theme. That is, while plant breeders access to the PGR and TK of the farmers, what all rights are possible to be given to the farmers, and what jurisprudence will support such rights, and what all rights are to be given to the farmers,

while they seek access to the PGR of the plant breeder. In the forthcoming Chapters, it will be examined as to, to what extent these rights are given to the farmers, or new rights are given to them. In other words, what is the shape given to the FR from its initial shape through international as well as the Indian laws which are made in pursuance of that will be discussed in the following Chapters. A conceptualization of FR is tried here now.

1.9 How to fill the gaps in the Farmers' Rights Concept

In fact, while access is given to the PGR of the farmers, one thing should be remembered, and it is that, for a person who develops a new variety using this PGR is going to be given an Intellectual Property Right called the PBR. This shows that there is a possibility of privatizing the natural resources like the plants. Or that, property rights can be given on plant varieties. The counterpart of this argument regarding FR should be that, same kind of a property right should be given to the farmers as well. So, there is a scope of developing a property regime for FR. There can be many rights from the Human Rights angle as well. These can be summarized as below.

The plant breeders are given the IPR called the PBR because of the intellectual input in developing a new variety, which is of various advantages to the society. While examining the same regarding the PGR conserved and preserved by the farmers, it should be said that there has to be intellectual input in identifying the best PGR, and conserving them. Regarding TK, it is nothing but the constant experimentation and observation of the farmers which made it possible to identify the TK associated with a particular PGR. Without intelligence, even the conservation and preservation of both

these are not possible. So, there is every justification for developing a *sui generis* law for the protection of Farmers' Rights as an IPR, which could be left to the national legislations. In fact, this will be a collective right, as different from an individual right. The usual novelty criteria will have no significance at all. The advantage of having such property right should be to avoid misappropriation of the PGR and TK, and to allow its usage only by paying compensation to allowed set of purposes.

In fact, although there are mainly three theories on IPR, called the theory of Locke, Hegel and Marx, apart from Marx the other two do not favour a collective right. Locke considers labour as the cause for entailing property to someone⁴⁰. In fact, if this theory is to be applied in the case of farmers who conserve and preserve the TK, it could have worked well, based on the labour theory. However, Locke is so specific on the individualistic aspect that, based on his theory a collective right cannot be recognized. Because from a collective endeavor, it is not possible to find out what is the amount of labour one applied.

Hegel is also not for a collective property. His entire theory rests on the premise of "free will", using which a person can

⁴⁰ The crux of Locke's theory is reflected in this "“Though the earth and all inferior creatures be common to all men, yet every man has a "property" in his own "person." This nobody has any right to but himself. The "labour" of his body and the "work" of his hands, we may say, are properly his. Whatsoever, then, he removes out of the state that Nature hath provided and left it in, he hath mixed his labour with it, and joined to it something that is his own, and thereby makes it his property. It being by him removed from the common state Nature placed it in, it hath by this labour something annexed to it that excludes the common right of other men. For this "labour" being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good left in common for others". John Locke, *Two Treatises on Government*, Book II, chapter 5, section 26. Available at <http://www.lonang.com/exlibris/locke/loc-205.htm> . Visited on 17-01-2010.

appropriate anything as his own⁴¹. as he stresses on the free will of an individual, the theory is pro-private ownership, as against collective ownership, as in collective ownership, the individual will cannot be separated from the common property. He says this in clear terms thus:

“Since property makes objective my personal individual will, it is rightly described as a private possession. *On the other hand, common property, which may be possessed by a number of separate individuals, is a mark of a loosely joined company, in which a man may or may not allow his share to remain at his own choice*⁴²”.

(emphasis added).

However, Marx is for collective ownership, and against private property. However, he does not support individual intellectual property rights. According to him, the intellectual creations of individual nations become “common property⁴³”.

Giving this property right, or some other protection in the form of recognition is also part of International Human Rights Law, and some other laws also. The ICCPR and ICESCR recognizes⁴⁴ the right to self determination of the people to freely dispose of their

⁴¹ According to Hegel,

“A person has the right to direct his will upon any object, as his real and positive end. The object thus becomes his. As it has no end in itself, it receives its meaning and soul from his will. Mankind has the absolute right to appropriate all that is a thing.” And, “To have something in my power, even though it be externally, is possession. The special fact that I make something my own through natural want, impulse or caprice, is the special interest of possession. But, when I as a free will am in possession of something, I get a tangible existence, and in this way first became an actual will. This is the true and legal nature of property, and constitutes its distinctive character”. G.W.H. Hegel, *Philosophy of Right*, sections 44, and 45. Available at <http://socserv.mcmaster.ca/econ/ugcm/3113/hegel/right.pdf>. Visited on 17-01-2010.

⁴² *Id.*, Section 46.

⁴³ Marx, Engels, *Selected Works*, Progress Publishers, Moscow, 1968, at p.39.

⁴⁴ ICCPR, and ICESCR, Article 1.

natural resources. The African Charter on Human and People's Rights more clearly elucidates this aspect in the following manner.

- “1. All peoples shall freely dispose of their wealth and natural resources. This right shall be exercised in the exclusive interest of the people. In no case shall a people be deprived of it.
2. In case of spoliation the dispossessed people shall have the right to the lawful recovery of its property as well as to an adequate compensation.
3. The free disposal of wealth and natural resources shall be exercised without prejudice to the obligation of promoting international economic cooperation based on mutual respect, equitable exchange and the principles of international law.
4. States parties to the present Charter shall individually and collectively exercise the right to free disposal of their wealth and natural resources with a view to strengthening African unity and solidarity.
5. States parties to the present Charter shall undertake to eliminate all forms of foreign economic exploitation particularly that practiced by international monopolies so as to enable their peoples to fully benefit from the advantages derived from their national resources⁴⁵.”

This is reiterated in the Declaration on the Rights of Indigenous People also, in more express terms, and there is every possibility that the farmers will come under the purview of indigenous

⁴⁵ African Charter on Human and Peoples' Rights, Article 21.

people, and the principle laid down in the Declaration applies to them as well. To quote those important provisions,

- “1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.
2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.”

From this, it is clear that some kind of a collective property right is possible over the natural resources for those who conserved them. Thus, in a sense, the international law is in its infant stage in developing a collective property right over the natural resources. However, there are also hurdles in realizing FR especially including property right in it. These hurdles are, that “FR are not related to any international legal framework. The concept is difficult to judge from the perspective of IPR theory, because it is not based on a fundamental principle of IPR, the private exploitation right⁴⁶.”

⁴⁶ L.J. Butler, “conflicts in Intellectual Property Rights of Genetic Resources: Implications for Agricultural Biotechnology”, in R.E. Evenson, V. Santaniello and D.Zilberman (Edrs.), *Economic and Social Issues in Agricultural Biotechnology*, CABI Publishing, UK, 2002, p.25.

Also, even *equity, fairness and justice* demand that somebody who took the pain to conserve and preserve something should have the first priority over it, whether in the form of property right or not. However, apart from property right, there can be another privilege which will also stem purely from the fairness concept, and it is the sharing of benefit. As the preservation of PGR and TK helps the plant breeders to save much of their time, energy, and money, proportionate to that, a share of the benefit accruing to them should be given to the farmers who did seventy percentage of the job even before the PGR reached the hands of the plant breeders.

Not only from an equity point of view, the profounder of labour theory John Locke in various ways acknowledge the rights of all those who laboured and added value to the natural products. But, in no other way than the following, has he said it so categorically. Locke points out:

“An acre of land that bears here twenty bushels of wheat, and another in America, which, with the same husbandry, would do the like, are, without doubt, of the same natural, intrinsic value. But yet the benefit mankind receives from one in a year is worth five pounds, and the other possibly not worth a penny; if all the profit an Indian received from it were to be valued and sold here, at least I may truly say, not one thousandth. It is labour, then, which puts the greatest part of value upon land, without which it would scarcely be worth anything; it is to that we owe the greatest part of all its useful products; for all that the straw, bran, bread, of that acre of wheat, is more worth than the product of an acre of as good land which lies waste is all the effect of labour. For it is not barely the ploughman's pains, the reaper's and thresher's toil, and the baker's sweat, is to be

counted into the bread we eat; the labour of those who broke the oxen, who digged and wrought the iron and stones, who felled and framed the timber employed about the plough, mill, oven, or any other utensils, which are a vast number, requisite to this corn, from its sowing to its being made bread, *must all be charged on the account of labour, and received as an effect of that*; Nature and the earth furnished only the almost worthless materials as in themselves. It would be a strange catalogue of things that industry provided and made use of about every loaf of bread before it came to our use if we could trace them; iron, wood, leather, bark, timber, stone, bricks, coals, lime, cloth, dyeing -drugs, pitch, tar, masts, ropes, and all the materials made use of in the ship that brought any of the commodities made use of by any of the workmen, to any part of the work, all which it would be almost impossible, at least too long, to reckon up⁴⁷,” (emphasis added).

This shows that all those who contributed to the development of a new plant variety will have some rights. This could be termed as the right to a share in the benefit, which is a right, and not a charity.

Applying Marxian analysis, the plant breeders’ benefit is a capital, which is the product of the collective labour of the farmers also. And the plant breeders are entitled only to a *personal property* from that, the rest belong to the society, and to all those who labored for the creation of that variety, and the related capital. If the plant breeders do not share any of the benefit with the farmers, then it becomes private property, and Marx is for abolition of it. So, the plant breeders are entitled only to that portion of the amount which Marx

⁴⁷ John Locke, Chapter 5, Section 43.

calls as personal property, for his maintenance and livelihood. The rest will have to be the social property, and the personal properties of the farmers, for enabling them to sustain the varieties they were maintaining. So, the share of the benefit is going for a social purpose. Surely, here also farmers are entitled to more rights over the benefits than the plant breeders.

It is even possible to argue that share of the benefit need not be in monetary terms. The farmers are also entitled to the product of the plant breeders, which means the seeds. Thus, as part of right to benefit sharing, farmers also get a right to use the seeds of the new varieties, as their labour is also involved in the creation of it.

Thus, the most important aspects of Farmers Rights could be property rights, and benefit sharing. In the forthcoming Chapters, while discussing on the reaction, or the development of International Law in this matter, the main examination is as to what is the shape given to the Farmers Rights there, keeping these major concerns (possibilities) in mind.

As was pointed out earlier, the central theme of the thesis revolves around, *Farmers' Access to the PGR of Plant Breeders, and Plant Breeders' Access to the PGR and TK of the Farmers*. This is because, the very creation of FR as a reaction to the PBR was a forced one, due to the economic importance of the PGR of the farmers as well as the plant breeders. This is the area where both the farmers and the plant breeders come into contact with each other, and this is the only space where rights are needed for the farmers. Now, a brief outline about the structure of the forthcoming Chapters is given.

The Research Questions that are answered in the forthcoming Chapters are, (1) What are the international laws which have impact in India which deal with the farmers access to the PGR of the plant breeders, and the plant breeders' access to the PGR and TK of the farmers?. In order to proceed to the next Research Questions, answer to this question is necessary. There are mainly four international laws in this regard. The Trade Related Aspects of Intellectual Property Rights (TRIPS), the Union for the Protection of Plant Varieties (UPOV), the Convention on Biological Diversity (CBD) and the International Treaty on the Protection of Plant Genetic Resources for Food and Agriculture (ITPGRFA). TRIPS and UPOV deal with the farmers' access to the PGR of the plant breeders, and CBD deals with the plant breeders' access to the PGR and TK of the farmers. ITPGRFA deals with both. On the discussion on UPOV the Research Question examined is, "What is the nature of rights given to the farmers in UPOV as far as farmers' access to the PGR of the plant breeders (right to use, save, exchange, re-use and sell the seed) is concerned"? On the discussion on CBD the Research Question is, "What is the nature of rights given to the farmers, while plant breeders seek access to the PGR and TK of the farmers?" On the discussion of ITPGRFA, the Research Question is, "What is the nature of farmers' rights that is recognized in ITPGRFA during both the situations?" In all these Chapters, the adequateness of these measures is also examined.

The next broader Research Question is, "What are the laws in India which deal with both these issues?" The answer is, there are mainly two legislations in India in this regard. The Biological Diversity Act (BDA) and the Protection of Plant Varieties and

Farmers' Rights Act (PPVFRA). The BDA deals with plant breeders' access to the PGR and TK of farmers. The PPVFRA deals with farmers' access to the PGR of plant breeders, and partially with the plant breeders' access to the farmers PGR and TK. On both these legislations, the question asked is, what is the nature of farmers' rights that are developed in both the situations of access to PGR, and how effective they are, and how India has used the space left by the International laws.

Discussion on UPOV is done in Chapter II, and that of CBD is Chapter III. ITPGRFA is discussed in Chapter IV. BDA, and PPVFRA are discussed in Chapters V and VI respectively. Now, the question to be asked is, while creating an exclusive right to the plant breeders, has the UPOV left any space for the farmers over the PGR of the plant breeders? Is that space enough? Anything more is required? If so, how to ensure its compliance? These questions are answered in the next Chapter.

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**NATURE AND SCOPE OF PLANT BREEDERS' RIGHTS
AND FARMERS' RIGHTS OVER THE PGR OF PLANT
BREEDERS' VARIETY- TRIPS AND UPOV**

In the previous Chapter it was seen that the crux of this thesis is based on the theme *Farmers' access to plant breeders' PGR and plant breeders' access to farmers' PGR (and TK)*. It was also found that in the international level, the main documents which deal with PBR are, the TRIPS and UPOV. TRIPS only acts as a background for the creation of PBR, while the UPOV acts as a model *sui generis* law in the international level. So, the first part of this Chapter deals with how TRIPS lays down the ground for the creation of the *sui generis* law. The second part deals with the (1) the nature and scope of the PBR, and (2) examines as to in the wider space created by the PBR (as this right is exclusive in nature), what is the space allowed for farmers to use, save, exchange and re-use the PGR (seed) of the plant breeders' variety. In other words, the second part deals with the first half of the thesis called the scope of extend of farmers' access to plant breeders' seed or PGR.

2.1 TRIPS & PBR

2.1.1 Trade Related aspects of Intellectual Property Rights (TRIPS)-The background of PBR

The TRIPS recognizes certain intellectual properties such as copyright, trademarks, industrial designs and patent. It also recognizes rights related to geographical indication, and protects even undisclosed information (trade secrets). While the former is more in

the nature of protection of individualistic property right, the latter is more in the nature of protection of community rights of holding traditional knowledge. The reaction of a layman to TRIPS is that it helps individuals to accumulate wealth, without having any regard to social, cultural or economic concerns especially of the developing countries. There is also a belief that International Trade Laws in general, and Intellectual Property Laws in particular are anti-Human Rights Laws. However, an analysis of the entire WTO agreements in general and TRIPS in particular will prove otherwise at least theoretically.

The Marrakesh Agreement establishing the WTO starts with the following words:

The Parties to this Agreement,

Recognizing that their relations in the field of trade and economic endeavor should be conducted with a view to *raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.* The agreement further recognizes that there is *need for positive efforts designed to ensure that developing countries, and especially the least developed among them, secure a share in the growth in international trade commensurate with the needs of their economic development.*

Doubtlessly, the right to adequate standard of living, right to employment, right to healthy environment, and the rights of the developing and the least developed countries to become developed countries are all human rights, especially second and third generation human rights. Apart from this, in all the agreements, there is a space for restricting the rights of the right holder in the name of public order, morality, the protection of public health, plant and animal life and the environment. Exceptions and limitations to all rights are allowed. Apart from these there is even a special agreement called the Agreement on the Application of Sanitary and Phytosanitary Measures exclusively for allowing the member countries to take measures to obtain the above mentioned objectives. Likewise, TRIPS which is of the concern of this Chapter also have several provisions which help the member countries to protect their farmers, along with allowing the breeders some rights.

2.1.2 TRIPS : the space for the Plant Breeders' Rights and the Farmers' Rights

The objective of the TRIPS is that “the protection and enforcement of Intellectual Property Rights should contribute to the *promotion of technological innovation* and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to *social and economic welfare, and to a balance of rights and obligations*. Member countries are also allowed to make necessary measures (in consistent with the provisions of the TRIPS) to protect public health and nutrition, to *promote public interest in sectors of vital importance to their socio-economic and technological*

*development*¹. Among the various rights mentioned in the TRIPS, Plant Breeders Rights (PBR) is not one. However, PBR are also described as Intellectual Property Rights. So, in TRIPS, though a breeder of a variety may be allowed a patent, or for a product of the variety while marketed a trademark may be given, the right called PBR does not directly find a place in TRIPS. In fact, TRIPS gives a very large space for the PBR while dealing with the Patent right. So, an examination of the various dimensions of patent right as given in TRIPS is necessary to find out that space.

2.1.3 Patent in TRIPS and the exceptions

Patent rights are given to encourage inventions which are useful to the society. So, the ultimate recognition is not for the individual's achievement, but for the benefit accrued from it to the society. So, the very underlying interest that is protected is the public interest. The following are the conditions for a patent. Patents are available for any *inventions* (whether products or process), in all fields of technology, provided they are *new, involve an inventive step and are capable of industrial application*². The exceptions allowed are of two types. One based on sanitary and phytosanitary measures, and the other based on the sensitivity towards patenting of life forms. They are given thus.

Article 27 (2): "Members may exclude from patentability inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid

¹ TRIPS, Article 7 and 8

² *Id.*, Article 27 (1)

serious prejudice to the environment, provided that such exclusion is not made merely because the exploitation is prohibited by their law.”

Article 27 (3): “Members may also exclude from patentability:

- (a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;
- (b) *plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof.*”

Thus while member countries are left with an option to exclude from patentability plants, and essentially biological processes for the production of plants, (which is relevant for the present discussion), it is compulsory that in case of protection of plant variety, there *shall be protection for plant variety either by patents, or by an “effective” sui generis system, or by both.* So regarding plant variety, there can be two types of rights, the patent right and the right accrued from the *effective sui generis law*. So, the intellectual property right called the PBR is created by this *sui generis law*, and that is the only relationship TRIPS has with the PBR.

However, this relationship is not very distant. The TRIPS has not laid down any criterion for this *sui generis law*. But it has used this word along with patent. It even stipulated a situation wherein both are allowed. Thus, this *sui generis law* cannot be very much

different or very much lesser than the patent right. The patent rights have the following characteristics.

The patent right confers on its holder the exclusive right (a) in the case of products, to prevent third parties from making, using, offering for sale, selling or importing the product for these purposes (2) in the case of process, to prevent the third parties from using the process, and also from the acts of using, selling, or importing for these purposes, at least the product obtained directly from that process. The holder of the patent is required to disclose the particulars of the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art. Only limited exceptions those do not unreasonably prejudice the legitimate interests of the patent holder, are allowed, taking into account the legitimate interests of the third parties also. When any country makes a law allowing the use of the subject matter of a patent without the authorization of the patent holder, TRIPS lays down various conditions, among which payment of equitable remuneration is also given³. All these are indicative to the fact that, something nearer to this right will have to be recognized in the “effective” *sui generis* law. *Sui generis means, of its own kind.*

However, it is also a matter of great relief to the developing countries, that the TRIPS gives a considerable space to “promote public interest in sectors of vital importance to their socio-economic and technological development”. It also emphasizes that the enforcement of IPR should be to “the mutual advantage of producers and users of technological knowledge and in a manner conducive to

³ *Id.*, Articles 28-31.

social and economic welfare, and to a balance of rights and obligations” (see *supra*). This means that the *sui generis* law can definitely put restrictions on the PBR, however exclusive it may be, to promote public interest, to protect the community rights, and the interests of the developing countries. This is a good space to be very wisely used by the developing countries.

However, here, what is to be noted is that, even in those countries, where in the name of morality, or for the protection of farmers’ rights, patentability is denied to plant varieties, patent will have to be given to micro organisms, and for essentially non-biological, or microbiological processes for the production of plants. The developments that have taken place in the biotechnological field are such that, the distinction between the microorganisms and macro organisms have been brittle. Now, a microorganism may be used for the production of a plant variety, and a patent on that microorganism will have the effect of a patent on that plant variety. Likewise, as genes are patentable, a patented gene can be inserted into a plant and that plant will have the effect of being patented. In effect, the *sui generis law* will be dealing only with plants which have no connection with microorganism, or non biological or microbiological process. Thus the provisions of TRIPS can have adverse effects on the farmers’ rights. As a solace, every developing country will be looking at the *sui generis law* as a means to protect their farmers, or other local communities.

However, the UPOV, which is the only international document which has defined and created the Plant Breeders Rights, is available in the international level. So, the member countries to TRIPS have three options. One, become a party to UPOV, and copy it as *the*

sui generis law. Second, without being party to UPOV, just copy the UPOV and make it their *sui generis law*. The third option is the most difficult one, where the country will have to incorporate its own peculiar problems, and needs into the legislation and make it the *sui generis law*. But very few countries have gone for the third option, as the UPOV constantly advocates that it is the model *sui generis law*, which has influenced countries all over the world. This influence is in the form of joining UPOV and then making legislation, and also in the form of even non member countries making legislation in tune with UPOV, the influence from which India is also not very free, though in many respects, she has gone for the third option. This leads us to a discussion on the Plant Breeders Rights recognised under the UPOV, and thus to the first phase of Part II.

2.2 UPOV & PBR

2.2.1 International Convention for the Protection of Plant Varieties (UPOV)- the nature and scope of PBR

In the previous Chapter, in the discussion of historical development of PBR, it was seen as to how the plant breeders got a very favourable climate through the PVPA, and decision like *ex parte Hibberd*. However, apart from these national developments, there was a greater development taking place in the international level, influencing national legislations and that was the International Union for the Protection of new Plant Varieties (UPOV – which is the abbreviation of the French word Union pour la Protection des Obtentions Vegetales). This is the one and only international document which recognises the Plant Breeders Rights. The UPOV was born out of the initiative of Italy, Germany, France, Belgium and

the Netherlands. The group of legal experts at UPOV Conference of 1961 saw breeders' rights as being very distinct from inventors' rights and they had to decide between a patent law revision and a new law to protect breeders' rights independent of the patent system. They opted for an independent system that was to be regulated by ministries for agriculture rather than patent authorities. Their idea was that a new law could better accommodate the particular characteristics of breeders' plant varieties as well as suit the technical requirements of breeders' rights.

It was with the adoption of UPOV 1961 that PBR were recognized for the first time in an international level. The 1961 UPOV was amended twice, in 1972 and in 1978 (the major one being in 1978). This was again revised in 1991. As there were major changes introduced by the 1991 UPOV, it is worth to have a comparison between the natures and scope of the PBR under these two Conventions, for the purpose of finding out as to what extent the farmers' right to use the PGR of plant breeders' variety is recognized under these two UPOVs.

2.2.2 PBR under the 1978 UPOV

Just as the patent right requires the triple conditions of, novelty, inventive step, and capable of being industrial application, the PBR has four conditions under UPOV 1978. They are novelty, distinctness, homogeneity, and stability. The UPOV considers variety as "a subdivision within the species of the lowest known rank which promises better quality or yield or other advantages, and is the product of several factors such as the mode of propagation of the plants, their

floral biology and plant breeding techniques used. The variety need to satisfy the conditions such as *distinct, new, homogenous and stable*⁴.

2.2.3. *Distinct*

The Convention stipulates that “Whatever may be the origin, artificial or natural, of the initial variation from which it has resulted, the variety must be clearly *distinguishable* by one or more important characteristics from any other variety whose existence is a *matter of common knowledge* at the time when protection is applied for. Common knowledge may be established by reference to *various factors such as*: cultivation or marketing already in progress, entry in an official register of varieties already made or in the course of being made, inclusion in a reference collection, or precise description in a publication. The characteristics which permit a variety to be defined and distinguished must be capable of precise recognition and description⁵”.

⁴ UPOV 1978, Article 6

⁵ *Id.*, Article 6 (1) (a). This condition suggests that if a traditionally bred variety is a matter of common knowledge, through the conditions mentioned in the Article, and if a breeder claims the same variety to be protected, the variety does not stand the test of distinctness. However, if the traditional variety is not a matter of common knowledge which could be established in the manners mentioned in the Article, or, if only very few number of traditional farmers have knowledge about the variety and thus it is not a matter of *common knowledge*, even a breeder who just discovered this variety can claim protection for this variety, and can claim it as his, without any *intellectual input* of his. So, the determination of the fact that existence of the variety is a matter of common knowledge assumes great significance, since the determination if is based on highly technical manner, the farmers will never be in a position to establish that it was a variety bred by them traditionally, and that it is not distinct.

It is clear from the wordings of the definition of distinct that common knowledge may be established by reference to various *factors such as*... This means, that the conditions are not exhaustive. They are inclusive which means that the fact can be established through other convincing means also. Again, even in the enumerated conditions, most of them are technical and formal which requires scientific knowledge, which is lacking in the case of traditionally bred varieties. (entry in an official register of varieties, inclusion in a reference collection, or precise description in a publication). However, there are other words like cultivation or marketing in progress. These words suggest that if a particular variety is being

2.2.4 New, Homogenous, and Stable

The variety is said to be new, when it is not offered for sale or marketed in the territory of the Member State for more than one year. However, in the territory of other States, this one year is six years for vines forest trees, fruit trees, ornamental trees, including their rootstocks and four years in other cases. The Convention also states that the fact that the variety has become a matter of common knowledge in ways other than through offering for sale or marketing shall not affect the right of the breeder to protection. Homogenous means, the variety should be homogenous with respect to its particular sexual reproduction or vegetative propagation. The variety is stable if its essential characteristics remain the same even after repeated reproduction or propagation⁶.

These are the criteria for a variety to be given a PBR. The next important question then is what is the nature and scope of this right? It is only from the answer of this that one can move to the

cultivated already, or it is being marketed, that fact can be shown as a test for the establishment of matter of common knowledge. However, to what extent the farmers (especially in developing countries) can be expected to come before the authorities claiming that the present breeder is asking for protection of the variety which was already bred by them and was in existence, is the question. Also, as most of the conditions are highly technical, and scientific, it should also be doubted whether the Convention had in their mind only the varieties which are documented, or perhaps the UPOV at least expects that in countries where there are traditional varieties, the States take the responsibility to document all of them. If so, for traditional farmers in biological diversity rich countries like India, where such documentations hardly takes place, but quite lot of traditional varieties are in existence, even the UPOV 1978 can act adversely.

⁶ *Id.*, Article 6. These conditions point towards the fact that it is meant to protect only varieties developed in the laboratories, and not the traditionally bred ones. This is firstly because these criteria can be established only by describing the scientific aspects of the plant varieties which is possible only by the modern plant breeders. Thus, if a farmer developed a new plant variety using natural techniques, he cannot claim protection under the conditions in the UPOV. Secondly the very conditions such as stability and homogeneity can be expected only from modern breeding, and not from the traditional breeding, as the nature always goes for diversity and not for homogeneity. So it is almost impossible that the traditional varieties qualify these criteria.

second phase of Part II i.e., what is the space available for farmers regarding the use of the PGR of the plant breeders' variety.

2.2.5 Rights of the breeders

The UPOV gives the following rights to the breeder. Article 5 (1) reads thus:

“The effect of the right granted to the breeder is that his prior authorization shall be required

for the production

for purposes of commercial marketing, the offering

for sale the marketing of the reproductive or vegetative propagating material, as such, of the variety.

Vegetative propagating material shall be deemed to include whole plants. The right of the breeder shall extend to ornamental plants or parts thereof normally marketed for purposes other than propagation when they are used commercially as propagating material in the production of ornamental plants or cut flowers”. (emphasis added)

However, authorisation by the breeder is not required either for the utilisation of the variety as an initial source of variation for the purpose of creating other varieties or for the marketing of such varieties. Such authorization shall be required, however, when the repeated use of the variety is necessary for the commercial production of another variety. The protection is for not less than eighteen years for vines, forest trees, fruit trees, and ornamental trees including their root stocks, and for other trees, for not less than fifteen years.

This provision points to the fact that UPOV 1978 gives the right to the breeder only with respect to the reproductive or vegetative propagating material of the variety. Thus, a breeder of a new variety of coconut tree will have right only over the coconut, and not over either any other parts of the plant, or on any product that is derived from the coconut itself, such as an anti-ageing oil made from this coconut because the oil is not the reproductive material of the coconut tree. The authorization of the breeder is also not necessary for using it as an initial source for creating new varieties, which means for research purpose the protected variety can be used without authorization. That being so, the question is, to what extent farmers are allowed to use, save, exchange or re-use the PGR (propagating material here) of the plant breeder?

2.2.6 Extent of the farmers' access to the PGR (propagating material) of the plant breeder

From the reading of Article 5(1), it is clear that the PBR in UPOV 1978 is limited in its scope. Only the production for the purpose of commercial marketing is covered by the PBR. Thus, the farmers producing the propagating material, saving it, exchanging it, or re-using it *is not affected by this right*. (PGR is a later term used for denoting propagating material or genetic material) Farmers are only prevented from using the propagating material (the genetic material) for marketing, or selling it, as propagating material. This means that as per UPOV 1978, a farmer cannot sell the seed of the protected variety as a seed for reproductive purposes. But, he can do whatever he wants to do with the seed for farming purposes, or even for selling the

produce⁷. Thus, it could be said that UPOV 1978 does not affect the freedom of the farmers to use, save, exchange and re-use the seed of the plant breeders' variety. Thus, there is no need of recognizing any rights of the farmers here, except their right to sell the seed, which was later on recognized as a farmers' right in the international level.

However, things are not that safe under UPOV 1991. It introduced a lot of changes to UPOV 1978 resulting in substantial changes in the nature and scope of PBR, which in turn has crucial impact on the freedom enjoyed by farmers regarding the use, etc, of the seed. So, the next discussion deals with the same set of questions which were raised in the context of UPOV 1978. These questions are, (1) nature and scope of the rights of plant breeders under UPOV 1991 and (2) To what extent farmers are allowed to use, save, exchange and re-use the PGR of plant breeders' variety?

2.2.7 Nature and scope of PBR under UPOV 1991

The UPOV 1991, unlike the 1978 Act, was drafted in the context of trade liberalization when Plant breeders and seed producers all over the world could have had easy access to the markets of all other countries. Also, in the situation in USA, anything under the sun could be held to be patentable, which included plant varieties as well (see discussions on *Diamond v Chakrabarty*, and *Ex parte Hibberd* in Chapter I.) So, in such a context, there was every likelihood that the PBR are also strengthened due to pressure from these stakeholders. As patent right was available in US even for the plant varieties, all the

⁷ Produce is the product, whereas seed is the propagating material which is used for reproducing the plant. While a tender ladies finger (including its tender seed, as it is not reproducible) is a produce, the seed of the dried ladies finger which will sprout on planting, is the seed or the propagating material, or the PGR.

arguments in the name of morality, ethics and public interest were given a goodbye. This in fact gave way to the line of thought that there is no scope at all for PBR unless it is equivalent or more than patent right, as the very creation of PBR as a lesser right than patent right was created because of the opposition to patenting life forms in the name of morality. So, in the UPOV 1991 substantial changes were brought in very much in support of the PBR.

Now there are 68 members in the UPOV 1991⁸, in which there are only five Asian countries. This Convention brought in mainly five changes which are of significance to the public interest, the environment as well as the farmers. These are, (1). The definition of breeder. (2). The inclusion of all genera and species for protection.⁹ (3). Restricting the method of establishing matter of common knowledge in *distinct* criterion.¹⁰(4). Expansion of the rights of the

⁸ For getting the names of all the member countries, see “ International Union for the Protection of New Varieties of Plants, What it is and what it does”, UPOV Publication No.437 (E), October 22, 2009, available at <http://www.upov.int/en/about/pdf/pub437.pdf>, and also at <http://www.upov.int/export/sites/upov/members/en/pdf/pub423.pdf>. Visited on 14-07-2011.

⁹ Unlike in the 1978 Convention, the member states are compelled to give protection to all genera and species. For the countries which were members of the 1978 Convention, they have to give protection to all genera and species when they become bound by the 1991 convention. They are given five years time as extension. Countries who are Parties to the 1991 Convention only are given ten years period for extending protection to all genera and species. Till then they have to give protection at least to 15 genera or species. This means that by the end of ten years all member countries will have to give protection to *all* genera or species. This is much different from the position in the 1978 UPOV where there was compulsion only to protect a minimum number of species or genera. This puts the States in a helpless situation if they feel that some genera or species should be exempted for the purpose of public interest or to protect the interests of the farmers, and also to ensure food security.

¹⁰ While in UPOV 1978, criteria such as cultivation, or marketing already in progress, were also included along with other criteria which were more formal in nature (entry in the official register, in reference collection etc.) , in the UPOV 1991, the only criterion that is considered for determining distinctness is the entry in the official register. The variety is deemed to be distinct “if it is clearly distinguishable from any other variety whose existence is a matter of common knowledge at the time of the filing of the application”. However, matter of common knowledge can be established only by entry

breeder (5). Less restriction on the breeder's right. Among these major changes, the most important ones for the purpose of this Chapter are the fourth one and the fifth one. Because, the expansion of PBR means, lesser rights of the farmers to have access to the PGR of plant breeders. Also, when there are no, or very less exceptions to the PBR, the farmers' privilege that was seen in UPOV 1978 would also be changed in UPOV 1991. So, first let us examine the expanded rights of the plant breeder under UPOV 1991.

2.2.8 Expanded rights of breeders under UPOV 1991

Before going to the expanded rights, it is to be mentioned that the criteria for giving PBR is slightly changed in the UPOV 1991, from that of UPOV 1978, and a definition of breeder is also added. As different from the UPOV 1978, for the first time the 1991 Convention introduced the definition of the breeder thus¹¹,

"breeder" means the person who bred, or *discovered* and developed, a variety, the person who is the employer of the aforementioned person or who has commissioned the latter's work, where the laws of the relevant Contracting Party so

in the official registry of any of the member countries. This creates two hurdles for the farmers. One, is they will have to take trouble to see that a variety which they bred traditionally, or a variety about which they have common knowledge enters in the official register. This is too much to expect from a traditional farmer from a developing country, because it requires legal as well technical knowledge, and also the awareness of the fact that they will have to do it to continue to be a traditional farmer. Secondly, if at all the traditional variety is not entered into the register, and if plant breeder files an application for the protection of that variety as a PBR, the traditional farmer is expected to be vigilant, and also to establish that the variety is a matter of common property. Now, the burden of proof is on the person who is to protect the variety of a common knowledge (here the farmer). In the UPOV 1978, however, the burden was on the breeder to prove that the variety he has developed is clearly distinguishable from another variety, whose existence is a matter of common knowledge through various factors among which cultivation was also one factor. Thus the 1991 convention on the one hand put the farmers into double jeopardy, while relieving the breeder from the responsibilities and hurdles which he had before on the other.

¹¹ UPOV 1991, Article 1(iv)

provide, or the successor in title of the first or second aforementioned person, as the case may be”.

UPOV 1991 stipulates that the variety should be *new, distinct, uniform and stable*¹². Instead of homogenous, the word uniform is used. Regarding distinct, the conditions of matter of common knowledge differs, and it is now more favourable to the plant breeders¹³. Following rights are covered by PBR as per UPOV, 1991.

“...the following acts in respect of the propagating material of the protected variety shall require the authorization of the breeder:

- i. production or reproduction (multiplication),
- ii. conditioning for the purpose of propagation,
- iii. offering for sale,
- iv. selling or other marketing,
- v. exporting,
- vi. importing,
- vii. stocking for any of the purposes mentioned in (i) to (vi), above.”¹⁴

There are mainly two differences from the 1978 convention here. One is, while in the 1978 UPOV only the production for the purpose of marketing was there, in UPOV 1991, the mere production and reproduction of the propagating material requires the authorization of the breeder. Secondly, apart from other aspects, exporting, importing, stocking for any of the above mentioned purposes are also added as part of the plant breeders right. This has widened the right of the plant breeder considerably, to the detriment of the farmers. This is more so, by another fact also which says

¹² UPOV1991, Articles 5,6,7,8 and 9.

¹³ *Supra n.10*

¹⁴ UPOV1991, Article 14.

“the acts referred to in items paragraph (1)(a)(i) to paragraph (1)(a)(vii) in respect of harvested material, including entire plants and parts of plants, obtained through the unauthorized use of propagating material of the protected variety shall require the authorization of the breeder, unless the breeder has had reasonable opportunity to exercise his right in relation to the said propagating material”. The inclusion of word “harvested material” expanded the scope of the plant breeders right as now the breeder gets right over the entire plant”.

In addition to this, even in the case of products of the harvested materials, the members may legislate to require the authorization of the breeder¹⁵.

2.2.9 PBR and its nature-comparison with patent

An illusory difference between patents and PBRs lies in the disclosure requirement. The disclosure requirement for PBR is fulfilled by the applicant providing sufficient details to prove that his variety is clearly distinct from all known varieties in at least one important characteristic. The deposit of the variety is also valid for the examination of the application. In patent systems, the disclosure of the patented invention must be clear enough to enable a person with ordinary skill in the art to develop it. However, off late, the disclosure requirement to patent plant varieties is satisfied with the deposit of the plant variety as a substitute to the written description. So these two have become almost similar now in the case of disclosure requirement. Regarding the novelty criteria, both differ in that, in the case of PBR, novelty of the variety is determined on the basis that the

¹⁵ UPOV 1991, Article 14 (3)

propagating or harvesting material has not been offered for sale or marketed with the consent of the breeder. As per patent, an invention is new if it does not form part of the state of art¹⁶.

Another difference is that UPOV allows exceptions to the PBR. Patents do not offer any exception rights other than compulsory licenses. However, notwithstanding these differences, slowly, PBRs become more similar to patent or more than that. UPOV 1991 expands the protective scope of PBR to give exclusive rights on the direct or indirect exploitation of the plant variety. It is clear that the protection granted by UPOV 1991 regarding monopoly rights over the protected plant variety has become more similar to the exclusive rights conferred upon the patentee through patents.

2.2.10 Extent to which farmers' access to PGR of plant breeders is affected

This change is drastic, and it can even be said that the breeder is given full commercial control over the propagating material. Under the UPOV 1978, farmers or anybody could have used the seed of the protected variety if it was not for commercial purposes like selling, or marketing. Now production or reproduction even for non- commercial purposes are within the sweeps of the PBR. Also, whatever is the harvested material, whether that is the propagating material or not, the breeder gets control over it. So for example, in the case of a paddy farmer, the harvested material, the rice cannot now be reproduced without the authorization of the breeder. Neither can it be saved (as the stocking for the production of reproduction is also an infringement of the right of the breeder). Thus, the farmers, if they

¹⁶ TRIPS, Article 27 (1)

once use the protected variety for cultivation, they cannot save, exchange, or use the seeds for the purpose of next cultivation. Actually the PBR was introduced as lesser right than the patent, due to the opposition of many countries towards the patenting of life forms. But, the way in which now the PBR as given in UPOV is more monopolistic than the patent.

Though the UPOV 1978 provided difference between the PBR and the patents, it is reduced by UPOV 1991. Under the UPOV 1978, the breeder could not have prevented someone from exporting or importing the propagating material, or from marketing parts of the protected variety which are not propagating material. Had it been a patent, there would be exclusive rights on any direct or indirect exploitation of the subject matter. A perusal through the nature of PBR now conferred by 1991 reveals that it is thus similar to patent. Regarding the criteria for patent, and the PBR, it is always easy to get PBR. The criteria for patent are that, the *invention* must be new, involve an inventive step and capable of industrial application.

For breeders' right, the criteria are that the variety must be, new, distinct, stable and uniform (the word used in UPOV 1978 is homogenous). While under the patent system an invention is new only if does not form part of the state of art, novelty criteria under the UPOV is determined by just finding out whether the propagating or harvested material has been offered for sale or marketed with the consent of the breeder (the duration is one year, if within the member country, and six years and four years for vine, forest trees, fruit trees, ornamental trees and other trees respectively, if in other countries).

So, the basis for the very creation of plant breeders right, namely that there should not be right to patent the living matters like plants, and only a limited right should only be created, is crushed to stones, through backdoor by the UPOV 1991.

This extension of the PBR would have no impact on the FR, if the use by the farmers were totally exempted from the purview of the breeders right, as was the case in the US Plant Variety Protection Act of 1970 (before the 1994 amendment. See discussions in Chapter I). Thus one would expect a farmers' privilege provision in UPOV 1991, if the Convention has to be balanced. So, let us see how UPOV 1991 reacts to this situation.

2.2.11 UPOV 1991- position of farmers' privilege (an exception, or not)

In an enquiry into the answer to this question would make one thing very clear that, the farmers, their rights, or their traditional knowledge are not taken seriously at all. This seems to be due to two reasons. One is inadequate representation, and lack of strong arguments for the farmers' rights. The other reason is the consequence of the first reason. As was seen in the U.S. PVPA, 1970, when there were two exceptions to the PBR in this Act namely the farmers' privileges, and the researchers' exemption, there were strong arguments to the effect that 'the broad exemption under farmers' privilege provides for a wide distribution of certified seed without plant breeders receiving compensation for their 'protected' products . In just one crop cycle developers of new plant varieties have essentially lost all exclusive rights to market and sell their

innovation”¹⁷. This suggests that farmers’ privileges are considered as an erosion of the rights of plant breeders. Thus, in the absence of strong arguments for the traditional farmers, it is quite natural that their rights were included in a very tricky manner, by making it *just optional*. This is clear from Article 15 of the UPOV 1991, which reads:

15 (1): The breeder’s right *shall* not extend to

- (i) acts done privately and for non-commercial purposes
- (ii) acts done for experimental purposes
- (iii) acts done for the purpose of breeding other varieties...

(2): Notwithstanding anything in Article 14, each contracting parties *may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeders right in any variety in order to permit farmers to use, for propagating purposes, on their own holdings, the product of the harvest which they have obtained, by planting on their own holding the protected variety or a variety covered by Article 14 (5) (i) and Article 14 (5) (ii) (essentially derived varieties and varieties which are not clearly distinguishable from a protected variety).*

There are now two problems. One is, farmers’ right over the seed (PGR) of the plant breeder is now made only as an optional exception. This means that only if a country exercises this option, that this right is going to be available to the farmers. Second problem is, even this right is very much limited in scope. This right does not

¹⁷ Scalise, David and Nugent Daniel, “International Intellectual Property Protections for Living Matter: Biotechnology, Multinational Conventions and Exception for Agriculture” 27 Case W. Res.J. Int’l L. 83, 1995, p.95

permit the farmer to exchange or sell the seed. So, if a question is asked as to whether farmers' rights are recognized under the UPOV 1991, the answer is yes. But if the question is whether the farmers all over the world are going to be benefitted at least in a marginal level by the recognition of such right in the UPOV 1991, the answer is, it depends upon the member states, and the answer may be yes or no. This is because a member country may completely ignore the farmers' rights while legislating on plant breeders' rights. However, even if a member country goes for making farmers' privileges as an exception, even that country cannot make it a total exception, as the wordings used is "within reasonable limits, and subject to safeguarding the legitimate interests of the breeders".

This suggests that even if farmers are allowed to exercise their right to use, re-use, save the seed of the protected variety, the legitimate interests of the breeder shall not be affected. So, a country's interpretation of 'reasonable limits', and legitimate interests' of the breeder will decide the extend of the FR. In the context of an exclusive commercial control being given to the breeder, what is supposed to be his legitimate interest? Is not he expecting that he should be given monopoly right over the commercial exploitation of his variety, because the UPOV 1991 has made its policy of giving a patent like right, or even more than that as was discussed earlier? So, the breeders' legitimate interest is not the recognition of his 'intellectual contribution' by allowing him to make minimum profit from his discovery or invention. But his legitimate interest is to make maximum benefit from his discovery or invention. Within reasonable limits also limits the farmers' rights considerably.

Apart from this the Convention also stipulates that apart from these limited restrictions, a member country can restrict the rights of the breeder only for reasons of public interest, and when such restriction has the effect of authorizing a third party to perform any act which required the authorization of the breeder, the breeder should be given equitable remuneration¹⁸. One country will have to wait and see what all restrictions in the name public interest will be allowed by the other member countries, especially the developed countries.

Now, under the UPOV 1991, space is given to member countries to allow the farmers to use, save, or re-use the PGR or seed of the protected variety. In that sense, it should be mentioned that UPOV is not unfair to farmers. There is a place for the sovereign countries. But, even if a legislation is made by a country to protect the farmers' rights, there can be problems to the farmers. Biotechnology can play many magic. What if the farmers are allowed to use the seeds, but they are unable to use it further due to the technologies used by the plant breeders? In fact, then the legislations which allow the farmers to use the seed are not of any use unless there is a provision to ensure that they can *re-use it also*.

2.2.12 Farmers' right to re-use the PGR of plant breeders- problems raised in the context of biotechnology

In this discussion, a brief description about the technologies that could be used to prevent the farmers (or anyone) from further using the seed for production and how it works is necessary. The plant breeding range from the ancient form of hybridization, to the new genetic engineering technology which includes marker assisted

¹⁸ UPOV 1991, Article 17.

selection, reverse breeding and double haploids, and genetic modification¹⁹. Regarding most of the hybrid seeds, as well as genetically engineered seeds, one thing is common, that its re-use is not simple. Since hybrid seed is obtained from crossing more than two varieties (lines), it not only involves reproducing over two varieties of parents but also preventing the occurrence of impurity. Maintaining purity is the process of hybrid seed production. Therefore this technology is complicated and requires a great amount of work. Only by understanding each technical link in seed production and hybrid seed production can the standard hybrid seed be produced with the expected economic result²⁰.

When new plant breeds or cultivars are bred, they must be maintained and propagated. Some plants are propagated by asexual means while others are propagated by seeds. Seed propagated cultivars require specific control over seed source and production procedures to maintain the integrity of the plant breeds results. Isolation is necessary to prevent cross contamination with related plants or the mixing of seeds after harvesting. Isolation is normally accomplished by planting distance. But in certain crops, plants are enclosed in greenhouses or cages (most commonly used when producing F1 hybrids.) This means that the seeds of these varieties cannot be simply used, without the help of the breeders. There are other technologies which create seedless fruits, such as

¹⁹Available at [http://en.wikipedia.org/wiki/Plant_breeding#Reverse_Breeding_and_Doubled_Haploids .28DH.29](http://en.wikipedia.org/wiki/Plant_breeding#Reverse_Breeding_and_Doubled_Haploids_.28DH.29), visited on 25.03.2009.²⁰ Amarjit S. Basra, *Heterosis and hybrid seed propagation in agronomic crops*, available at www.books.google.co.in.

parthenocarpy²¹ (which means the development of a flower into fruit without fertilization), cytoplasmic male sterility (CMS)²² the propagating material of which is not at all available with the farm produce. These types of technologies have changed the very nature of the right to use, sow, re-sow, and exchange seed, as there is no seed at all.

However, for the plant breeders there are justifications for resorting to such techniques. This seedlessness will help in ensuring the stability, by avoiding further natural pollination. In the case of CMS, in maize, for example, the pollen produced is sterile, which enables the production of hybrids without labour intensive detasseling²³, which is a pollination control method.

Another important technology in this regard is more vital, and fatal to the farmers. This technology is the *Genetic Use Restriction Technology (GURT)*. There are two types of GURT- the variety use restriction called the *V-GURTs*, and the use restriction of a specific trait called *T-GURTs*. The *V-GURT* is otherwise called the *terminator technology*.

²¹ Fruits that develop parthenocarpically are typically seedless. Some seedless fruits come from sterile triploid plants, with three sets of chromosomes rather than two. The triploid seeds are obtained by crossing a fertile tetraploid (4n) plant with a diploid (2n) plant. When one buys seedless watermelon seeds, one gets two kinds of seeds, one for the fertile diploid plant and one for the sterile triploid. The triploid seeds are larger, and both types of seeds are planted in the same vicinity. Male flowers of the diploid plant provide the pollen which pollinates (but does not fertilize) the sterile triploid plant. The act of pollination induces fruit development without fertilization, thus the triploid watermelon fruits develop parthenocarpically and are seedless. Another common available fruit thus produced is banana.

²² This is a maternally inherited trait that makes the plant produce sterile pollen. However, this technology is used with the intention of reducing the labour cost of removing pollen from the plant to avoid natural pollination.

²³ Detasseling corn is removing the pollen-producing flowers, the tassel, from the tops of corn (maize) plants and placing them on the ground. It is a form of pollination control, employed to cross-breed, or hybridize, two varieties of corn. Available at <http://en.wikipedia.org/wiki/Detasseling>. Visited on 12-03-2011.

In the terminator technology or V-GURT, when the first generation seeds mature, these seeds will be exposed to certain chemical (tetracycline) and sold in the market to the farmers. As a result of certain reactions²⁴, the seed germinates promptly to produce healthy second generation plants in the farmers' field. However, the seed produced by this second generation plants will be infertile, which can be used as food but will not germinate if planted for growing further. In T-GURTs, the seeds require external application of inducers to active the traits expression. T-GURTs refer to a set of technologies that by using an external trigger makes it possible to *switch on and off specific characteristics of a plant, such as resistance to disease*. Thus, these technologies in fact help the seed companies to have a limitless property right, by forcing the farmers to use high level of fertilizers and chemicals, and to always go back to the plant breeder or the seed companies. Here we find the major tension between the FR, and the PBR. In fact, one of the major concerns of UPOV²⁵ is also that, unless certain technologies are used to prevent the further use of the seed by the farmers, the PBR will be of no use.

²⁴ The repressor protein being produced by the third gene, which in the presence of tetracycline becomes inactive cannot bind on the repressible promoter site. This recombinase gene will become active on the second strip of DNA. The recombinase promptly removes the excision and blocking sequences from the first gene construct. At this stage LEA promoter is in direct contact with the lethal gene. But the lethal gene is not expressed, because the promoter has been chosen to be active only at a particular stage of seed development in late embryonic stage. As a result the seed germinates promptly to produce healthy second generation plant in the farmers' field. When the second generation plant starts producing seeds, in the late embryonic stage, the LEA promoter becomes active and produces a large amount of ribosome inactivating proteins, which in turn inactivates the protein synthenergy nature of cells ie, ribosomes, This results in the production of infertile second generation seeds.

For details see, Ricardo Melendez-ortiz, Pedro Roffe, *Intellectual Property and Sustainable Development, Development Agendas in a changing World*. Available at www.google.books.co.in.

²⁵ WIPo/IP/BIS/GE/03/11. For the document see http://www.wipo.int/edocs/mdocs/sme/en/wipo_ip_bis_ge_03/wipo_ip_bis_ge_03_11-main1.pdf. Visited on 08-07-2010.

Thus, even though the UPOV has created a space for farmers' right to save, use, and re-use the seeds of the protected varieties, these kinds of technologies will make that space futile. So, what is needed is, the legislations of nations should also address the issue of use of technologies like GURT. So, in the Indian context a researcher is keen to find out whether India has addressed this question and found a solution in the proper perspective. Likewise, in the UPOV, there is a need to address this issue.

Actually, to have a very brief look at the reflection of UPOV on different countries, Jordan has exempted the farmers' privileges in their legislation, exactly in the manner in which UPOV has given exemption in The Law for the Protection of New Varieties of Plant of Jordan, 2000²⁶. Similar is the case with the Plant Variety Protection and Seed Act, 2007 of Japan²⁷. China²⁸ and Indonesia²⁹ has not given any such privileges to the farmers at all. Bangladesh has given wider rights to the farmers than any other in the context of PBR. Still it is not clear from the Plant Varieties Act of Bangladesh 1998 as to whether the farmers have a right to use, save, exchange or re-use the seeds of the plant breeders. The following are the relevant sections in the Act.

This Act shall in no way affect Communities as

Article 3 (4) (a) Owner, user, custodian and steward of plant varieties held in common and

²⁶ The Law for the Protection of New Varieties of Plants of Jordan, Article 16.

²⁷ Plant Variety Protection and Seed Act of Japan, 2007, Article 21.

²⁸ Implementing Rules for the Regulations of the People's Republic of China on the Protection of New Varieties of Plants, 1999 of China.

²⁹ Laws of Republic of Indonesia on Plant Variety Protection, 2000. See Article 10.

- (b) Residual Title holder as stipulated in Biodiversity and Community Knowledge Protection Act, and
 - (c) Farming community with Farmers' Right as stipulated in this Act.
- (5). This Act shall in no way affect the rights of farmers to have unencumbered access to biological and genetic resources of Bangladesh and related knowledge, intellectual practices and culture.
- (6). This Act shall in no way affect the rights to collect, conserve, propagate and use the propagation materials of any variety, irrespective of the privileges granted in accordance with this Act, as long as it is strictly for *personal and non-commercial use* and not exchanged by the user in the commercial market for monetary or other forms of financial gains.

It is not clear from these provisions as to whether the exception under the Act is only regarding the personal and non-commercial use by the farmers also, or, the rights of the farmers as given in Article 3 (5) includes the propagating material of the protected variety also.

However, one interesting aspect here is, among these countries, Jordan, China and Japan alone are parties to UPOV. But a country which is not party to UPOV, Indonesia has not given the privilege to the farmers in their legislation. Also, irrespective of whether these countries are parties to UPOV or not, by being parties to TRIPS, they are under an obligation to make a *sui generis* law, and these countries have substantially copied from UPOV. This shows the

influence of UPOV even on a non member of UPOV. Indian situation is also somewhat the same, but with larger differences. As the study of Indian law in this matter is the centre of this study, discussion on Indian law is avoided here.

2.3 Conclusion

It is to be noted that even in 1991 when the PBR took almost the shape of a patent, the Farmers' Rights was (and still) in its discussion stage. So, while the discussions were more around the farmers' right to use, save, *exchange, and sell* the seed of the protected variety, UPOV 1991 did not even respect the right to exchange the seed. Nor is there anything in UPOV about compensating the farmers who conserved and preserved the raw material which the plant breeder uses. In fact, even in determining the criteria, UPOV does not say anything about respecting the farmers whose plant genetic material was used in the plant breeding. For example, UPOV had enough space to insist on a certificate from the breeder to the effect that the farmers, or the community (if it could be located) or the country from where the PGR obtained were compensated, or adequately remunerated while accessing to the PGR or TK. So, the underlying philosophy of UPOV is that, it is capitalistic in nature, its interest is creation of a private property regime which is exclusive in nature, and its major concern is increased food production. Among these considerations, the FR could not be given any space, either in the form of a right, or even as a privilege, in a meaningful manner. It should also be said that, in the context of PBR, what is allowed for farmers in UPOV are narrow, **residuary rights, or peripheral rights.**

It is in this context that the Convention on Biological Diversity was created, which addressed the issue of the plant breeders' access to the PGR and TK of the farmers. So, what is left out by UPOV could be filled by CBD, apart from creating new rights for the farmers. In the next Chapter the discussion is as to what is the contribution of CBD as far as Farmers Rights are concerned, while plant breeders are given access to the PGR and TK of the farmers. To find an answer to this question, the discussion moves on to the next Chapter, *Plant Breeders' Access to the PGR and TK of Farmers- International Law- the Convention on Biological Diversity*.

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PLANT BREEDERS' ACCESS TO THE PGR AND TK OF FARMERS- INTERNATIONAL LAW-THE CONVENTION ON BIOLOGICAL DIVERSITY

In the previous Chapter, the extent of FR that are allowed in the course of access to the PGR of the plant breeders' variety in the international level was examined, with UPOV as the main document. There, the substantial differences between the stands taken by UPOV 1978 and UPOV 1991 were also seen. In this Chapter, the reverse situation is examined. That is, *what is the nature and extent of rights (if any) given to the farmers, while the plant breeders are given access to the farmers' PGR or TK.* Actually in the international level, there are so many documents which deal with the rights of the farmers in one way or the other, in the context of plant breeding and PBR. They are, Convention on Biological Diversity, 1992, the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), the Nagoya Protocol on Access and benefit sharing to the CBD, The United States Declaration on the Rights of Indigenous Peoples, the Thammasat Resolution, the proposed (by India) Convention on Farmers and Breeders (CoFaB), Agenda 21 and the Food and Agriculture Organisation (FAO) Resolutions.

However, among these, only the CBD¹ and its Protocol are binding documents. This makes CBD the most important document

¹ The CBD was negotiated under the auspices of the United Nations Environmental Program (UNEP), and opened for signature in the Earth Summit held on Rio de Janeiro, Brazil in 1992, and entered into force on 29 December 1993. The drafting of the CBD was a cumbersome process of balancing the interest of biotechnology-rich, biodiversity-poor developed countries and biotechnology-poor, biodiversity rich developing countries. Developing countries wanted to utilize their resources using new technologies, and thus stressed for transfer of technology, and financial assistance, while the developed countries

among these. So, the question raised in this Chapter is tried to be answered mostly based on CBD and its Protocol, with supporting arguments from the other documents. ITPGRFA being a document which exclusively deals with agricultural genetic materials, it is of specific importance to farmers. So, it is dealt with separately in the

bargained for lenient provisions regarding access to PGRs, and protection of intellectual property rights. Thus the CBD had the herculean task of balancing various vital interests like that of conserving biological diversity, protecting the interests of the local and indigenous people with special emphasis to farmers rights in the developing countries, and the interests of the IPR holders in the developed countries.

The key elements of CBD are (a) its concept of States' relationship to the genetic resources within their territory (b), its concern on the protection of environment by endorsing the precautionary principle, and by regulating the movements of genetically modified organisms (c) preservation of traditional knowledge which are useful for preserving biodiversity (d) use of indigenous and traditional technologies in conservation of biodiversity (e) regulation of access to biological resources (f) equitable sharing of benefit arising out of use of traditional knowledge or the biological resources maintained by traditional communities like the farmers. The important terms used which are of key interest to the present discussion are, 'biological diversity', 'biological resources', 'genetic material' and 'genetic resources'.

The biological diversity is defined as "the *variability* among living organisms of all sources including *inter alia* terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part, which includes diversity within species, between species and of eco systems. This definition clearly shows that the concern of the Convention envisages as much variability as possible among the living organisms including plants. *Variability is antonymous to uniformity and stability*, as uniformity and stability criteria require that the plant variety should remain stable in its method of reproduction, and the essential characteristic should remain even after repeated use. While the farmers' varieties are rich in variability, the plant breeders variety are required to be uniform and stable, which acts as a hindrance to diversity. So, in the very definition of the word biological diversity, there seems to be a tension with the PBR. Biological resources include genetic resources, organisms or parts thereof, populations or any other biotic components of ecosystem, *with actual or potential use or value for humanity*. Genetic resources means genetic material of actual or potential value and genetic material means any material of plant, animal or microbial or other origin containing *functional units of heredity*. So, the biological resources are those materials of plants, animals or microbial which are the reproductive materials, or propagating materials. This means that, the genetic material of those varieties which are protected by PBR are also to be subjected to access. However, as was found in the discussion of UPOVs, especially UPOV, 1991, the reproductive materials, and even the harvested materials of the protected varieties are in the domain of intellectual property, which is a very strong regime. This means that access will be possible only to the varieties which are not protected under the IPR or other regime. The farmers' varieties being not protected in any such manner alone will thus be subjected to access, resulting in a 'one way traffic' in the matter of flow of genetic materials. These are, however, only potential problems that are inherent in the definitions, which will not precipitate, if the Convention has taken adequate measures to prevent these things from happening.

next Chapter. One of the main objectives of CBD², which is basically an environment protection document is, conservation of biological diversity and sustainable use of its components. This conservation is sought to be achieved by allowing breeders, scientists and researchers of any country to have access to the plant genetic resources or the traditional knowledge prevailing in any other country. This access in fact helps the breeders to develop new varieties and get PBR. So allowing access under CBD can be a basis for the breeders to later claim IPR in the form of PBR under UPOV (or the *sui generis law*). Thus, unless CBD recognizes and gives enough space for safeguards to the farmers who hold the plant genetic resources or the traditional knowledge, CBD can only act as a “mechanism for transnational corporations to trade with biodiversity in the name of access” as is the concern of the Thammasat Resolution (discussed later).

The PBR causes problems to the farmer (as is given in UPOV, 1991) after the breeders creating a protected variety. It is most often a fact that they could develop the variety only with the help of the farmers. This is because, the germplasm (the sum total of all hereditary material in a single interbreeding species³) that is used in the gene technology to develop new varieties is taken from landraces (means a local variety of a domesticated animal or plant species which has developed largely by natural processes, by adaptation to the natural and cultural environment in which it lives) which are

² The objectives of the Convention are (a) conservation of biological diversity (b) the sustainable use of its components and (c) fair and equitable sharing of benefits arising out of the utilization of the genetic resources. These objectives are to be done by (a) allowing appropriate access to genetic resources (b) appropriate transfer of relevant technologies taking into account all relevant rights over these resources, and technologies and (c) by appropriate funding.

³ Available at www.everythingbio.com. It is also a collection all genetic resources of an organism (<http://en.wikipedia.org/wiki/Germplasm>) . Visited on 02-12-2010.

maintained by the farmers which are called the farmers' varieties. Thus, the very bases of most of the varieties that are protected are taken from the farmers. The varieties which are developed by the breeders also are most often based on the traditional knowledge held by the farmers.

Demand for protection of traditional knowledge gained momentum at the international level in the wake of technological changes that took place towards the ends of the last century. It is the ability of the new technology-particularly biotechnology –to churn out new products having high economic value in the global market by using traditional knowledge that spearheaded the demand for the protection of this knowledge base. Thus sudden chase for this knowledge base, particularly that based on genetic materials by global traders made its custodians conscious of the economic potential of their knowledge. The attempt to obtain patent protection for new products based on traditional knowledge and property that have been patented made them panicky. (for example, patent on basmati, turmeric, and neem)⁴. Thus, plant genetic resources and traditional knowledge are the key words to be used in the context of PBR and FR.

So, if there is an international initiative to allow anybody to have access to the plant genetic resources, or traditional knowledge, especially that for food and agriculture (for the present discussion), it goes without saying that the farmers will be used as means to have access to plant genetic resources. In the wake of laws like UPOV, there is another danger also, and it is that, the same farmers will be put

⁴ N.S.Gopalakrishnan, "Protection of Traditional Knowledge, The need for a *sui generis* law in India"⁵ J.W.I.P.725

at the mercy of plant breeders later on when they develop a new variety and obtain the PBR, who are mostly big private seed companies. This will be almost like, how the British during their reign in India were taking raw materials from India, and selling the finished products of such raw materials back to India. This kind of a *bio-colonisation* is possible today. So, unless the international laws are drafted in a very wise manner, there is every possibility of all bio-rich developing countries going to suffer a new variety of colonial period.

CBD being basically a document on the protection of environment, and farmers being main contributors to the genetic diversity, and conservation of the same, **one expects a set of solid rights for the farmers from this document, rather than residuary rights.** By solid right, it is meant that, some independent right like property right is recognized. It is with this expectation in mind that this document is examined to answer the research question that is paused in the beginning of the Chapter.

Before entering into the discussions on CBD, certain aspects are to be discussed in the context of access to PGR. The main question in this Chapter can be answered only after having clarity about to whom does the PGR of a country belong to? Is it to the persons who hold it, or to the State? If it belongs to the State, what is the nature of the right of the farmers, and what is the State expected to give to the farmers? In fact, this concept is a major premise of CBD today, and this concept is known as common heritage v permanent sovereignty of State. As was discussed in the Chapter I as a glimpse, the common heritage concept that was found in the IUPGRFA slowly gave way to the permanent sovereignty principle. As this will give a

strong foundation to the FR while access is given to PBR to their PGR, an elaboration of the same is attempted here.

3.1 Common heritage v Sovereignty of the States

The four components of State are territory, population, government and sovereignty. This very fact makes it clear that the State has sovereignty over the entire territory, which includes natural resources as well like the PGRs. The concept of sovereignty also includes non-intervention of one State in the affairs of other. The United Nations General Assembly has also adopted this fact in 1962 by adopting a Resolution on Permanent Sovereignty over Natural Resources. However, when another specialized agency of the same United Nations, came with a principle that the PGRs are the common heritage of mankind, and no country has any right over them, it conflicted with the existing principle on sovereignty.

The international organization which contributed to the development of this controversy, and to some extent its settlement is the Food and Agriculture Organisation (FAO), which is a specialized agency of the United Nations responsible for matters involving global food and agriculture. It is a primary organization responsible for the global conservation of plant genetic resources (PGR). Among plant genetic resources, the most important ones for the purpose of the present study as well as the survival of human race are, the Plant Genetic Resources for Food and Agriculture (PGRFA). The FAO has initiated, in co-operation with other organizations, a series of international technical conferences and meetings on PGR. As part of developing a Global System for the Conservation and Utilisation of Plant Genetic Resources for Food and Agriculture (Global System),

the FAO has initiated two main institutional components, which are called the Intergovernmental Commission on Genetic Resources for Food and Agriculture (CGRFA), and the International Undertaking on Plant Genetic Resources (IUPGRFA). The objective of IUPGRFA was to ensure that plant genetic resources of economic and/or social interest particularly for agriculture will be explored, preserved, evaluated and made available for plant breeding and scientific purposes.

As is obvious from this purpose, the IUPGRFA was supposed to facilitate access to PGR's all over the globe to all who are in the field of plant breeding, and research. This, the FAO believed, will help in increasing the food production, and thus alleviation of poverty. So, the major activity of the IUPGRFA was to regulate *access to plant genetic resources*. Originally the IUPGRFA was regulated by the principle that PGR's are part of the "*heritage of mankind and consequently should be available to all without restriction*"⁵. So, Article 5 of IUPGRFA provided that it would be the policy of adhering Governments and Institutions to allow access to PGR's under their control and to permit their export, where the resources have been requested for the purpose of scientific research, plant breeding, or genetic conservation. Samples were to be made available *free of charge, on mutual exchange, or mutually agreed terms*. In the formal definition of PGR's adopted by the IUPGRFA, PGR's are said to be (a) the reproductive or vegetative propagating material of the following category of plants (i) cultivated varieties (cultivars) in current use and newly developed varieties (ii) obsolete cultivars (iii) primitive cultivars (land races) (iv) wild and weed

⁵ IUPGRFA, Article 1

species, near relatives of cultivated varieties (v) special genetic stocks (including elite and current breeders' line and mutants).

Primitive cultivars, land races, and wild and weed relatives of crop plants have been conventionally considered by plant scientists as PGR's, and have been collected free of charge for preservation in gene banks and for plant breeding programmes. As the IUPGRFA in its original form adopted this broader definition of PGR's, by including cultivars in current use and newly developed plant varieties as well as elite and current breeders' line and mutants within its scope, all these varieties were to be made available on demand. This was equally applicable to the plant varieties and current breeders' line and mutants developed by the private plant breeding companies, as they are also covered by the definition of PGR's. This was a reason for opposition of the industrialized countries in signing the IUPGRFA, as they were (and are not) willing to renounce the propagating material of their plant varieties or their genetic stock, giving away property rights in their breeders' elite lines⁶. But these varieties were however protected through IPRs like the patent or the PBR, while the farmers' varieties and their wild varieties were to be made available without any protection of property rights, as the farmers are not given any proprietary right over the farmers' varieties or wild varieties. Apart from the respective countries which were to allow access to PGR's, farmers' varieties and their wild relatives are made available to countries through the International Agricultural Research Centres (IARCs).

⁶ Patricia Lucia Cantuaria Marin, *Providing Protection for Plant Genetic Resources*, Kluwer Law International, Netherlands, 2002.

The IARCs work contributed very much to the needs of the bio-poor countries (mostly developed countries), by taking the PGRs from the bio-rich developing countries, without any reward to the conservators of the same. This put the farmers into trouble. This was mainly due to the IUPGRFA principle of “common heritage”, which it did not define, or properly made clear. This provision gave developed countries easy access to developing countries resources, while developed countries’ elite and current breeders’ line and mutants were locked in a property rights treasure box and kept distant from the IUPGRFA. However, there was a conflict between the provisions of UPOV and IUPGRFA while allowing access to plant varieties protected by UPOV. In order to solve this problem, and the problem of the farmers, and the sovereignty of the nations over their natural resources, three Resolutions were passed by FAO, all of which have a nexus with changing the content of the “common heritage’ principle adopted in the IU. These Resolutions are, 4/89, 5/89 and 3/91. But it is to be noted that, unlike an International Convention, an Undertaking like IUPGRFA or its resolutions are not legally binding. Due to this reason Dutfield⁷ argues that in spite of the IUPGRFA principle of “common heritage of mankind”, the already existing principle of permanent sovereignty in the International Law has not undergone any change, and countries are under no obligation to implement the “common heritage of mankind principle”.

3.2 FAO Resolution 4/89 on “common heritage of mankind”

This resolution provided for an agreed interpretation of the IUPGRFA. This Resolution qualified the term “common heritage of

⁷ Graham Dutfield, *Intellectual Property, Biogenetic Resources and Traditional Knowledge*, Earthscan, London, 2004.

mankind”, to some extent, and attempted to harmonise the provisions with that of UPOV. But as is obvious, UPOV 1991 was not in existence while this resolution was passed. So, the harmonization was with the provisions of UPOV 1978, which was shaken with the coming of UPOV 1991. Regarding the first aspect, the commission reaffirmed that PGR’s were a “common heritage of mankind’ to be “freely available for use”. However, it made a significant change by qualifying the term “free access” as “free access does not mean free of charge”. This suggests that while allowing access the countries of origin can charge, reasonable financial considerations from the recipients. Thus this interpretation paved way for the space to the concept of benefit sharing, which is a reward to the conservators of plant genetic resources including the traditional farmers.

Regarding the second aspect, the Resolution declared the provisions of IUPGRFA and UPOV as compatible. However, only the UPOV 1978 was considered by FAO. This conclusion is true with UPOV 1978. Because while access is allowed under the IUPGRFA to plant genetic resources especially for food and agriculture, and on the basis of research conducted on the above PGRFA if a plant variety is developed by the breeder, and it gets protection under UPOV, 1978, the farmers who preserved the same are not prevented from using it. This is obvious from the discussions on UPOV 1978 (Chapter II). But the discussions on UPOV 1991 (Chapter II), showed how all these rights were considerably reduced, and that the farmers were denied the right to exchange or sell not only the propagating material of the protected variety, but also the harvested material even, and how their right to use, save and re-use is limited by the optional exception clause there. Thus as far as this aspect is concerned, 4/89 lost its relevance

completely. Resolution 3/91 made considerable change in the concept of “common heritage of mankind”, along with some other aspects of access to farmers’ and breeders’ materials, the complementarity of information, technologies and funds. It is now necessary to give a brief account about these resolutions, owing to their great relevance for FR.

3.3 Resolution 3/91: From “common heritage of mankind” to “sovereignty”

In this Resolution the Conference of FAO recognized that “the concept of mankind’s heritage as applied in IUPGRFA on Plant Genetic Resources *is subjected to the sovereignty* of the states over their plant genetic resources”. This is a very significant change obviously due to the fact that now, the law recognizes that PGR’s are not the common property of all human beings. It is now within the political boundary of the geographical places called nations. While PGR’s were considered as ‘common heritage of mankind’, the concern over their conservation and sustainable utilization was global. As such, the essential characteristics of this principle are, collective responsibility, sharing of benefits and costs of conservation taking into account the interests of the future generation. As such, as countries hold PGR’s under their sovereignty they are said to have stewardship of the PGR’s, and have to sustainably use them in order to preserve the heritage for themselves, for other nations and for future generations. The sovereignty implies ownership which has to be dealt with at both a public and private level. At the public level, the ownership rights over PGR’s rest under the direct control of the government and they can be placed at the disposal of the international

exchange system of PGR's through gene banks, botanical gardens, arboreta, and nurseries. At the private level, PGRs are being used by companies, community groups or individuals in activities such as breeding. At this level, PGR's are only made available through the permission of these private groups⁸.

Thus, the problems which were persistent due to 'common heritage of mankind', namely that the States were just made instruments for allowing access to their PGRs to others who are involved in breeding or scientific research, including multinational seed companies were solved to some extent. However, this does not mean that access can be denied unreasonably. The State will still have to respect all international laws to which it is party, and the customary international laws, as per which States are under an obligation to allow access to PGR's for the development of agriculture, and scientific researches linked with them. However, they have more space to deny access to many PGRs on the one hand, and to ask for something in return for allowing access, such as benefit sharing, or for some of the varieties which the breeders possess. Otherwise, as was pointed out by Kloppenburg and Kleinman, "germplasm would flow out of the South as the 'common heritage of mankind, and will return as a commodity'"⁹.

With this introduction, let us proceed to the discussion on the extent of FR recognized in the CBD while access is allowed to the plant breeders. As was seen before, the common heritage v permanent

⁸ *Id.*, at p. 54

⁹ Kloppenburg, Jack Jr. and Kleinman, Daniel, "Plant Genetic Resources: The Common Bowl", in Kloppenburg, Jack Jr. (edr.), *Seeds and Sovereignty- The Use and Control of Plant Genetic Resources*, p.10. Available at <http://books.google.co.in/books?>. Visited on 23.03.2009

sovereignty being almost settled by the FAO Resolution 3/91 is again reiterated in the CBD in a slightly different way. The Preamble of the CBD affirms that “the conservation of biological resources is *the common concern of human kind*” and reaffirms that the “States have sovereign rights over their own biological resources” and also reaffirms that the “States are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner”. It also puts forward as principle¹⁰ that the States have sovereign right to exploit their own resources pursuant to their own environmental policies.

Thus, instead of “common heritage of mankind”, the CBD uses the words “common concern of human kind”, and the respective States are required to preserve them, instead of leaving that concern to all. This in other words means that all the States shall co-operate with each other for the preservation of biological diversity. The concept of sovereignty cannot thus be used to deny access to the plant genetic resources without strong justification, as the sovereignty concept is not coined as a license to use the States’ biological resources in the manner they like, but the sovereignty is to be used to facilitate preservation of biodiversity. In other words, the sovereignty cannot be used against the concern of the human kind. In fact, the CBD requires the State parties to allow access to genetic resources in the following words in the Preamble.

“*Aware* that conservation and sustainable use of biological diversity is of critical importance for meeting the food, health and other needs of the growing world population, for which purpose

¹⁰ CBD, Article 3

access to and sharing of both genetic resources and technologies are essential”.

Thus, two things are clear. One is, the State is given the ultimate authority to decide over the access to PGR. The second is, in spite of the sovereignty of the State, access cannot be denied to PGR without reasonable justifications. *It is here, that the rights of the farmers will have to be linked.* In order to create that link, the question is to be asked is, *what role CBD has given to the State in this matter? Are they to recognize the rights of the farmers?* It is a fact that, farmers’ right for the first time found its place in the FAO Resolution 5/89 which defined it as *“the rights arising from the past, present and future contributions of farmers in conserving, improving, and making available plant genetic resources, particularly those in the International Community, as trustees for present and future generations of farmers’, for the purpose of ensuring full benefits to farmers, and supporting the continuation of their contributions, as well as the attainment of the overall purposes of the International Undertaking.”*

From this definition it is clear that all those rights farmers are entitled to get as conservers and preservers of PGR, and all the rights which are necessary to ensure their continuance as such will come under farmers’ rights. So, while giving access to PGR, the State will have to recognize these rights of the farmers. Thus, the sovereignty of the State should be subject to the farmers’ rights. With this background, let us see what the position of CBD, regarding the farmers’ rights during access to their PGR by the plant breeders is. The reason why States are given the primary right over the PGR is that, it is difficult to identify the conservers and preservers of

particular PGR. As was pointed out in the first Chapter, in the drafting of FR, the opinion of many was that, as it is difficult to identify a particular person or even group of persons who conserved , or preserved, or developed a particular PGR, the right should be to the “countries of origin, or to the people of the countries of origin”. It is this uncertainty about the farmers who conserved and preserved the PGR that the concept of State as the prime centre of deciding the matter emerged in CBD.

3.4 Access to the PGR and TK of the farmers- the rights recognized by CBD

There are two such rights which the CBD identifies, even though the access to PGR is left with the State. CBD says that “Recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation¹¹.” The two rights recognized can be seen from Article 8 (j) thus.

“Each Contracting Party shall, as far as possible and as appropriate:

(j) Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices”

¹¹ *Id.*, Article 15 (1)

Thus there are two privileges (turning them into right is the duty of the State) identified to be given to the farmers. (While identifying indigenous and local communities farmers group will also come as the conservers of PGRFA. However, the term indigenous and local communities, due to their inherent vagueness can lead to several questions as to whether there is any need for using these terminologies in countries like India¹². This thesis, however, proceeds on the

¹² The word meaning of “indigenous” is, native, not exotic (*The New Millennium Dictionary*, Siso Publishers, Trivandrum).. This means that all those who were the original inhabitants of a country and still are, are called indigenous people. The definition recognized by the United Nations in the workshop on Free, Prior and Informed Consent held at New York in January 2005 is, (“An overview of the principle of free, prior and informed consent and Indigenous People in International and Domestic Law Practices” Workshop on Free, Prior and Informed Consent by the Department of Economic and Social Affairs of the United Nations, PFII/2004/WS.2/8)

“Indigenous communities, peoples and nations are those which, having a historical continuity with pre-invasion and *pre-colonial* societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal system.” “This historical continuity may consist of the continuation, for an extended period reaching into the present of one or more of the following factors:

Occupation of ancestral lands, or at least of part of them;

- a) Common ancestry with the original occupants of these lands;
- b) Culture in general, or in specific manifestations (such as religion, living under a tribal system, membership of an indigenous community, dress, means of livelihood, lifestyle, etc.);
- c) Language (whether used as the only language, as mother-tongue, as the habitual means of communication at home or in the family, or as the main, preferred, habitual, general or normal language);
- d) Residence on certain parts of the country, or in certain regions of the world;
- e) Other relevant factors. ” (“The concept of Indigenous Peoples”, Background paper prepared by the Secretariat of the Permanent Forum on Indigenous Issues, PFII/2004/WS.1/3.).

This definition poses several problems. In a country which was subjected to colonization, all those who were living in that country before colonization should be qualified to be indigenous people, if they have a continuity with the pre-invasion, and pre-colonisation societies. However, even those who were there in the land who are the mainstream, and do not have a distinct culture or identity or even legal system, and those who are not subjected to domination, are not qualified to be indigenous people. In the light of this discussion, the question is, can the farmers be called indigenous people?

As culture like means of livelihood is considered as a factor which indicates historical continuity, and farmers can be included in the concept of indigenous people, “those people who are engaged in farming as a means of livelihood from the pre-invasion, pre-colonisation period, and who consider themselves as distinct from other sectors of the societies now prevailing in those territories, who are determined to preserve their cultural identity and to transmit it to their future generations in accordance with their own cultural patterns, social institutions and legal systems” can be called as indigenous people, or rather indigenous farmers. However, it is doubtful whether even the tribal people will come within this definition as they are not ‘determined to preserve their identity, through their own social institutions and legal systems’, and they need not even be always subjected to domination by the other sectors. In that case, this definition will be far less suited to the traditional farmers, or farmers, who are distinct from the others only in the fact that they are engaged in farming, and thus more related to land in an environment friendly manner. This is not a great distinction from others who are engaged in similar profession like a carpenter, mason, goldsmith, blacksmith, or any other profession. Being subject to domination alone will not in itself qualify some sector to be called indigenous. Because this happens in many cases like domination of majority over minority people, domination of men over women (in some societies sometimes even vice versa), domination of the have’s over the have not’s, or the domination of the powerful over the powerless. Then where is the problem with this definition, as it seems not to suit anybody, neither the farmers, nor even the tribal in an independent country, take for example India?

The problem is that this definition aims at all the people who were the natives of a country before colonization, and their efforts in becoming an independent nation. The words ‘determined to preserve their culture in accordance with their social institutions and legal systems’, ‘non-dominant sectors’ are all well suited to such a situation. The freedom struggle in India against the British is the best example. After the British invasion, the Indians became the non-dominant sector. Their determination to continue their culture, identity, social institutions and legal systems resulted in the freedom fight. So, after colonization, the British are the dominant sector (during their reign). Before that also there were other invasions of the Muslims, the French, the Portugal, and many other such foreigners, in whose reign there were a set of people who *originally belonged to this land*. They can be called the indigenous peoples. So, after independence, all those who inhabited here before colonization should be called as indigenous people. This goes to suggest that *all Indians are indigenous in that sense, and not just the tribal, or tribal farmers*. This analysis will hold good for any other nation. It is also another fact that the word ‘right to self determination’ (Article 1 of ICCPR, and ICESCR which reads: “1. All peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development. 2. All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case, may a people be deprived of its own means of subsistence.”) as a human right, and as a right of the indigenous people also point towards this aspect, and *only this aspect* especially in the Indian context as India made a partial reservation to these Article to the effect that, right to self determination is not available to section of people, but to nations as a whole.

Another explanation given to indigenous people by the Indigenous and Tribal Peoples Convention 1989 (by the International Labour Organisation (ILO)) in fact puts a paradigm shift to the above discussion, by differentiating between tribes and indigenous peoples. This points to the possibility of there being foreign or exotic tribes. The Indigenous and Tribal Peoples Convention reads thus:

Article 1: 1. This Convention applies to (a)tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the

assumption that, even if there can be relevance for these terms in India, farmers will undoubtedly be the first group relevant for the protection of these benefits). These two privileges are the *approval and involvement of the farmers in the wider application of their PGR and TK, and the equitable sharing of benefits*. Approval and involvement of the farmers are more clearly used as prior informed consent (PIC) in another provision of CBD. These two terms are more

national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations (b)
 peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of the present state boundaries and who, irrespective of their legal status retain some or all of their own social, economic, cultural and political institutions

As per this definition, or rather, explanation, the benefits of the Convention are available to all tribes irrespective of their being native of the country. They need only to have distinct social, cultural and economic conditions, and who are governed by traditions of their own. At the same time the indigenous people are the same as discussed above. This means that there can be non indigenous tribes, who are to be protected like that of indigenous people. However, there are also opinions that

“The term “indigenous” has prevailed as a *generic* term for many years. In some countries, there may be preference for other terms including tribes, first peoples/nations, aboriginals, ethnic groups, *adivasi, janajati*. Occupational and geographical terms like hunter-gatherers, nomads, peasants, hill people, etc., also exist and for all practical purposes can be used interchangeably with “indigenous peoples””. (“Who are Indigenous People?” Fact sheet of the United Nations Permanent Forum on Indigenous Issues. Available at http://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf visited on 26-07-2011.

This shows that the international law *does not pay much weight to the verbal juggleries*, but to the only fact that the protection should be given to, and the rights should be recognized of, those people who have distinct social, cultural, linguistic, political, or other peculiarities, which they want to continue. But they often face threat from other sectors of the society who follow the mainstream social, cultural, political and other aspects of life due to various reasons such as lack of political power, or money power. So, the rights of such people means, their freedom (rather than right) to continue to live their life in their own particular way. In fact, the U.N. has now developed a modern understanding of this term based on various factors among which “strong link to territories and natural surroundings” (*ibid.*), can be used to include farmers also in the generic term indigenous peoples. The other term used in the context of PIC is, local communities. If not covered within the indigenous people concept, can the traditional farmers be included in the ambit of “local communities”? In the Ad hoc Expert group meeting of local community representatives held at Montreal, Canada from 13-15 July 2011 by the Secretariat of the CBD, the characteristics of local communities are tried to be identified, so as to take their help and involvement while accessing to the knowledge, innovations, and practices associated with them.

vividly dealt with in the CBD in two places. They are now more elaborately examined here.

3.5 Prior Informed Consent (PIC)

Taking into account the vital importance played by the provisions relating to this issue, the important provisions are reproduced as below¹³.

1. Recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation.
2. Each Contracting Party shall endeavour to create renditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and *not to impose restrictions that run counter to the objectives of this Convention*.
3. For the purpose of this Convention, the genetic resources being provided by a Contracting Party, as referred to in this Article and Articles 16 (access to and transfer of technology) and 19 (handling of biotechnology and equitable sharing of benefits), are only those that are provided by Contracting Parties that are countries of origin of such resources or by the Parties that have acquired the genetic resources in accordance with this Convention.
4. Access, where granted, shall be on **mutually agreed terms** and subject to the provisions of this Article.

¹³ CBD, Article 15

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5. Access to genetic resources shall be subject to **prior informed consent** of the Contracting Party providing such resources, *unless otherwise determined by that party. (emphasis added).*

It is a fact, that the State is the ultimate authority to decide on the prior informed consent, as it is not the farmers whose PIC that is envisaged by the CBD, but that of the State. So, it is the State which will have to find out fair mechanisms to identify the stake holders. However, if the State parties choose to allow access to genetic resources, which are held by the farmers, then the PIC is and should not be that of the State, but that of the farmers, as justice and fairness demands it. Thus the PIC of the farmers becomes inevitable in the case of allowing access to PGRFA. So, the fact whether the farmers and the other traditional people who actually conserved the PGR, should be consulted depends on the international understanding on this matter. CBD does not give any guideline on either PIC or benefit sharing. However, there are understanding among the academicians about these usages, and also guidelines issued by the Secretariat of the Convention on Biological Diversity, the study by the TRIPS council on the relationship between TRIPS and the CBD¹⁴, case studies in countries like Panama, Philippines and Russian Federation¹⁵ and the latest Nagoya Protocol (of CBD) on Access and Benefit sharing. As concepts which are very much feared by the intellectual property rights holders, and as potentially beneficial to the traditional people like the farmers, PIC and ABS (access and benefit sharing) are the pivotal principles of CBD.

¹⁴ Available at http://www.ciel.org/Publications/PIC_PerraultOliva_Apr05.pdf visited on 12-07-2011

¹⁵ Available at www.ffla.net/.../63-indigenous-peoples-free-prior-and-informed-consent-in. Visited on 12-07-2011

3.6 Importance and content

The importance of PIC is that, for the first time, there is an international recognition of some rights of the farmers over their TK and PGR. The very fact that the PIC is sought means that some right exist. In the present context, it is the farmers' right. The fact that farmers are to be consulted, and their consent obtained means that they are given some prominent role. Actually, there was no need of such rights in the past, as there was no economic value and thus no demand for PGR and TK. In the changed circumstance, PIC is recognized as otherwise, the PGR and TK of the farmers would be looted away. So, PIC can be said to be a product of necessity of the time. This is what exactly happened in the medical field also. In the ancient times when human body parts were not of much value and demand, the physician could have exploited the patient (if he wants to) only in terms of his fees. But today when even a cell or a gene of a human body is of such an immense value due to the developments in genetic engineering, and the potential for huge profit by way of patenting of these genes or other parts of human body, they are not simply cells or genes today. Also, experimentation on human body to develop and test new medicines with a motive to make money without the consent of the patient takes place.

As a result, a new medical ethics called PIC came into existence so as to prevent the physicians from unjustly making money, and to steal things from the human body which he is treating. In fact, here, law is compelled to answer the question as to “whether the patient has a right over the organs of his body?” While insisting on PIC, the law indirectly says that the patient has the ultimate control and right over his body. Likewise, if PIC is to be sought from the

farmers, it means that the law recognizes that the farmers are the ultimate authority to decide on the PGR and TK held by them. Actually identifying them as the custodian of the TK and PGR itself is a recognition of some rights to them, as otherwise, it is not definite as to who all hold what. So, the depth and breadth and effectiveness of this right (right to be consulted) depends on the national legislations. However, there is an international understanding about this aspect, which should be reflected in the national legislations including that of India. So, brief description about this international understanding is done here.

In the examination of this concept the first question to be asked is, *whose prior informed?* Is it that of the State? Or also that of the stakeholders like the farmers? As was discussed above, the CBD only says “the prior informed consent of the Contracting Parties”. However, in Article 8 (j) stipulates that the (discussed above) wider application of the knowledge, innovations and practices of the indigenous and local people with traditional lifestyle should be done with the approval and involvement of the holders of such knowledge, innovations and practices. Reading these two provisions together gives the picture that not only the approval (PIC in other words), but also the involvement of the farmers will be needed while allowing access to PGRFA. However, this interpretation needs to be tested in the light of other guidelines issued by the Secretariat of the CBD and the more binding instrument, the Nagoya Protocol on Access and Benefit Sharing to CBD.

The concept of PIC has taken on legal meaning in two main contexts, medicine and the 1989 Basel Convention on Transboundary Movement of Hazardous Wastes. “Informed” means sufficient

information on the alternatives and potential benefits and harmful consequences of medical treatment, and “consent” as having the competency, freedom from coercion and authority to make a decision¹⁶. In the medical sense, this principle is very difficult to be implemented, because the patients may not be competent enough to judge for himself or herself to choose the various alternatives suggested by the physician. So, to find out whether a patient is sufficiently informed is almost an impossibility, due to the usage of medical terms which the doctors use which the patients will rarely understand.

The principle of the PIC as developed by the Secretariat of CBD has identified the following principles as part of PIC in the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits arising out of their Utilization, 2002¹⁷, (Although they are not legally binding, the fact that the Guidelines were adopted unanimously by some 180 countries gives them a clear and indisputable authority and provides welcome evidence of an international will to tackle difficult issues that require a balance and compromise on all sides for the common good¹⁸. This is more so, because except some provisions, many of the provisions of Bonn guidelines are adopted as such in the Nagoya protocol to CBD.).

¹⁶ Preston Hardison, “Prior Informed Consent, Prior Informed Approval”, No. 15, The Monthly Bulletin on Canadian Indigenous Caucus on the Convention on Biological Diversity, October 2000.

¹⁷ Secretariat of the convention on Biological Diversity (2002), Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation, Montreal, Secretariat of the Convention on Biological diversity. Available at www.cbd.int/abs/bonn. Visited on 12-07-2011.

¹⁸ *Ibid.*

3.7 The basic principles of a prior informed consent system¹⁹

- (a) Legal certainty and clarity;
- (b) Access to genetic resources should be facilitated at minimum cost;
- (c) Restrictions on access to genetic resources should be transparent, based on legal grounds, and not run counter to the objectives of the Convention;
- (d) Consent of the relevant competent national authority (ies) in the provider country. The consent of relevant stakeholders, such as indigenous and local communities, as appropriate to the circumstances and subject to domestic law, should be obtained.

The latest document in this area is the Nagoya Protocol on Access and Benefit Sharing (Protocol to CBD), which lays down the following principles in the case of PIC. As per this, the State Parties which require PIC shall take the following measures to,

- (a) Provide for legal certainty, clarity and transparency of their domestic access and benefit-sharing legislation or regulatory requirements;
- (b) Provide for fair and non-arbitrary rules and procedures on accessing genetic resources;
- (c) Provide information on how to apply for prior informed consent;

¹⁹ Bonn guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits arising out of their utilization, Para 26

- (d) Provide for a clear and transparent written decision by a competent national authority, in a cost-effective manner and within a reasonable period of time;
- (e) Provide for the issuance at the time of access of a permit or its equivalent as evidence of the decision to grant prior informed consent and of the establishment of mutually agreed terms, and notify the Access and Benefit sharing Clearing-House accordingly;
- (f) Where applicable, and subject to domestic legislation, set out criteria and/or processes for obtaining prior informed consent or approval and involvement of indigenous and local communities for access to genetic resources; and
- (g) Establish clear rules and procedures for requiring and establishing mutually agreed terms. Such terms shall be set out in writing and may include, *inter alia*:
 - (i) A dispute settlement clause;
 - (ii) Terms on benefit-sharing, including in relation to intellectual property rights;
 - (iii) Terms on subsequent third-party use, if any; and
 - (iv) Terms on changes of intent, where applicable²⁰.

One of the principles of Prior Informed Consent is, Prior informed consent should be obtained from national competent authorities in the case of access genetic material preserved *in situ*. This perhaps means that only the national competent authorities which deal with the relevant genetic material. Then what is the role of traditional farmers in the case PGRFA? The answer lies in the

²⁰ Nagoya Protocol, Article 6 (3)

following parts of this element which says “National procedures should facilitate the involvement of all relevant stakeholders from the community to the government level, aiming at simplicity and clarity” and that “Respecting *established legal rights* of indigenous and local communities associated with the genetic resources being accessed or where traditional knowledge associated with these genetic resources is being accessed, the prior informed consent of indigenous and local communities and the approval and involvement of the holders of traditional knowledge, innovations and practices should be obtained, in accordance with their traditional practices, national access policies and subject to domestic laws.”²¹”

These provisions clearly indicate that some way or the other, when traditional knowledge or genetic resources maintained by the traditional peoples like the traditional farmers are accessed, their approval and involvement is necessary. These provisions also distinguish between traditional knowledge associated with plant genetic resources, and plant genetic resources held by them. This is in fact distinguishing between traditional knowledge holders and plant genetic resources holders. This distinction is more for another practical purpose. *While the PIC of the indigenous and local communities is to be obtained, when allowing access to plant genetic resources, approval and involvement of traditional knowledge holders is required while allowing access to traditional knowledge.* This, put into a negative sentence means, approval and involvement of indigenous and local people are not required while allowing access to plant genetic resources, and PIC need not be sought from the traditional knowledge holders while allowing access to traditional

²¹ *Id.*, Para’s 30 and 31

knowledge.. Thus, it seems that the Bonn guidelines consider *prior informed consent* and *approval* as two different terms, without any explanation being given to them. This also suggests that the involvement of indigenous and local communities is not required in the case of access to plant genetic resources. There is also another cardinal point in this that, *holders of traditional knowledge need not be indigenous or local communities*. So, in the case of farmers, who do not own the land, but own the traditional knowledge, this provision suggests that, their PIC is not required while accessing to the knowledge, but only their approval and involvement. This has made the provision in the Bonn Guidelines ineffective. However, this anomaly is corrected in the binding document called the Nagoya Protocol, by giving different provisions for access to plant genetic resources and to traditional knowledge while at the same time, obliging the States to seek informed consent, or approval and involvement of indigenous and local people in both cases.

The relevant provisions say, “In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that the prior informed consent or approval and involvement of indigenous and local communities is obtained for *access to genetic resources* where they have the established right to grant access to such resources²²” and “In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that *traditional knowledge associated with genetic resources* that are held by indigenous and local communities is accessed with the prior and informed consent or approval and involvement of these indigenous

²² Nagoya Protocol, Article 6

and local communities, and that mutually agreed terms have been established²³.”

However, the words used are conditional in the sense it requires ‘established legal rights, associated with access to genetic resources. The word ‘established rights’ is not found in the context of access to traditional knowledge, and “mutually agreed terms’ is not found in the context of access to plant genetic resource. This implies that, in the case of traditional knowledge, even in the absence of established rights, PIC should be sought. However, if there is no established legal right, no prior informed consent is needed in the case of access to plant genetic resources. Rights can be ‘established’ in two situations. One is that the contracting parties can create legal rights through national legislations, which is the discretion of that country. The other is, if there are certain rights established in the international level, and the Country is a party to it, even without legislations, the provisions of the international law could become part of it, and the rights enshrined therein shall be available to the people concerned.

This position holds good even in the case of International documents which are not binding, but which has only a persuasive effect. So, the (in the Indian situations, cases like *Jolly George Varghese v Bank of Cochin*²⁴, *Vishaka v State of Rajasthan*²⁵, *Madhu Kishwar v State of Bihar*²⁶ point to this theory of automatic incorporation, in the absence of incompatibility between the two, or even in the case of incompatibility, a harmonious construction should

²³ Nagoya Protocol, Article 7

²⁴ AIR 1980 SC 470

²⁵ AIR 1997 SC 3011

²⁶ AIR 1996 SC 1864

incorporate it. Even Article 5 of the UDHR, which is only a Declaration which has not binding nature, was said to be part of the Indian law in *D.K. Basu v State of West Bengal*)²⁷.

This requires that, it is necessary to examine which are the rights that are available to the indigenous/ local people in the international level, so that a country, while making legislation should consider them. As the rest of the thesis deal with the Indian position, it is necessary to see to what extent a law made in pursuance to CBD in India should take care of the rights of the indigenous people which are recognized internationally? As this thesis deals with farmers rights, only farmers as an indigenous group are considered, in effect.

3.8 Rights of the Indigenous People in relation to the genetic resources and the traditional knowledge in the international level

The most important right is their human right to *self determination* recognized by the ICCPR, and the ICESCR, which recognizes their right to control (freely dispose) over their wealth and natural resources though the word indigenous is not used. However, the reiteration of this provision in the United Nations Declaration on the Rights of Indigenous People, 2007 explains the fact that ‘people’ used in the context of self determination in the above provision includes indigenous people. This sends the message that the natural resources are the property of the indigenous people, which is a community right. The Declaration also protects the right to intellectual

²⁷ For an analysis of the Indian cases in this regard in the area of International Human Rights Law, see, P.S.Seema, “Incorporation of International Human Rights Documents into Indian Law- Response of the Supreme Court”, [2006] C.U.L.R. 1

property, (intellectual property cannot be taken away from them without their prior informed consent, and in violation of their laws, traditions and custom) and the right to land, and the natural resources of the indigenous people in the following words.

“1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired. 2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired. 3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.²⁸” These rights are also recognized in some other International documents such as the Agenda 21, Rio Declaration, and the Forest Principles²⁹.

This leads us to the conclusion that in the international level, there are many soft laws, which recognize the right of the indigenous people to ownership of the natural resources including the PGR, and the land, and also the right to intellectual property such as holding of traditional knowledge. But, as these are all in the domain of soft law, there is doubt as to, to what extent these rights are really established rights. However, as the indigenous people are given human right to self determination, the right over natural resources and

²⁸ UN Declaration on the Rights of Indigenous People, Article 26

²⁹ For a detailed analysis of the rights of indigenous people, see “An overview of the principle of free, prior and informed consent and Indigenous People in International and Domestic Law Practices” Workshop on Free, Prior and Informed Consent by the Department of Economic and Social Affairs of the United Nations, PFII/2004/WS.2/8

over the land can also be said to be in the domain of hard law also. This means that in the International level, there is a scope for developing a property right of farmers over their PGR.

But, the nature of protection of this right depends upon how the member countries are going to accede to these Covenants. For example, India has made a partial reservation to this Article, by applying it only to countries as such, and not to section of people. This means that though in the hard law domain, this right is not an established right. Thus the International Human Rights Law being individualistic, neither the ICCPR, nor the ICESCR recognizes collective or community rights, except the right to self determination to some extent. In the Human Rights Law domain, however, the only document which recognizes collective or community right is the African Charter on the Human and Peoples right. This very clearly says in the context of right to free disposal or community's as well as individual's wealth and natural resources that, the State Parties should undertake "to eliminate all forms of foreign economic exploitation particularly that practiced by international monopolies so as to enable their peoples to fully benefit from the advantages derived from their national resources"³⁰. However, this is only a regional document, which will have application only in some countries.

So, to conclude, it could be said that the indigenous people have established legal right to self determination, only if the State decides so. They do not have any right over the knowledge associated with the natural resources like plant genetic resources. So, in the absence of such established legal rights, either as per CBD, or as per

³⁰ African Charter on Human and Peoples' Rights, 1981, Article 21(5)

the Nagoya Protocol thereto the State parties not under an obligation even to seek PIC from the indigenous people. The situation with respect to local communities is also the same in the case of African Charter, as the word used there is “peoples”, which include indigenous as well as local communities. Otherwise in the international plane, there is no specific document as in the case of indigenous people, and thus they also do not have any established legal right in the international level so as to bind the member states. Then, it depends on the member countries to legislate in their domestic law to give these people the established rights. Thus, ultimately, the sole control vests with the State parties. This suggests that the international law considers the State as the holder of the physical as well as intellectual property of the natural resources, and they are given the discretion to consult, or seek the PIC, or approval or involvement of the indigenous or the local communities who were preserving the genetic resources, and the knowledge associated with them. This takes us to the situation that, again the State’s using the gap in the CBD is the only way out to protect the farmers’ rights.

However, one cardinal point to be note here is, *what is the nature of this recognition of asking for PIC, as far as farmers are concerned? (Does it give any right to them over the PGR?)*

Is this seeking approval, and involvement of farmers give them any special status with their relationship to the PGR which they developed, preserved or conserved? Actually the CBD says that their approval should be obtained. But the same CBD says that “each Contracting Party shall endeavour to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and not to impose restrictions that run counter to

the objectives of this Convention³¹”. Thus, this provision considerably limits the State parties’ freedom to deny access to PGR as a freedom of the persons who conserved it. State legislations will have to enumerate grounds based on which alone, access can be denied. This means that the farmers are not given any right by recognizing the PIC, unless the State parties use this privilege very wisely to make it a right. One positive aspect that is created by recognizing this principle is that, now State parties can think of giving the farmers even property rights over their PGR and TK. This is because, consent is asked only when there is a right, or an interest and that right can be even a property right. So, State parties like India can develop property right for farmers, and PIC can be linked to that right. But, it should be mentioned that CBD failed in recognizing any such right to the farmers. Thus, CBD directly created only *residuary rights and no solid right*.

Now, let us move to the next right that is given to the farmers called the right to equitable benefit sharing, with a small analysis of the justification for this new right.

3.9 Right to equitably share the benefit – A new right given to farmers over their TK and PGR in the context of PBR

It is a fact that while the plant breeders take the TK or the PGR from the farmers, these two things are only of a potential value. When it is utilized to develop a new variety and the variety is registered, it becomes a subject matter of IPR and thus a protected variety. The seed or the PGR of this variety is thus of high economic value. In this context, a very important question is to be asked. While

³¹ CBD, Article 15(2).

the person who developed the variety gets such an economic advantage, are not the people who contributed the basic material plus knowledge towards that entitled to a share of it? There are many justifications for a Yes here. It is these justifications that paved way for the development of this new concept, rather a right of the farmers called the “equitable benefit sharing”.

As was seen in the discussion in the first Chapter on the development of FR, even before the CBD came into existence, there were many discussions in the light of IUPGRFA on funding the farmers. Various methods were discussed. In the context of CBD it happened to be a bilateral sharing system, while in the context of IUPGRFA it was an international funding system that was under consideration. One more difference is that, while the IUPGRFA discussed only about PGRFA, and thus farmers were the only stakeholders, under CBD all biological resources (BR) were covered. This BR also include PGR and PGRFA. In all these cases, the concern was to somehow create an *obligation* for persons who access to the PGR. This means that these funding or benefit sharing is not to be considered as charity, but as obligations.

It is even possible to argue that share of the benefit need not be in monetary terms. The farmers are also entitled to the product of the plant breeding, which means the seeds of the protected variety. Thus, as part of right to benefit sharing, farmers also get a right to use the seeds of the new varieties, as their labour is also involved in the creation of it. Some points out that benefit sharing is also a facet of ethics, in this beautiful language thus:

“The normative justification for benefit sharing in the context of non-human genetic resources can be taken straight from the CBD. The CBD identified the conservation of biological diversity as “a common concern of humankind” (Article 15 (1)). World leaders meeting at the 2002 World Summit on Sustainable Development in Johannesburg, South Africa, agreed that the destruction of biological diversity would continue unabated unless the custodians of this natural wealth benefit from its conservation. In short, without fair benefit sharing, the conservation and sustainable use of non-human genetic resources will continue to be at risk. In this respect, the justification for benefit sharing according to the CBD relies on a mutually beneficial instrumental approach. In Aristotelian terms, we are dealing with “commutative justice”, where each party gives one thing and receives another, with a focus on the equivalence of the exchange. In the case at hand, the exchange takes place between the provision of access for bioprospecting and compensation, be it monetary or non-monetary”³².

3.10 Benefit Sharing under the CBD and the Nagoya Protocol

CBD only mentions about equitable benefit sharing in the following way. “Each Contracting Party shall take all practicable measures to promote and advance priority access on a fair and equitable basis by Contracting Parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Contracting Parties. Such access shall be on mutually agreed terms”³³. The key words here

³² D.Schroeder, “Benefit sharing: it’s time for a definition”, available at <http://jme.bmj.com/content/33/4/205.full.pdf>. Visited on 05-10-2011

³³ CBD, Article 19

are, “fair and equitable sharing of benefits” and “mutually agreed terms”. The CBD does not give any guideline regarding the modalities of benefit sharing. As was mentioned earlier, these guidelines could be found in the Bonn Guidelines on Access and Benefit Sharing, which is only a guideline not having binding effect, though this guideline is adopted by 180 countries unanimously. But, this guideline gets a binding effect, when most of its provisions are now incorporated into the Nagoya Protocol on Access and Benefit Sharing, which has recognized the indigenous and local communities’ rights on the plant genetic resources, and on traditional knowledge associated with them in a theoretical way at least. So, in order to find out the nature of benefit sharing under CBD one has to have a detailed look into the Nagoya Protocol.

3.11 The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation

Just as in the case of CBD, the national authorities are considered as the custodian of PGR, and the final authorities to decide on the modalities to ensure fair and equitable sharing of benefits in the Nagoya Protocol also. This sharing need not be between the indigenous or local communities like the farmers and the recipients. It is between the State parties, who are under an obligation to seek PIC, and to give a share of the benefits arising out of the utilization of the genetic resources and the traditional knowledge held by them. One of the main reasons why the State authorities are made the central authority is that, if the indigenous people or the local people are alone left to decide to grant access to genetic resources, there is every

likelihood of the recipients exploiting them, or cheating them, as these people could sometimes be trapped by offering pittance. So, the entire responsibility to see that the concerns, welfare, and livelihood of indigenous and local people are adequately taken care of is with the States concerned. But then the role of the State is that of a protector, and not that of a thief, who would rob the indigenous people by allowing access to their wealth to third persons. Keeping these principles in mind, the provisions of Nagoya Protocol is analysed to find out whether the benefit sharing provisions are going to help the indigenous people and the local communities with special emphasis to farmers.

Benefit sharing under the Nagoya Protocol is mainly bilateral in nature. It gives a broad outline to the equitable benefit sharing, leaving the rest to the State Parties. The benefit sharing is taking place between the State Parties, and regarding the PGR and TK held by indigenous people and Local Communities, the State has to share the benefit with these people based on mutually agreed terms³⁴. As per the Nagoya Protocol, a country has to establish two National Authorities, National Focal Point, and Competent National Authorities³⁵. The National focal Point is for making various pieces of information available to the applicants. These pieces of information include the country's procedure for obtaining PIC from the State, established mutually agreed terms, including benefit sharing, the procedure for obtaining PIC from the indigenous people or local communities, in the case of access to TK, and information on National Competent Authorities, relevant indigenous and local people, and

³⁴ Nagoya Protocol, Article 5.

³⁵ *Id.*, Article 13.

other stakeholders. The Nagoya Protocol establishes an Access and Benefit Sharing Clearing House to act as an information provider regarding many things. These pieces of information include “the information regarding the Legislative, administrative and policy measures on access and benefit-sharing, information on the national focal point and competent national authority or authorities, and permits or their equivalent issued at the time of access as evidence of the decision to grant prior informed consent and of the establishment of mutually agreed terms³⁶”.

Also, each Party is to take appropriate, effective and proportionate legislative, administrative or policy measures to provide that genetic resources utilized within its jurisdiction have been accessed in accordance with prior informed consent and that mutually agreed terms have been established, as required by the domestic access and benefit-sharing legislation or regulatory requirements of the other party³⁷. So, in a nut shell, it could be said that, Nagoya Protocol envisages a bilateral system of benefit sharing, and in the case of access to TK, the PIC of the indigenous and local community are directly to be sought. The Access and Benefit Sharing Clearance House acts as an information sharing centre, where the applicants get a picture about the procedures regarding how to obtain PIC, and establishment of the mutually agreed terms including benefit sharing. The Clearing House is also supposed to make available the information regarding those indigenous and local communities who hold PGR and TK. However, the State Parties are left with the heart and soul of the benefit sharing scheme. It is also a feature of the

³⁶ *Id.*, Article 14.

³⁷ *Id.*, Article 15.

Protocol that it expects that “the Parties encourage users and providers to direct benefits arising from the utilization of genetic resources towards the conservation of biological diversity and the sustainable use of its components³⁸”

One of the main problems with sharing of benefits regarding country of origin (or countries of origin) and the indigenous and local people is that, to fix the country of origin, or the particular indigenous or local communities within that country, who hold the plant genetic resources or the traditional knowledge is very difficult. There are at least three phases of development of plant genetic resources. The Report on the State of the World’s Plant Genetic Resources³⁹ identifies that the expansion of agricultural genetic diversity throughout the plant occurred in three phases. The first phase indicates the *in situ* conservation of genetic diversity, when crops were domesticated. Most crops were domesticated during the Neolithic period .For example wheat was domesticated in Western Asia, rice in South East Asia and South Asia, Maize in Mesoamerica and sorghum in Africa.

The second phase is marked by global exchange of PGFRA, where secondary centre of diversity occurred. This was possible with the voyages of exploration and the trade routes which linked Europe, Asia, East Indies, Africa and Americas. Thus, here many countries started’ owning’ PGRs which were not originally theirs. This exchange led to the extinction of traditional crops when these were replaced by the introduced ones. In the third phase, instead of keeping the PGRFA in the form of plants in the natural

³⁸ *Id.*, Article 9.

³⁹ Available at <http://apps3.fao.org/views/docs/SWRFULL2.PDF> visited on 22-07-2011.

environment, they were collected in international centres and other gene banks, which is called *ex situ* conservation. Both these types of conservations have their benefits. While *in situ* conservation areas tend to keep the genetic variability of species high, *ex situ* conservation prevents, the extinction of certain PGRs.

The first two phases explain as to how there could be many countries who could claim themselves as the country of origin. Likewise, even in countries where a particular plant is said to be originated, its germplasm would have originated in some other country or countries. Likewise there is the plurality of holders of PGR and TK prevailing among various people who include even people who do not belong to the definition of “indigenous people” or “local people”. This diversity and difficulty is taken care of by the Nagoya Protocol thus:

“*Recognizing* the diversity of circumstances in which traditional knowledge associated with genetic resources is held or owned by indigenous and local communities,” in the Preamble and,

“In instances where the same genetic resources are found *in situ* within the territory of more than one Party, those Parties shall endeavour to cooperate, as appropriate, with the involvement of indigenous and local communities concerned, where applicable, with a view to implementing this Protocol.

Where the same traditional knowledge associated with genetic resources is shared by one or more indigenous and local communities in several Parties, those Parties shall endeavour to cooperate, as appropriate, with the involvement of the indigenous and

local communities concerned, with a view to implementing the objective of this Protocol⁴⁰”.

Obviously, this is only a recognition of the most important problem existing in relation to benefit sharing, with no workable framework, or guideline. But this difficulty points towards the fact that direct sharing of benefit with the holders of PGR and TK is practically impossible in most of the cases. In such cases, the benefit can be given only to the country from where the PGR or TK was obtained. But, then the country is free to utilize for the conservation of some other PGR held by farmers.

Another important feature of Nagoya Protocol is that, it *separates access to genetic resources and access to traditional knowledge* and lays down guidelines for both, with special consideration to indigenous and local people who hold both. The CBD in Article 8(j) does not use the word prior informed consent at all. It uses the words, “approval” and involvement of indigenous and local people who are holders of knowledge, innovations, and practices which will help to conserve biological diversity. Bonn Guidelines at the same time use the words “prior informed consent of indigenous and local communities” (while allowing access to genetic resources), approval, and involvement of traditional knowledge holders (who need not be indigenous or local communities) while allowing access to traditional knowledge, with mutually agreed terms. The Nagoya Protocol though differentiates between access to genetic resources, and access to traditional knowledge, makes no difference between whose prior informed consent, and whose approval and involvement is

⁴⁰ Nagoya Protocol, Article 11

to be sought while granting access to these two⁴¹. In these cases, the prior informed consent, or approval, and involvement (in Bonn Guidelines PIC was one thing, and approval and involvement was another) of indigenous and local communities is required.

3.12 Benefit Sharing- Shortcomings

Thus, while access is allowed to the PGR and TK of the farmers, two main concepts are evolved. The PIC and benefit sharing. It is a new development, and is in a way recognizes the farmers' relationship with their TK, and PGR, for the first time. But, then the question to be asked is, are these measures enough to balance the farmers against the PBR? It is a fact that while PBR is an individualistic (IPR) right given to a plant breeder, farmers' rights is a collective right. While utilizing the PBR the right holder is free to make any amount of money, and to do whatever he wants to do with the money, benefit sharing principle talks about the farmers utilizing this amount for the purpose of conservation and preservation of PGR and TK. This gives the picture that farmers exist as 'raw material suppliers' to plant breeders or other researchers. It is a fact that they can preserve and conserve PGR and TK only if they *remain as farmers*. So their sustenance is a great question before the sustainable use of PGR. If the plant breeders can accumulate money through PBR, using the PGR or TK of the farmers, some monetary benefit for their own sustenance should be there with the farmers also. In other words, farmers should be able to make money as a reward for their preservation of PGR and TK. In other words, if a particular community of farmers, or group of farmers could be identified as the

⁴¹ Nagoya Protocol, Articles 6 and 7

conservers of a particular PGR, or TK, which is used for creating a PBR, that community should get a share of the benefit which they can use for any purpose, including, improving their standard of life.

However, the benefit sharing system under CBD (and its Protocol) is not in that line. It is in the line that share of the benefit accrued to the plant breeders, out of the utilization of PGR or TK given to the farmers is to be spent for the conservation of PGR or TK. This only means that farmers are encouraged to remain as farmers, not for food production, but as PGR providers to plant breeders. In this juncture, it is worth have a look at the (inclusive) types of benefit sharing that is envisaged under the Nagoya Protocol. The monetary benefits include the following⁴².

- (a) Access fees/fee per sample collected or otherwise acquired;
- (b) Up-front payments;
- (c) Milestone payments;
- (d) Payment of royalties;
- (e) Licence fees in case of commercialization;
- (f) Special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity;
- (g) Salaries and preferential terms where mutually agreed;
- (h) Research funding;
- (i) Joint ventures;
- (j) Joint ownership of relevant intellectual property rights

Except the joint ownership of relevant intellectual property rights, no other method of payment seems to help the farmers for sustaining themselves, or to really benefit from their preservation of

⁴² Annex to the Nagoya Protocol

PGR and TK. Non-monetary benefit sharing are all directly linked with the preservation of PGR only⁴³.

So, while accepting the benefit sharing in principle, it is to be noted that the States should also use this principle to enable the farmers atleast to survive as farmers. Regarding the benefit sharing also, it is recognized as a FR only as a *residuary right and not as solid right*. In other words, benefit is not asked as part of a right. It is still only an arrangement.

It is also to be noted that in the international level, there are initiatives to attack the very concept of access and benefit sharing. There is a very crucial document, which was signed by 19 countries on December 1997 at Thammasat Campus, Bangkok, Thailand, at an

⁴³ *Ibid.* These are, (a) Sharing of research and development results; (b) Collaboration, cooperation and contribution in scientific research and development programmes, particularly biotechnological research activities, where possible in the Party providing genetic resources (c) Participation in product development; (d) Collaboration, cooperation and contribution in education and training; (e) Admittance to *ex situ* facilities of genetic resources and to databases; (f) Transfer to the provider of the genetic resources of knowledge and technology under fair and most favourable terms, including on concessional and preferential terms where agreed, in particular, knowledge and technology that make use of genetic resources, including biotechnology, or that are relevant to the conservation and sustainable utilization of biological diversity; (g) Strengthening capacities for technology transfer; (h) Institutional capacity-building; (i) Human and material resources to strengthen the capacities for the administration and enforcement of access regulations; (j) Training related to genetic resources with the full participation of countries providing genetic resources, and where possible, in such countries; (k) Access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies; (l) Contributions to the local economy; (m) Research directed towards priority needs, such as health and food security, taking into account domestic uses of genetic resources in the Party providing genetic resources; (n) Institutional and professional relationships that can arise from an access and benefit-sharing agreement and subsequent collaborative activities; (o) Food and livelihood security benefits; (p) Social recognition; (q) Joint ownership of relevant intellectual property rights.

international seminar on *Sui Generis Rights* called the Thammasat (in Thai, this means “knowledge of nature” or “justice”) Resolution or Declaration. This resolution is just consisting of 19 countries which included India, various other countries from Asia, Africa, USA, and Germany, from Europe. One of the major concerns of this resolution is to ‘Reaffirm the original intent of the CBD for the conservation and sustainable use of biodiversity and *prevent the CBD from becoming a mechanism for transnational corporations to trade in biodiversity in the name of 'access' and 'benefit-sharing'*.

Instead of a *sui generis* law for the protection plant breeders’ under the TRIPS, they insist that even before IPR, the rights of the farmers, and the indigenous people were in existence, and thus they have a right to have their *sui generis* right (our own kind of rights). Their concern, and protest against IPR becoming a tool for exploitation of their biodiversity and traditional knowledge expressed in very strong language is put like this

“The *sui generis* provision of TRIPs gives WTO member states room to develop their own kind of IPRs protection for plant varieties, and many nations are now changing their national IPRs laws.

While some people look at the *sui generis* option in TRIPs as a window through which other forms of rights over biodiversity can be articulated in legislation, it is our conviction that such rights will be linked to IPRs and will result in new and further monopoly rights over plant varieties.

The same is true of any *sui generis* rights option which could be developed and proposed under the TRIPs Agreements for local and indigenous knowledge.

Our rights are inalienable; they existed long before IPRs regimes were established. As legal, political, economic, social and cultural rights, they are part of peoples' sovereignty and therefore part of human rights.

As community/collective rights, they are indivisible and inter-generational; they include farmers' rights and apply to indigenous peoples, peasant and family farmers, fisherfolk and other local communities which derive their livelihoods from biodiversity.

Their place and expression is firstly at the local level, but they must also be recognised and guaranteed at the national and international levels.”

This resolution also asserts that there should be primacy of the CBD and other FAO resolutions over the TRIPS and other trade regimes. Though this is only a Resolution or a Declaration, it lays down foundation for the argument that there is a *sui generis right* for the farmers and like people who conserve the biological diversity, and their livelihood is depended on it. This makes it clear that the farmers' right is and should be superior to that of any IPR. This Declaration also lays down the seed for the scope of development of farmers' rights as an IPR. This Declaration is the only international document which asserts that access to genetic resources shall be completely denied to others in the name of preservation of biodiversity, and which has condemned the terms access and benefit sharing. However, access and benefit sharing has become a reality, and countries have become

parties to the Convention which details it. So, the next step will have to be to use these tools for helping the farmers. This space is left to the State parties. So, this thesis will have look at the way in which the Indian legislations have used the space given by CBD.

In this context it is very pleasing to note that something solid is done by the Biodiversity and Community Knowledge Protection Act, 1998 of Bangladesh. First of all this Act declares the Community which holds a particular PGR or TK as the “owners” of the same. Even regarding the PIC and benefit sharing, the Act is giving a very high level of autonomy to these communities in the following manner⁴⁴.

“The biological and genetic resources and the intellectual and cultural knowledge and practices as well as any innovations arising from these shall not be sold, assigned transferred or dealt in any manner without explicit Prior Informed Consent and effective participation of the Communities concerned. *The Communities will always have the right to refuse transaction based on gainful intent or any commercial utilization, exploitation and exchange.*”

“The State shall ensure that at least a defined percentage of benefits, *not less than 50 percent of the net monetary gain*, obtained from a direct or indirect commercial use of biological and genetic resources in which the Communities are the common owners, sole custodian and stewards be paid to the concerned local community or the group constituted as a Community.” (emphasis added).

This shows that States can use the space of CBD in different manners. So, it is also possible, and the expectation of the

⁴⁴ Biodiversity and Community Knowledge Protection Act of Bangladesh, Article 7.

researchers that, in the legislation in this matter in India also something like this will be seen.

3.13 Conclusion

The CBD, being primarily a convention for the protection of environment does not directly deal with the farmers or the plant breeders. However, the earlier discussions showed that farmers form part of the indigenous people and the local communities mentioned in the CBD. The privileges CBD recognises are the prior informed consent requirement, and benefit sharing, in case access is allowed to PGR or the TK. The access to these two at the same time allows the breeder to develop new varieties of plants and get PBR under UPOV or the respective national legislations made in pursuance of it, or other *sui generis* laws. Thus, while unrestricted access is (or with minimum or weak restrictions) allowed to access to the genetic resources or traditional knowledge of the farmers, almost monopoly rights are allowed on the varieties derived out of, or utilizing these treasures preserved by the traditional farmers. This makes access to such plant varieties almost impossible. This situation needs a solution either by making the safeguards to the farmers more rigid, in the Intellectual property Regime (which the CBD itself specifies thus:

“The Contracting Parties, recognizing that patents and other intellectual property rights may have *an* influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives.⁴⁵”) or by relaxing the monopolistic rights of the plant

⁴⁵ CBD, Article 18 (5).

breeders under the UPOV. The latter will not be of much use, as the farmers of developing countries cannot be expected to ask for access to the protected varieties held by transnational corporations in developed countries. Whether they will be aware of the existence of such variety itself is doubtful. Also, even if the genetic material of a protected variety is made available to the farmers, they will not be in a position to develop a further variety from it, as the hybrid or the genetically modified varieties need further processing before any use. So, the most effective method to safeguard the interest of the farmers is the former one.

As a response to this, Public Interest Intellectual Property Advisors (PIIPA) ventured a legal analysis on the various possible solutions to implement the CBD provisions in tune with other IPRs. They examined the compatibility of CBD with TRIPS, and suggested that the evidence of having obtained prior informed consent from the concerned indigenous or local communities is obtained, and the disclosure or origin of plant genetic resources or of traditional knowledge should be made in the patent application⁴⁶. In the context of PBR also such correlative changes can be made. In the UPOV, in the disclosure requirements, the above mentioned aspects should be included, and all countries which go for *sui generis* law should also incorporate it in their legislations. To make it more effective, TRIPS shall lay down these requirements as part of the *sui generis* law in Article 27 (3) (b). Apart from this, among the criteria like distinct, stable, new, and uniform, an additional condition should also be added like this “the variety if is developed by using the traditional knowledge or plant genetic resources developed by the indigenous or

⁴⁶ Available at www.piipa.org. Visited on 02-10-2011.

local communities such as traditional farmers, the prior informed consent and involvement of the relevant group shall be obtained, and the origin of such plant genetic resource, or traditional knowledge should be disclosed. (it is to be noted that while PIIPA suggested these kinds of amendments in TRIPS, countries responded by saying that though the disclosure requirements will help to harmonise the provisions of CBD and TRIPS, they should not be made part of the conditions for patentability!). In the absence of such co-operation with Intellectual Property Laws, CBD provisions will remain ineffective.

However, this type of a step will be of use to the farmers only if they have the absolute freedom to say yes or no when access is required. Otherwise, stipulation during registration will be of no use.

Thus, to conclude on Convention on Biodiversity, and the Nagoya Protocol to it, the following observations can be made. The major safeguards of CBD for the traditional farmers are, the prior informed consent aspect and the benefit sharing.(But these two are not at all given as rights of the farmers. But only as pre-requisites and charity). But there is no effective mechanism proposed either in the Convention or in the Protocol to identify the groups from whom consent is to be obtained, as every time there is plurality or multiplicity of groups within the same country or groups in different countries. Though the Protocol shows concern to these issues, it remains only as a concern, the implementing part and the legislative, administrative or policy content is left with the States concerned. Same is the case with benefit sharing provisions. Identification of the people who are involved in the conservation of a particular traditional knowledge, or the plant genetic resources or both, for the purpose of benefit sharing, the amount to be shared, how to calculate the benefit,

when the local and indigenous people are involved, the proportion in which the benefit should be shared between the Country of origin and the indigenous and local communities, are all related issues. But the Convention and the Protocol do not pinpoint even guidelines on these aspects, other than enumerating the types of monetary and non monetary benefit sharing.

Another important aspect is that, the access to plant genetic resources of third world countries (which are mostly rich in biodiversity) are allowed *inter alia* for the purpose of conservation of biological diversity, and the sustainable use of its components. These purposes can be best achieved only by allowing the traditional people who live in harmony with nature, to continue to live like that. As their livelihood is depended on the biological resources, their right to own them becomes more serious. So, in such cases, access shall be completely denied to others. Thus, by protecting the rights of groups like traditional farmers, two purposes are achieved. One is protection of their right to livelihood, and their freedom to remain themselves without impositions and interferences from external people, and the other is, conservation of biological diversity. So, if a country denies access to *all* plant genetic resource for food and agriculture, to protect the traditional farmers, by recognising their right to property on the plant genetic resources as well as traditional knowledge (even as part of their right to life), can it be said to run counter to the objective of the Convention? The answer is No, because allowing access to plant genetic resources is NOT the objective of the Convention.

So, the countries of origin has every right to get evidence from the researcher, or recipients to the effect that allowing access will help to conserve biological diversity, and not allowing access will

be detrimental to biological diversity. This is very unlikely to happen in the case of plant genetic resources conserved by the traditional people, as they conserve it in tune with nature. If they are not doing it, the States concerned has the responsibility to conserve them, and not the people from other countries. These are the space available for the member states to include in their legislation to protect their traditional people like the traditional farmers, and tribes, and also their genetic resources without violating the Convention mandates. So, it goes without saying that, the hope for the farmers (for the present discussion) rests with the national legislations, administrative measures or policies.

When the CBD addresses the general issue of biodiversity and biological resources in general, there is an international initiative to deal solely with PGRFA, and thus of high importance to farmers. This is also an international document which recognizes farmers' rights. This document is the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), which replaced the International Undertaking on Plant Genetic Resources (IUPGRFA) discussed above, to make it in tune with CBD. Though this is only a Treaty and is not binding as a Convention, the wordings in Nagoya Protocol are in such a manner that, "Where a specialized international access and benefit-sharing instrument applies that is consistent with, and does not run counter to the objectives of the Convention and the Protocol, the Protocol does not apply for the Party or Parties to the specialized instrument in respect of the specific genetic resource covered by and for the purpose of the specialized instrument"⁴⁷.

⁴⁷ Nagoya Protocol, Article 4 (4)

This means that if a country is a party to the ITPGRFA, as far as access to and benefit sharing regarding PGRFA is concerned, ITPGRFA, and not the CBD and Nagoya Protocol will apply to that party. In that sense, though a Treaty, it has more weight than merely a Treaty. Also, this Treaty directly recognizes farmers' right, and there is no need to manage to bring them within the ambit of the terms like indigenous and local communities, as these terms are not at all used in the ITPGRFA. *The ITPGRFA interestingly addresses both the issues of the theme of this thesis namely, farmers' access to the PGR of the plant breeder, and the plant breeders' access to the PGR and TK of the farmers.* But these two are done in an entirely different manner from what is done in UPOV regarding the first aspect (farmers' access to the PGR of plant breeders) and in CBD regarding the second aspect (plant breeders' access to the PGR and TK of the farmers). This is going to be of great difficulty to a country like India who is a party to both CBD and ITPGRFA, and is influenced by UPOV by being party to the TRIPS. So, in order to tackle the issues India will face at this juncture it is the next step to move towards the specific Treaty which deals exclusively with PGRFA and farmers rights. The questions answered therein are, (1) what are the rights recognized by ITPGRFA while farmers seek to have access to (to use) the PGR of plant breeders? (2) What are the rights recognized while plant breeders seek access to the PGR and TK of the farmers?

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**FARMERS' ACCESS TO PGR OF PLANT BREEDERS, AND
THE PLANT BREEDERS' ACCESS TO PGR AND TK OF
FARMERS-THE INTERNATIONAL TREATY ON PLANT
GENETIC RESOURCES FOR FOOD AND AGRICULTURE**

In the Chapter which deals with UPOV it was found that, though UPOV 1991 on the one hand puts a lot of restrictions on the farmers' right to save, use, exchange and re-use the PGR (seed) of the plant breeders, it allows a space as an exception to farmers in the national legislations on the other. There it was also found that, even if such legislation allows the farmers to use the seed, due to the genetic use restriction technologies used in the PGR, it will not be possible for the farmers to re-use the seed, and thus there is also no need of saving the seeds or exchanging them. UPOV is silent in this aspect, and it is for the State legislations to do the needed here.

In the Chapter dealing with CBD it was found that, during the plant breeders' access to the PGR and TK of the farmers, two new concepts were developed namely, the PIC and fair and equitable benefit sharing. Both these were however not raised to the level of rights, but only as formalities to be complied with. However, the State parties are left with creating rights in this aspect, without prejudice to the objectives of the CBD. The benefit sharing envisaged under the CBD, rather its Protocol called the Nagoya Protocol is to the effect that a share of the benefit arising out of utilization of PGR of farmers (the word used there are, indigenous people and local communities) is to be given to them for the purpose of preserving the PGR and TK. The benefit sharing principle there does not talk at all about rewarding

the farmers for their efforts in maintaining these resources, in the form of *life support to them*.

While on the one hand the plant breeders make money, and also get a property right for their efforts to develop a new variety, the farmers are not given either. They are asked to continue to maintain the PGR and TK for making it available to the needed. When a variety is developed by the breeder, he creates it in such a manner that the propagating material is not used by the farmer even if a national law allows him to use it, or reuse it. Since the genetic material or the propagating material of a farmers' variety can be used without further processing, they cannot prevent the breeder from using it or reusing it. But, as in the case of breeders' right which creates almost a monopoly, the farmers are given compensation. This means that no incentive (especially monetary) is given to them to continue to be farmers as food producers, and as professionals, which is available to the plant breeders.

As food producers, what they require is their freedom to use, save, exchange and re-use seeds of their choice, especially when they are *seeds which give them good yield*. This is possible only when they have an unbridled right to use, save, exchange and re-use the seeds of even the protected variety. So, it is a very crucial question as to how ITPGRFA addresses these issues. The incentive the plant breeder or the corporate has in investing money in plant breeding is the return of their investment with profit, which is in a monetary term. Contrast to this, the incentive to the farmers (if any) is not at all in monetary terms. In fact, if the plant breeding, and thus more production (as is claimed by the plant breeders) is to take place, farmers should also be in a position to make money at least nearer to

the plant breeders, if they must remain as farmers. This is not seen in the benefit sharing of CBD.

However, as in the case of a plant breeder, it is not easy to identify the farmers who conserved a particular PGR or TK as it has become a matter of common knowledge. They have become so common that identification of even a community becomes impossible. This was the major difficulty faced by the negotiators of Farmers' Rights in the FAO Resolutions in connection with the IUPGRFA as was seen in the first Chapter. There, one of the suggestions was to raise an international fund for supporting the farmers of the country of origin. It was also a major suggestion that it is not the farmers, or even community of farmers that are to be rewarded, but it is *the peoples of the country of origin that are to be rewarded*. All these happened because of the international level of dealing with the issue of identifying the farmers who are responsible for the conservation of a particular PGR or TK. With such a background, when IUPGRFA was transformed into ITPGRFA, the concern was not any individual farmer, or community of farmers, but the country of origin. Rather, there was not even a concept of rewarding the preservers. But to help farmers all around the world who handle the PGRFA. Thus, the benefit sharing system of ITPGRFA is very much different from that in the CBD thus. In fact, it is structured like that as a practical solution to the problem of identifying a particular farmer, or group of farmers as contributor of a particular PGR or TK. As was seen in the discussion relating to the FR in the first Chapter, the definition of Farmers Rights goes to suggest that they are the rights of the farmers arising from their past, present and future conservation and preservation of genetic diversity. Thus, they were to be given the right

to continue to use, and preserve even the PGR of the varieties of new technologies also. From this, it is clear that the farmers' right to use, save, exchange, and even sell the seeds of the varieties which got PBR is also possible to form part of the FR. This means that ITPGRFA which defines the FR, contains in it, both the aspects of the central theme of this thesis.

Thus the ITPGRFA is a Treaty which deals with both the aspects of the central theme of this thesis called the farmers' access to PGR of plant breeders, and the plant breeders' access to PGR and TK of farmers. So, this Chapter examines both aspects of the theme. The questions answered are (1) what is the nature of rights given to the farmers while plant breeders are given access to their PGR and TK? and (2) what is the nature of rights given to farmers while they seek access to the PGR of the plant breeders? (right to use, save, exchange and re-use the seeds). To begin with, there is a need to give a very brief outline of the history of ITPGRFA. In fact the IUPGRFA is the predecessor of ITPGRFA. But the IUPGRFA and the FAO Resolutions on IUPGRFA have bearing on CBD and thus, those parts are discussed in the chapter dealing with CBD. The following history is thus only the history of the making of ITPGRFA.

The Nairobi Conference, 1992 which adopted the CBD¹, recognized the need to seek solutions to problems of the farmers' rights in the context of matters concerning plant genetic resources for food and agriculture, within the Global System for the Conservation and Sustainable use of Plant Genetic Resources for Food and Agriculture, established by the FAO. This call was reinforced in Agenda 21 adopted by United Nations Centre for Environment and

¹ This conference was convened by the United Nations Environment Programme (UNEP).

Development (UNCED) which called for the strengthening of FAO Global System, its adjustment in line with the outcome of the negotiations on CBD, as well as for the realization of farmers' rights². Reacting to this invitation, the FAO adopted Resolution 7/93 in its 27th Session. This Resolution called for negotiation, through the FAO Commission on Plant Genetic Resources for Food and Agriculture to revise the IUPGRFA in tune with CBD. After seven years of difficult negotiation procedure, the ITPGRFA was adopted by the FAO on its thirty first session on third November 2001, and was entered into force on 29 June 2004. In fact, the original IUPGRFA was based on the principle of considering the PGR as the "common heritage of mankind", and the CBD was based on the principle of "permanent sovereignty of all nations over their natural wealth". This was the most remarkable distinction between the IUPGRFA and the CBD. However, as was mentioned earlier, FAO Resolution 3/91 changed the common heritage into permanent sovereignty. However, the main document remained with common heritage principle. Also, there was no mention about the farmers' right in the IU, though it was included in Resolution 5/89. So, the ITPGRFA was expected to include the amendments made to IUPGRFA in it.

The IUPGRFA envisaged "an international network of base collections in gene banks, under the auspices of the jurisdiction of FAO, that have assumed the responsibility to hold, for the benefit of the international community and on the principle of unrestricted exchange, base or active collections of the plant genetic resources of particular species". This means that unlike in the case of CBD, which

² Gerald Moore, and Witold Tymowsky, *Explanatory Guide to the International Treaty on Plant Genetic Resources for Food and Agriculture*, Available at <http://www.icimod.org/?q=2257>.

prescribes for bilateral agreement, IUPGRFA talks of a common pool in which plant genetic resources are collected from different parts of the world, which is collected from there, and even the dealings between the provider countries, and the recipient/ recipient countries take place in this common centre. IUPGRFA never talks of plant genetic resources for food and agriculture, but only of plant genetic resources. Farmers' rights or IPR like the breeders rights were not the concern of IUPGRFA, as it was concerned only with the sharing and exchange of plant genetic resources for their preservation and development. IUPGRFA also does not use the term traditional knowledge. But then the result was that, unrestricted access was to be allowed to plant genetic resources, without any safeguards or rights attached the farmers who conserved it.

4.1 Plant breeders' access to PGR and TK of the farmers

The access and benefit sharing envisaged under the ITPGRFA is entirely different from that under the CBD. One of the main objectives of CBD is to conserve and preserve PGR. But the main objectives of ITPGRFA are” the conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use, in harmony with the Convention on Biological Diversity, for sustainable agriculture and food security³.” So, conserving the PGRFA for further research and plant breeding is of paramount importance. This is mainly because in many biological rich countries, many the wild relatives and cultivars are on the verge of extinction mainly due to the abandonment of the same by the farmers as they prefer high yielding

³ ITPGRFA, Article 1.1.

new varieties⁴. It is in such contexts that the countries think of preserving these PGR through *ex-situ* preservation. In a bilateral system like that under the CBD researchers or plant breeders of a country will have to bargain with individual countries. This is costly and time consuming. It is to overcome these problems, that the ITPGRFA created an innovative system called the Multilateral System of Access and Benefit Sharing (MLS).

Under this system, countries are in a position to access to all the PGRFA included in this system as per the rules of ITPGRFA. The Treaty's truly innovative solution to access and benefit-sharing is its declaration that 64 of our most important crops - crops that together account for 80 percent of all human consumption - will comprise a pool of genetic resources that are accessible to everyone. On ratifying the Treaty, countries agree to make their genetic diversity and related information about the crops stored in their gene banks available to all through the (MLS). This gives scientific institutions and private sector plant breeders the opportunity to work with, and potentially to improve, the materials stored in gene banks or even crops growing in fields. By facilitating research, innovation and exchange of information without restrictions, this cuts down on the costly and time consuming need for breeders to negotiate contracts with individual gene banks. The Multilateral System sets up opportunities for developed countries with technical know-how to use their laboratories to build on what the farmers in developing countries have accomplished in their fields⁵.

⁴ Country Report on State of Plant Genetic Resources for Food and Agriculture , 2006 (India).

⁵ Available at <http://www.planttreaty.org/content/what-multilateral-system>. Visited on 02-10-2011.

These are considered as the benefits of the ITPGRFA by the Treaty makers. As is clear from the objective of the Treaty itself, one thing is clear that, the aim is to make available as far as possible the PGRFA to all at a minimum cost and expeditiously. In this context one must seriously think of the benefits that farmers are going to get out of such a system. Though the word ‘farmers’ rights’ occur in this Treaty, given the objective, and the scheme of MLS raises doubt as to, to what extent farmers will be taken care of. The complaint of the developing countries against CBD is that it acts as a facilitator of access to the developed countries of the resources of developing countries. Same is possible with ITPGRFA with more intensity. Because under the MLS access is easier than that under the bilateral system. Now, while examining the rights or privileges given to the farmers during the plant breeders’ access to their PGR and TK, there are two main components as in the CBD. They are, rights during access, (in CBD it is the PIC), and benefit sharing. So, what are to be examined are, in what way farmers will be benefited by the access and benefit sharing under the MLS. In order to answer this question, a brief outline about the MLS is necessary.

4.2 Rights (if any) during access-The multilateral system

The MLS is established to facilitate access to plant genetic resources for food and agriculture, and to share, in a fair and equitable way, the benefits arising from the utilization of these resources, on a complementary and mutually reinforcing basis. Unlike in the CBD which is bilateral system of access and benefit sharing, where the dealings are between State Parties and the recipient (indigenous or local people along with the State in some cases), in the multilateral system (MLS), access to the plant genetic resources for food and

agriculture is allowed from a common pool. The common pool is the place where all contracting parties keep the plant genetic material for food and agriculture, to which access is allowed to other countries and natural persons⁶. The plant genetic resources are identified in the Annex to the Treaty. Member countries shall include all plant genetic resources under their control and in the *public domain* which are in the Annex I (almost all major food crops including rice, wheat, maize, sorghum, and pea, vegetables like carrot, beans, and potato, and fruits like apple and banana are included. Legume and grass forages (cattle feed) are also included) in the MLS⁷. This means that only plant genetic resources which are owned by the State are to be compulsorily included in the multilateral system.

This is because, the rights of private individuals who own plant genetic resources which are protected under the property laws will have to be respected by the State. Thus, the States are required to *encourage* natural and legal persons within their jurisdiction who hold plant genetic materials included in the Annex I to include those plant genetic resources also in the MLS. At the same time, natural and legal persons can have access to the plant genetic resources in the Annex. Thus, even though these private individuals do not include their plant genetic resources in the MLS, they can have access to them. In order to make it *quid pro quo*, the Treaty takes a coercive measure to disallow those persons to have access to the plant genetic resources in the multilateral who have not yet included their plant genetic

⁶ *Id.*, Articles 10, 11 and 12.

⁷ *Id.*, Article 11.2: "The Multilateral System, as identified in Article 11.1, shall include all plant genetic resources for food and agriculture listed in Annex I that are under the management and control of the Contracting Parties and in the public domain. With a view to achieving the fullest possible coverage of the Multilateral System, the Contracting Parties invite all other holders of the plant genetic resources for food and agriculture listed in Annex I to include these plant genetic resources for food and agriculture"

resources in the multilateral system⁸. The relevant provisions are reproduced below.

“In furtherance of the objectives of conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of benefits arising out of their use, as stated in Article 1, the Multilateral System shall cover the plant genetic resources for food and agriculture listed in Annex I, established according to criteria of food security and interdependence.

The Multilateral System, as identified in Article 11.1, shall include all plant genetic resources for food and agriculture listed in Annex I that are under the management and control of the Contracting Parties and in the public domain. With a view to achieving the fullest possible coverage of the Multilateral System, the Contracting Parties invite all other holders of the plant genetic resources for food and agriculture listed in Annex I to include these plant genetic resources for food and agriculture in the Multilateral System.

Contracting Parties also agree to take appropriate measures to encourage natural and legal persons within their jurisdiction who hold plant genetic resources for food and agriculture listed in Annex I to include such plant genetic resources for food and agriculture in the Multilateral System⁹”.

This means that all the PGRFA in the national gene banks or such other institutions (*ex-situ* collections) under the control and management of the State will have to be included in the MLS. Then giving access shall be according to this Treaty. The following are the

⁸ *Id.*, Article 11.4

⁹ ITPGRFA, Article 11

principles to be adopted while giving access as per the Standard Material Transfer Agreement (SMTA).

“Access shall be provided solely for the purpose of utilization and conservation for research, breeding and training for food and agriculture, provided that such purpose does not include chemical, pharmaceutical and/or other non-food/feed industrial uses. Access will have to be given expeditiously with minimum cost. Passport data to be made available, subject to national legislation. Recipients shall not claim any intellectual property or other rights that limit the facilitated access to the plant genetic resources for food and agriculture, or their genetic parts or components, *in the form received from the Multilateral System*. Access to plant genetic resources for food and agriculture found in *in situ* conditions will have to be provided according to national legislation.”

Here, as far as farmers are concerned, if their PGR and TK are included in the MLS, then access will be according to the SMTA. The privilege which is given to them in the CBD called the PIC will then be absent. Even regarding the *in situ* preservation, where the access will have to be as per the national legislation, unless the national legislation is creating a strong case of PIC of the farmers, this right will be absent in the MLS. However, including the PGRFA in the MLS is only with those PGRFA which are under the control and management of the State, and in public domain. This provision can be interpreted in two ways. One is, presuming that the PGRFA developed by farmers which have no property protection can be considered as being in public domain. The other is, since as per CBD, the indigenous and local community (here farmers) are to be consulted, and their approval and involvement is necessary before

allowing access to the PGR and TK held by them, before a country can include these PGRFA into the MLS, the farmers' approval will be necessary. So, it is necessary that as per CBD the country identifies all the PGRFA, and those who hold them. In such legislation, if protection is given to the farmers, then access will be subject to that legislation.

Assume that no such identification is done by the State. Then even the varieties developed by the farmers will be in the public domain. If it belongs to the public domain, the State can include them in the MLS, without even asking their permission, as the concept of PIC aspect as is seen in the CBD is absent here. However, it is because of the inherent distinction between the concepts of CBD and ITPGRFA. CBD presumes that there are certain communities like the indigenous people and local community, who conserved and preserved certain PGRFA and TK, and in the absence of that, the State is considered as the custodian of the same. ITPGRFA presumes that the identification of any such community is almost impossible and that a bilateral agreement between even two States is not possible. Thus it goes for the global benefit sharing. Recognition to FR in this system will quite naturally be very minimum. But, the aim of ITPGRFA is not the protection of FR, *but increased food production*. So, making available maximum number of PGRFA available for research purposes, or for further development is the aim. So, the future increased production is in the hands of researchers and plant breeders. Hence the PBR (and researchers' rights) is going to be of more concern. Farmers are not the central concern of the Treaty. Their rights happened to be recognized only because they are very crucial in the conservation and preservation of the raw materials for future

research. So, to expect much from such a document is a futility. But, *the great significance of ITPGRFA is that, it lays down a foundation for further growth of FR.*

However, almost all the rights which plant breeders can claim seem to be very safe under the Treaty. One of the conditions for access to PGRFA in the MLS which have implications for farmers is that, access is allowed for breeding purpose, *inter alia*.¹⁰ While thus the farmers' variety can be accessed for breeding purpose, another condition which says that

Recipients shall not claim any intellectual property or other rights that limit the facilitated access to the plant genetic resources for food and agriculture, or their genetic parts or components, in the form received from the Multilateral System seem to suggest that plant varieties developed by using the PGR of farmers' varieties shall not be protected by PBR.

But this is not the position with respect to the PBR. The plant breeders do not claim PBR in the form in which they receive the plant genetic resource. They use either the traditional knowledge related to it, or the germplasm as a basis for developing another variety, and the PBR is claimed on the new variety. Plant genetic resources from the multilateral system may be the source of origin or of knowledge leading to inventions that may become the subject of intellectual property protection. The prohibition on intellectual property rights thus may conflict with Art. 27.3 of the TRIPS Agreement, because the ITPGRFA prohibition is not limited to exclusions from patent protection and TRIPS requires at least *sui*

¹⁰ *Id.*, Article 12.3

generis protection of plant varieties.¹¹ As the ITPGRFA in its Preamble says that “Nothing in this Treaty shall be interpreted as implying in any way a change in the rights and obligations of the Contracting Parties at national and international levels”, and it post-dates TRIPS (unlike CBD), the ITPGRFA should control the interpretation in the event of conflict. So, it cannot be said that PBR cannot be allowed for varieties developed by using the PGRFA in the multilateral system. In this situation, the Public Interest Intellectual Property Advocates (PIIPA) in a legal analysis brings in a solution by suggesting that the disclosure of the origin and the associated traditional knowledge should be made in the application for UPOV certificate.

However, even if this is accepted, farmers are not given access to the protected variety, or its propagating materials in the MLS. But they may be able to have a share of the benefit arising out of the utilization of the PGR developed by them. So, regarding access, the farmers’ variety is freely available for breeding, and the breeders’ varieties which are developed from the former are sealed in the intellectual property box. So, regarding access to the PGR of the farmers, whatever safeguards are given to them in the CBD will be ensured only if the State identifies the PGRFA held by the farmers. Then, it is upto the farmers to decide whether to include them in the

¹¹ TRIPS, Art. 27.3(b) (Parties may exclude from patent protection “(b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof.”). Another potential conflict is the requirement to assure benefit sharing in regard to commercialization of inventions resulting from source materials provided by the multilateral system, which may be thought to discriminate by field of technology in the enjoyment of patent rights in violation of Art. 27.1 of TRIPS.

MLS. However, one problem here is, in countries where the varieties developed by farmers are not conserved by them and they are on the verge of extinct, the States conserve them in *ex-situ* conditions like in gene banks. Then these varieties are to be mandatorily included in the MLS. There the farmers do not have any role to play. So, it should be concluded that during access to the PGR and TK of the farmers, there is no express right, or privilege to the farmer in the ITPGRFA. This is precisely because farmers are not under any compulsion to include them in the MLS. But, this privilege is available to them only when they are fixed as the custodians of the PGRFA. Otherwise without even asking them their variety will be included in the MLS. So, this part is left with the State parties.

We saw that in the CBD that there was a new development of recognition of farmers' right over their PGR in a very remote way at least, in the form called the benefit sharing. Under the ITPGRFA in the MLS also there is a benefit sharing scheme which is in a substantially different way from that in the CBD. So, the only thing left is to ask the question whether the benefit sharing provisions are going to really give atleast a very small percentage of the benefit to the custodians of the plant genetic resources.

4.3 Benefit sharing

Unlike the benefit sharing system under the CBD, benefit sharing under ITPGRFA involves no direct payment to those whose PGRFA is utilized. In fact the benefit is shared according to a Standard Material Transfer Agreement (SMTA)¹², and the benefit is to

¹² ITPGRFA, Article 12.4 stipulates the governing body (GB) of ITPGR to adopt a Standard Material Transfer Agreement. Accordingly, in its first session held at Madrid (Spain) in 2006, the GB adopted a SMAT. This agreement is given in Annex G.

be paid to the MLS first. It is only from there that the benefits are shared to the stakeholders like farmers. The funding is to be done by the developed countries for the activities. However, the benefit sharing scheme does not look at monetary benefit sharing as important at all. It considers that, sharing of the PGRFA itself is the benefit. In fact, the money accrued to the benefit sharing fund is to flow to the farmers of the world, for enabling them to conserve and preserve the PGRFA. So, this is more like a system of tax, where the persons or countries who contributed their PGRFA need not get anything back. Also, if the country or person who received PGRFA from the MLS and commercializes the product made out of it, and makes available the PGRFA or the product, without restriction to the MLS, that country or the person is not under an obligation to contribute to the benefit sharing fund. The following provisions of the Treaty are quoted for easy understanding.

“The Contracting Parties recognize that facilitated access to plant genetic resources for food and agriculture which are included in the Multilateral System constitutes itself a major benefit of the Multilateral System and agree that benefits accruing there from shall be shared fairly and equitably...”

“The Contracting Parties agree that the standard Material Transfer Agreement Shall include a requirement that a recipient who commercializes a product that is a plant genetic resource for food and agriculture and that incorporates material accessed from the Multilateral System, shall pay to the mechanism ... an equitable share of the benefits arising from the commercialization of that product, except whenever such a product is available without restriction to

others for further research and breeding, in which case the recipient who commercializes shall be encouraged to make such payment¹³.”

In fact, from the benefit sharing fund, money is given to farmers of various countries by inviting applications for benefit sharing. From among the applications, countries and farmers are selected for giving the share. This may be in the form of projects. The Governing Body of the International Treaty opened the first call for proposals under the Benefit-sharing Fund in December 2008. Eleven small scale projects (5 from Latin America and the Caribbean, 4 from Africa, 1 from Asia and 1 from Near East) were approved to be funded through the Fund. The decision was taken by the Bureau of the Third Session of the Governing Body of the Treaty which met in Tunis on 31 May 2009 to appraise the eligible project proposals, on the basis of recommendations made by a Panel of Experts. The projects duration was of two years, starting from November 2009 until October 2011¹⁴. The place identified in Asia was Kerala in India and the project helped the conservation, dissemination, and popularization of location specific farmers developed varieties by establishing village level enterprises.

The women who participated in self-help groups established by the Treaty Benefit sharing Fund Project in Kerala, India, have improved their family nutrition and food security through producing high-yielding and drought-resistant local varieties of cassava identified by the project. But that is just part of the story. The self help group members have quadrupled their incomes through developing new products for the market such as cassava bread and

¹³ ITPGRFA, Article 13.

¹⁴ Available at <http://www.planttreaty.org/content/projects-2009-2011>. Visited on 19-10-2011.

cakes, and they have shared planting materials with other farmers, thus contributing to conserving their agricultural heritage. Two groups of crops were included in the project: food crops such as cassava, yam and ash gourd, which are important for nutrition and food security, spices such as pepper, cardamom and nutmeg, which are important for economic development. The women as well as other local farmers had the benefit of project activities that ranged from identifying isolated farms that still cultivated local crops, to training in cultivation and propagation techniques and support in distributing planting materials of locally adapted varieties¹⁵.

The second call for proposal for benefit sharing¹⁶ approved 17 projects¹⁷ in 2011 July, two being in India¹⁸. The projects in India are, “Using rice genetic diversity to support farmers’ adaptation to climate change for sustainable food production and improved livelihoods in India” and “Seeds for life-action with farmers in Uttar Pradesh-IGP region to enhance food security in the context of climate change”. A perusal to the projects which are approved shows that the benefit sharing fund is utilized for conservation of PGRFA and for food security, and to some extent the improved livelihood of the farmers.

¹⁵ For details see, <http://www.planttreaty.org/content/conservation-dissemination-and-popularization-location-specific-farmer-developed-varieties-e>. Visited on 19-10-2011.

¹⁶ [ftp://ftp.fao.org/ag/agp/planttreaty/funding/call2010/BSF2010 Projects approved web.pdf](ftp://ftp.fao.org/ag/agp/planttreaty/funding/call2010/BSF2010%20Projects%20approved%20web.pdf). Visited on 19-10-2011.

¹⁷ Other countries who obtained projects are, Ethiopia, Tunisia, Malawi, Bhutan, Zambia, Jordan, Peru, Indonesia, Guatemala, Nepal, Philippines, Brazil, DPR Korea, Costa Rica, and Tunisia.

¹⁸ Available at [ftp://ftp.fao.org/ag/agp/planttreaty/funding/call2010/BSF2010 Projects approved web.pdf](ftp://ftp.fao.org/ag/agp/planttreaty/funding/call2010/BSF2010%20Projects%20approved%20web.pdf). Visited on 19-10-2011.

However, these projects cannot be of much help to the farmers, as they are happening only once in a while. Rather, due to the basic premise from which the benefit sharing fund is created, creating any right for farmers is not the intention of the ITPGRFA, as it proceeds from the assumption that identification of any such group is impossible. So, entailing a right is also not considered as possible. As was argued in the Chapter on CBD, the benefit sharing should be able to give incentive to the farmers to conserve them, in the form of monetary consideration itself. In other words, the farmers should have a better livelihood out of this benefit sharing fund. This is not possible in the present scheme at all. But, it seems that among the other priorities, FR was never a big deal for the makers of ITPGRFA towards its materialization, and that was the reason why this benefit sharing scheme happened to be in this manner. Because the enthusiasm which was seen during its making is not at all reflected in its materialization. FR is not really defined, or the concepts clarified. It has not grown from its position in the FAO Resolution in 1991. Except devoting an Article for Farmers' Rights, nothing is seen in the Treaty.

Also, there are many politics that try to impede the working of even the present benefit sharing fund itself. It is quite obvious that the mighty plant breeders and the seed industries (like pro Mais the association of French seed companies), as well as rich countries are interested only in the accessibility part of the Treaty, and they complained about the restrictions on the access under the CBD, and asked the Treaty to remove it in the third session of the GB of ITPGR held at Tunis (Tunisia) in 2009 June. One of the main agendas of this session was the implementation of farmers' rights given in Article 9.

In fact, the farmers' rights' fate is such that developed countries managed to push this agenda from the second session (held at Rome in 2007) to the third session, to avoid discussing on it¹⁹.

On the very first day of the Tunis meeting, the FAO published a triumphal communiqué announcing the start of the benefit-sharing mechanism. The evening before the meeting, the benefit-sharing fund had decided to allocate US\$550,000 to a dozen projects “to reward farmers in poor countries for having saved and propagated plant varieties likely to be able to safeguard world food security over the course of the coming decades”. What should we make of this? First, no peasant organization will receive anything. Only official institutions and universities will receive grants. Moreover, despite more than 100,000 resource exchange contracts signed during the last ten years, the fund has collected very little money for the purpose of benefit-sharing since it was set up. Norway, Italy, Spain and Switzerland have directly contributed their own capital to “help get it started”. But the big transnational seed companies that still use patents on varieties – the only type of IPR through which industry agrees to contribute to the fund – are based mainly in the United States, which has not signed the Treaty. In addition, PBR accompanied by patents on genes or processes of biotechnology are becoming more common, and industry believes that there is no reason why it should contribute to the fund if it uses this kind of IPR²⁰.

¹⁹ Guy Kastler, “ITPGR: Farmers' rights or a fools bargain? Available at <http://www.grain.org/es/article/entries/786-itygr-farmers-rights-or-a-fools-bargain> . visited on 12-02-2011.

²⁰ *Ibid.*

Even with regard to the funding strategy for the benefit sharing discussions in the third session, the developed countries were reluctant to contribute to the benefit sharing fund. Because they are interested to see that this Treaty is alive only for the purpose of getting access. However, even in the context of discussions on Farmers Rights in the third session, no meaningful discussion on how to implement these rights, especially the rights to protection of traditional knowledge is seen. Instead, the Session stressed on the views and experiences of the member countries on the implementation of farmers' rights²¹. However, regarding the right to access to the plant genetic materials in the multilateral system, the same is not left to the discretion of the national legislation as in the case of CBD. In fact, benefit sharing can become meaningful only when there is a strong material transfer agreement (MTA), with all necessary conditions to protect the interest of the farmers, or the country which includes its PGRFA in the multilateral system. But the MTA as adopted by the first session of the GB of ITPGRFA, there is no scope for a strong pro-farmer stand. But this is a space for the farmers' right to get very many rights associated his right to remain sovereign as a farmer.

So, the net result is that, in the benefit sharing area, the plant breeders can avoid paying benefit even to the multilateral system (then least to the farmer) if he makes available the plant genetic resource of the variety he bred, to the multilateral system for further access. Usually the plant genetic material of these hybrid or genetically modified varieties are not going to be of much use to the farmers, as the access can be solely for the purpose of research,

²¹ See Appendix A.6, Resolution 6/2009 of the Report of third session of the GB of ITPGRFA. Available at <ftp://ftp.fao.org/ag/agp/planttreaty/gb3/gb3repe.pdf>.

training for food and agriculture and breeding. Thus, on the one hand, the breeder gets access to the plant genetic material developed or conserved by the farmer, and he utilizes it and makes money. No share of the benefit need to be paid to the farmer. This very clearly shows the reason why this Treaty is partial to the breeder. The words “farmers’ rights” are just ornamental as it stands now, with respect to all the rights- traditional as well as new generation. This is made more clear in the third session of the GB by atleast two instances. One is, when Brazil presented the first article of a draft statement which requires member countries to evaluate, and if necessary, correct national measures likely to interfere with the farmers’ rights, Canada vehemently opposed it, and after a long negotiation, this article was watered down and was made non-binding. Similarly, Canada succeeded in making the 168rganization of the Treaty’s regional workshops, which involve the participation of farmers’ 168rganizations and NGOs, conditional on the availability of funds – which are always dependent on the goodwill of the rich countries!. This shows the way in which the farmers’ rights are treated by the developed countries.

Thus, to conclude on the second aspect of the main theme called the plant breeders’ access to the PGR and TK of the farmers, it could be said that before including a PGRFA in the MLS, the country has enough space to take care of the rights of the farmers who conserved them and preserved them and ITPGRFA is silent on that aspect. Regarding benefit sharing, there is every possibility that a country will not get the share of the benefit out of commercial utilization of a product using the PGRFA which they contributed to the MLS. But, even if a country has not contributed anything to the

system also, they will get some benefits in the form of projects. But, given the efforts of the farmers in conserving the PGR, and their crucial role in food production, they should not be considered as mere machines that conserve PGR and produce food. While the plant breeders are directly benefited for their efforts, farmers are so remotely given pittance. This is the situation in the benefit sharing scheme of the ITPGRFA. The discussion now goes forward towards the first aspect of the main theme called the farmers' access to the PGR of the plant breeders. However, as was pointed out earlier, the ITPGRFA considers this benefit sharing scheme as a practical solution to overcome the difficulty in identifying farmers who conserved and preserved PGRFA or TK.

But, had there been strong arguments from the bio rich countries, while opting for this kind of a benefit sharing scheme, that, unless and until it is impossible to identify such farmers, those PGRFA should remain as the property of the farmers, this scheme would surely have been different. Because, then the States would be under a compulsion to find out those who conserved, preserved or developed a particular PGRFA or TK. Then benefit sharing could have been made an obligation, and not charity of the scheme. It is important now to recall that during the initial discussions on FR, one of the major themes was to make benefit sharing an obligation (see discussions in the first Chapter). That part and many other important parts which took a major position in the discussions seem to have been kept in abeyance later. But, one thing that is positive about this Treaty is that, even if any farmer community from a country do not contribute anything to the MLS also, they are likely to get something under the benefit sharing scheme. So, for countries like India, it is

better not to include any farmers' variety (where the conservers are identifiable) in the MLS. But, as a return to the inclusion of those which are under the control of the State, Indian farmers will get something in return, though in a very minimal level.

Now, we will proceed to the second question, which is the first part of the central theme called, what are the steps taken by the ITPGRFA regarding the farmers' right to use, save, etc. of the seeds of the protected variety?

4.4 Farmers' Access to the PGR of the plant breeders

In fact the ITPGRFA is the first main international document which recognizes farmers' rights, among which the right to save, use, exchange and even sell the farm save seed is a prominent right. Article 9 of the Treaty says:

“9.1 The Contracting Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.

9.2 The Contracting Parties agree that the responsibility for realizing Farmers' Rights, as they relate to plant genetic resources for food and agriculture, rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote Farmers' Rights, including:

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- (a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
 - (b) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and
 - (c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

9.3 Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.”

Regarding the right to save, use, exchange, and sell the farm saved seed or the propagating material, the Treaty is not clear as to whether these rights are recognized. While on the one hand the Treaty says, “*Affirming also* that the rights recognized in this Treaty to save, use, exchange and sell farm-saved seed and other propagating material,”, the Treaty in the context of recognizing farmers’ rights says only that “Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate .”

This means that though the Preamble seems to recognize this right, the main Article leaves this right to be subject to national law. But, the national legislations will face many difficulties in implementing these rights in the background of the MLS. The Treaty Says that “the past, present and future contributions of farmers in all regions of the world, particularly those in centres of origin and diversity, in conserving, improving and making available these

resources, is the basis of Farmers' Rights". This means that, the farmers' rights should be in such a manner that they can conserve, improve and make available these resources in future also. They are also to test the quality of the seeds developed by the plant breeders, and to reject or to accept them. So, the right to save, use, exchange and re-use the seed of the plant breeders will also become a part of the farmers' rights even as per the ITPGRFA. One thing to be noted here is that, while under UPOV, when a country is given an option to give the farmer the right to use, save and re-use the seeds of protected variety, ITPGRFA mandates the States to give these rights, plus the right to sell the seed also. Thus, *a country which is party to both UPOV and ITPGRFA, will be left with no option but to give the right to use, save, exchange, and sell the farmers, even though it is only an optional exception under UPOV 1991.* Then when a country goes for such a legislation, it will go against UPOV, as the UPOV does not permit the right to sell the seeds of the protected variety. Thus, there is a need for harmonization of both these international documents.

Another problem is that, while a country has such a legislation, and another legislation for benefit sharing, can these both work in MLS? Suppose that a country A included a farmers' PGRFA in the MLS. A plant breeder from another country B accesses this PGRFA and the associated TK and develops a new variety, and registers the variety to get PBR in country A. He wants his variety to be protected by PBR, and is contributing to the benefit sharing fund. Can the country B's legislation use the exceptional clause against the plant breeder who contributed to the benefit sharing fund? The answer is no. Because the MLS works on the principle that the farmers are entitled to benefit sharing due to their efforts in conserving the

PGRFA. Their right to use, save, exchange and re-use the plant breeders' PGRFA is also based on the same reason that, the plant breeders developed the new variety based on the PGRFA developed by the farmers. So, either of this is enough to reward the farmers. Another reason why MLS considers that either of these rights and not both will be given is that, the main aim of ITPGRFA is not to compensate the farmers, or to reward their efforts. The aim is the conservation and preservation of PGRFA. So, when the PGRFA or the protected variety is made available to the MLS, its conservation is ensured. If it is not included, then a share of the money shall be used to support the farmers to conserve and preserve their PGRFA.

If that is the case, in the case of benefit sharing also this will happen in a country. A person who accessed the PGRFA of a country makes available the new varieties' PGRFA available to the MLS. He then registers his variety in that country and gets PBR. Is he bound by the benefit sharing obligations of the country? No. Because once he made available his PGRFA or the product to the MLS, he is not under an obligation to pay anything. Even assuming that he is not making his PGRFA without restrictions to the MLS, and pays to the benefit sharing fund, is he bound by the benefit sharing scheme of the country? No. Because, he is now bound only by the benefit sharing scheme of the MLS, and by paying there, he is freed of his obligations. Thus, for such a plant breeder, the farmers' rights in the country's legislation will remain redundant.

This is because, in the international level, when UPOV gives a space for farmers' access to the PGR of the plant breeders, it does not talk about the benefit sharing. The CBD which talks about benefit sharing does not talk about access to the PGR of the plant breeders. The

ITPGRFA which talks about both opts only for either of these two. Thus, if a national legislation gives both these (rights?) to the farmers, any one of the right will conflict with the international law. However, a country which is not a party to the ITPGRFA, if makes a legislation which gives exception to the farmers under UPOV, and another legislation (in pursuant to CBD) which stipulates benefit sharing, both these can be given to the farmers. But even there, while coming to the mutually agreed terms, it is doubtful whether the plant breeders will accept both. However, as this study is on Indian position, India being a party to ITPGRFA, the above mentioned problem is sure to happen here.

As the right to use, save, exchange and sell the seeds is left to the national States, the States will have to legislate keeping their other obligations. So, a country which is party to UPOV, while making a legislation using the exceptional clause there, can give only right to use, save, and re-use the seed. ITPGRFA, if gives this right as a right which is to be respected by the States, the State legislation will have to give only a lesser right to the farmers in this regard. However, if ITPGRFA leaves this to the national legislation that legislation can restrict the right to sell. This right can even be neglected, if ITPGRFA is not considering this as a right, but leaves it to the State legislation. As was seen above, ITPGRFA is not very clear about the nature of its recognition of this right. So, a country which is party to UPOV can even forgo the farmers' right to use, or re-use the seed (let alone right to sell), saying that it is making its legislation in tune with UPOV, without going for the optional exception. As ITPGRFA only leaves this matter to the State legislation, such a stand cannot be said to be a violation of ITPGRFA mandate. Thus, even though this right is not

respected, ITPGRFA will not be said to be violated. This shows that apart from being there as a highlighted right, farmers rights are not of much importance in this Treaty, unless, the law makers of the States are sensitive to the issues of farmers.

It is true that it is a herculean task, given the international as well national scenario in which the politics and the economy of the plant breeders and the seed industries are involved, to incorporate such provisions in the ITPGRFA. This is because, ITPGRFA for the plant breeders is just a means to have a single window access to the PGRFA shattered in various biological rich countries with poor technological development. Due to this poor technological background, much documentation does not take place. In such a situation, identification of the PGRFA, and their holders become almost impossible. In fact, the breeders need not search for these resources anywhere as the MLS makes it possible that *the plant genetic resources are brought before them by the conservers*. So, it is very clear that in ITPGRFA, the only interest of the seed industries is to have access, and the rest are all to be torpedoed, or made redundant, especially the benefit sharing. So, strong voice from biologically rich countries representing their farmers is the only solution for making this part of the farmers' rights meaningful.

4.5 Conclusion on the International Law

The net result of these three documents as far as FR is concerned can be summarized as follows.

The UPOV is the model *sui generis* law envisaged under the TRIPS for the protection of PBR. Quite naturally, this document is mainly for the protection of PBR, almost in tune with a patent right. So, only a limited space is allowed for FR, the right to use, save and

re-use the seeds for small farmers, which is also an optional exception. The UPOV especially the 1991, gives an exclusive right to the plant breeders over the entire plant, especially on the propagating material like seeds. This right however can be given to the plant breeders without affecting the farmers right to use these seeds for present as well as future use, without being forced to depend on the plant breeders if the option given to the nations to exempt farmers privileges from the purview of these rights. But, many countries ignore this freedom, and farmers are not given any such exception legally, rather they go for informal arrangements. However, even if a country is willing to give this exception to farmers, there are two hurdles.

One is, the international politics of the seed industries who are going to be widely affected by this privilege being given to the farmers. It is quite obvious that if farmers are given the right to use, re-use, save and exchange the protected seed, the monopoly of the seed industries come to an end. So, indirectly, and directly UPOV influences the developing countries in their law making, to see that such privileges are not given to farmers. The second hurdle is, even if such an exception is allowed, the hybrid or the genetically modified varieties are in itself not capable of being re-used (and thus there is no meaning in saving it, or exchanging it) for further propagation. This is the crux of the breeders' right becoming a monopoly where the laws as they stand today are of no use to the farmers. Thus, the farmers' traditional right to use, save, re-use and exchange seeds remains almost suspended.

This one-sided affair has led to further problems to the farmers, and further monetary benefits to the plant breeders. Now, the

plant breeders can develop new varieties without fearing any competitor, which is an incentive for going for further breeding, as PBRs are easy to obtain, given the low level of creativity needed, than the patent, and more beneficial than the patent. It is in this very favourable climate to the plant breeders that the CBD comes with facilitated access to plant genetic resources in the name of conservation of plant genetic resources. It is in this context that the new generation rights like the right to be informed and consent asked before access is allowed, right to protection of traditional knowledge, and the right to get a share of the benefit arising from the utilization of the farmers' traditional knowledge or the plant genetic resources arise. In CBD, the farmers' plant genetic materials, and the related traditional knowledge are thus easy to be accessed, with the two limitations called the prior informed consent, and the benefit sharing condition. Though these two act as safeguards to farmers, the actual strength of these depend upon the State parties, in their legislation. So, these new generation rights are also at the mercy of the State, as no right of the farmer is asserted in CBD. This is thus a good space to be used by the States for the protection of FR. In fact these two can be developed into assertive rights by the State Parties, as CBD has laid down the seed for its development into a right.

ITPGRFA though recognizes FR, functions on the basis that particular farmers who are responsible for conservation and preservation of certain PGR or TK cannot be identified. So, benefit sharing is not *quid pro quo*. PGRFA from all over the world is received in the MLS and share of the benefit is given to farmers all over the world, irrespective of who conserved what. Thus, the very basis of CBD and ITPGRFA differs very much. So, while access is

given to the plant breeders to the PGR and TK of the farmers, the very concept of PIC is insignificant in the case of ITPGRFA. Right to use, save, re-use, exchange, and sell the seed, PIC and benefit sharing are the recognition of some kinds of the farmers' efforts. But, as against the property rights given to the plant breeders, this could be said to be only residuary rights. These are not enough to balance the rights of the farmers against the PBR. But to advocate for any particular property right for farmers is also difficult in the context ITPGRFA due to this reason. But, it suggests that in the national level if such identification is possible, that should be recognized through legislations.

But if they could not be identified, the farmers will be the losers. This is because, there is no PIC needed to include a plant genetic material in the multilateral system in the case of State owned plant genetic resources for food and agriculture, or those in the public domain. Most of the traditional knowledge, being in the public domain, then can be included in the multilateral system without the consent of the knowledge holders. Also, the private persons are encouraged to include the plant genetic materials under their control in the multilateral system. But the associated traditional knowledge may be with someone else. For example, the plant genetic resource may be with the landlord, and the traditional knowledge may be held by the agricultural labourers. Here the landlord can include the PGRFA in the multilateral system, without the consent of the TK holders. This means, that the farmers' TK is not protected. Thus, though this Treaty recognizes right to protection of TK, its framework is in such a manner that this right cannot be protected even by the national legislations, taking into consideration the conditions for access to the PGRFA in the MLS.

As was discussed, the benefit sharing provisions are also in such a manner, (and the member countries attitude) that the plant breeder is not under an obligation to share the benefits arising out of utilisation of the plant genetic resources taken from the multilateral system, if the protected varieties' PGRFA are available for research and training purposes as per ITPGRFA. Thus, the new generation rights which are atleast recognized (enforcement not very sure) in CBD are also absent in ITPGRFA, in its present form.

Also, the discussions that take place in the sessions of the GB of the ITPGRFA, especially the third session, reflect on the matter how the developed countries are bent upon to torpedo every attempt to protect the FR, including national legislations, and funding strategy relating to the benefit sharing. This strongly suggests that the aim of the seed companies are to see that ITPGRFA is alive only for the purpose of giving access to the plant genetic resources for food and agriculture, and they are least bothered about the rest of the Treaty. The entire programmes of the Treaty especially the *in situ* conservation and realization of the farmers' rights are to be implemented with the money paid by the developed countries. They are all unwilling to spare any amount, showing that their policy is, "Rich countries favour multilateralism when it means sharing what belongs to the poor, but refuse to take part when it comes to their own money".²²

In fact the implementation of the Treaty depends on the outcome of the sessions of the Governing Body, where only the actual politics of the developed countries and the seed corporations really

²² Guy Kastler, "ITPGR: Farmers' rights or a fools bargain? Available at <http://www.grain.org/es/article/entries/786-itygr-farmers-rights-or-a-fools-bargain> . visited on 12-03-2011.

find a place. The result of these sessions are so far disappointing to the farmers, as all the possible space for farmers right to develop was shut by the developed countries. Thus, the ITPGRFA though leaves a space in the SMTA, and in the FR provision (Article 9) for the protection of FR, it can work only to the advantages of the breeders in its present form. Putting the essence of all these international laws, the outcome is the domination of the provisions of UPOV which means domination of the PBR. Even in the other two documents, where the PBR is not even mentioned, but FR is even highlighted, the domination is still that of the plant breeders as is obvious from the discussions on these documents.

However, that is not the end of FR. Proper safeguards in UPOV for the farmers as against the hybrid and biotechnology used to develop the variety, the strong national measures to implement the safeguards laid down in CBD and Nagoya Protocol, proper amendments as suggested in ITPGRFA, with a strong pro-farmer SMTA, and effective national measures to implement the farmers right in ITPGRFA are the ways to fight the FR. The merit of all these documents is that, they have laid down a strong basis for FR, by recognizing them. To make it more solid rests with the international as well as national strategies in the developing countries and the farmers' organizations like GRAIN, and Gene Campaign. Developing countries also needs to have an in depth study (with all available documents) about the problems caused (and will cause) to the farmers due to the international laws dealing with Plant Breeders' Rights, and the politics played by the seed companies as well as developing companies in order to be *aware* of the grave problems the country will face in future along with the farmers. They will also have to find out the possible

space in the international law where the FR can be made strong and enforceable. This alone will help them in strongly raising their voice in the international bodies like the GB of ITPGRFA, and to suggest legal as well as other measures to protect their farmers.

So, to conclude, one thing that can be projected is that, while PBR and FR are coined as counter rights, PBR is a strong, solid, clear exclusive property right and FR is yet to be conceptualized. These discussions point to the fact that the State has enough roles to play for *creating FR* as it is not yet done in the international level. So, with this background we move to the state of affairs in India in this matter. So, the next analysis is, in the backdrop of these international laws, what are the legal measures India has taken by being a party to CBD, and ITPGR, and TRIPS, and not being a party to UPOV. By being a party to TRIPS, she has enacted the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA) and by being a party to CBD, the Biological Diversity Act (BDA). While the BDA deals with the second part of the central theme called the plant breeders' access to the farmers' PGR and TK, PPVFRA deals with both part of the central theme in a peculiar way. PPVFRA is also the legislation for protecting the FR as is given in the ITPGRFA. So, the next Chapter examines the BDA which deals with the plant breeders' access to the farmers' PGR and TK. In that Chapter, the question examined is to what extent India has used the space left by CBD for recognizing the efforts of the farmers for the conservation, preservation and development of their PGR and TK, while access is given to the plant breeders?

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**INDIAN SCENARIO - ACCESS TO THE PGR AND TK OF
THE FARMERS THE BIOLOGICAL DIVERSITY ACT**

In the previous chapters we saw the international laws dealing with breeders' rights and the farmers' rights. In spite of giving enumerated rights to farmers in some contexts, the integrated right of the farmers for their meaningful survival as farmers was examined. In fact, all these rights together can be put into one package called 'sovereign rights', which means those rights or freedoms which they must get to be a sovereign. This right is due to farmers, and not to any section of the people in any country, especially India, where agriculture is the source of livelihood of 70% of the population. The farmers contribute to the food security by food production, and environmental security by doing farming using environment friendly seeds, and also by preserving the plant genetic material for food and agriculture. These roles made the international laws to give him a special place. But in the light of the PBR, which are almost exclusive in nature, the special place given to farmers in Convention like CBD and treaty like ITPGRFA only acted as helping the breeders, by facilitating their access to the PGR preserved by the farmers. However, this scenario has left many safety valves open to the nations to use for the protection of their farmers. So, the herculean task of using this space in a clever manner is left with India by being parties to some of these international laws like the TRIPS, CBD and ITPGRFA.

In fact, India's international obligations can be summarized as follows in this field. By virtue of being a party to

TRIPS (Art. 27.3.(b), India is under an obligation to enact a *sui generis* legislation for protecting the PBR. By being party to the CBD, she is under an obligation to enact legislation to facilitate access to the plant genetic resources, by intelligently applying the PIC and benefit sharing aspects. ITPGRFA, being only a Treaty is non-binding in itself. However, since, CBD allows other types of benefit sharing mechanisms; the mechanism of benefit sharing followed in ITPGRFA (the multilateral system-MLS) has to be respected by India. It is a disturbing factor that, in the MLS of benefit sharing, no benefit directly goes to the farmers even if the recipient of the plant genetic material makes payment. Also if the recipient breeder develops a new variety using this material, and makes the plant genetic material of the new variety available to the multilateral system, he is not even under an obligation to make any payment, because this inclusion itself is considered as the benefit sharing by the MLS.

Thus, the right to get a share of the benefit becomes diluted, and sometimes nil. It is in this context that the ITPGRFA mandates to protect the rights of the farmers to use, save, exchange and sell seed, through national legislation. This means that the national legislations should contain provisions to preserve the traditional rights of the farmers even in the context of MLS. This task is also left with India on her legislation. Being a non-party to the UPOV, India is under no obligation to make any legislation in tune with that. However, being a model *sui generis law*, (as claimed by UPOV) India can follow whole or some parts of UPOV. It is also a very pleasure giving fact that if a country is a party to both UPOV 1991, and ITPGRFA, it is a compulsion (and not an option) for that country to recognize the farmers' right to use, save, exchange and sell

the seed. This is because, while on the one hand UPOV 1991, as different from UPOV 1978 makes the farmers' rights only an exception, ITPGRFA mandates the States to protect these rights. But the UPOV exception does not give the right to exchange or sell the seeds. So, regarding these two rights, there exists a contradiction. It is a fact to be rectified in the international level as the observation of ITPGRFA will lead to the violation of UPOV and *vice versa*.

Following these obligations, India has enacted the Biological Diversity Act, 2000 (BDA), and the Protection of Plant Varieties and Farmers Rights Act, 2001 (*sui generis law*) (in short PPVFRA). These are the two major legislations that follow from India's international obligations. The BDA deals with the second part of the central theme of this thesis, called the plant breeders' access to the PGR and TK of the farmers. The PPVFRA deals with both the themes in a particular way. Particular way because, even some part of the access to PGR and TK is also covered by PPVFRA.

However, there are many other legislations as well as policy measures which have link with the implementation of these two legislations. The Seeds Act, 1961 and the National Seeds Policy, 2002 are the major measures in this regard. The farmers' *traditional right* to save, use, exchange and re-use seeds, finds a place in the PPVFRA. Thus, it could be said that India's legislation to protect the rights of the farmers, especially the right to save, use, and sell seed as an obligation under the ITPGRFA is the PPVFRA. However, it is quite sure that India did not make this legislation in pursuance of ITPGRFA, as PPVFRA precedes ITPGRFA. But, as there is no other legislation in India which deals with the farmers' right to use, save and sell seeds, PPVFRA only can be pointed as that legislation. India

had before it, only the FAO Resolution 4/89, 3/91 and the ongoing discussions in the making of ITPGRFA which somehow dealt with this right of the farmers. But then, the problems in implementing this right in the context of multilateral system were not much in shape. So, it is to be examined whether even after the coming into effect of the ITPGRFA; India has taken any measures in PPVFRA to address the issue of this right as a mandate of ITPGRFA.

This Chapter is dealing with the second aspect of the central theme called, *plant breeders' access to the PGR and TK of the farmers*. In fact, in the national context it is better to treat this theme in a bit different manner. That is, the question to be asked is, while access is given to the plant breeders to the PGR and TK of the farmers, are they given any right over their PGR and TK just as the plant breeders are given right over their variety? In the international level, what was found was that nothing like that is given to the farmers. Only a regulation of access is made therein. So, the corresponding legislation in this respect in India is examined in this Chapter, called the BDA. The main question examined here is, to what extent farmers' rights are recognized in India while access is given to the plant breeders (for commercial exploitation in general)? As a corollary to this question, the following questions are also examined. How has India used the principles adopted in CBD called the PIC and benefit sharing? Has She created any new rights? In other words, has the Indian law created any right for the farmers over their PGR and TK? Or are the principles in CBD turned to be some kinds of solid rights?

5.1 Farmers' Rights (over their PGR and TK) while access is given to the plant breeders- Position in BDA, 2000

5.1.1 Prior Informed Consent- Whether recognized?

The Indian subcontinent is very rich in biological diversity, harbouring around 49, 000 species of plants, including about 17 500 species of higher plants. It possesses about 11.9% of world flora with 5 725 endemic species of higher plants belonging to about 141 endemic genera and over 47 families. The Indian gene centre holds a prominent position among the 12 mega-gene centres of the world. It is also one of the Vavilovian centres of origin and the diversity of crop plants. Two out of the 25 global hotspots of biodiversity, namely the Indo-Burma and Western Ghats / Sri Lanka, occur here. About 166 species of crops including 25 major and minor crops have originated and / or developed diversity in this part of the world. Further, 320 species of wild relatives of crop plants are also known to occur here. A rich crop diversity is available in India in terms of both number of species and within the species. Landraces, traditional cultivars and farmer's varieties in several agricultural and horticultural plant species are abundant but a decreasing trend is noted in areas moving towards advanced agricultural practices. Crops in which rich diversity occurs in the country include rice, wheat, maize, barley, pigeonpea, chickpea, minor millets, mungbean, urdbean, horsegram, mothbean, ricebean, clusterbean, sesame, forage grasses, okra, eggplant, cucumber, melons, citrus, banana and plantains, jackfruit, mango, tamarind, *jamun*, jute, cotton, ginger, turmeric, pepper, cinnamon and cardamom. Among tuberous crops, rich variability exists in sweet-potato, taros and yams. Native resources are also available in *Coleus* species, sword-bean, velvet-bean and several minor fruits, such as

berries and nuts; and several species of *Rubus*, *Ribes*, *Juglans*, *Pyrus* and *Prunus*.

India is also the largest producer in the world of cashew nut, coconut, tea, ginger, turmeric and black pepper. It also has the world's largest cattle population (193 million) and is the largest producer of milk also. India ranks second worldwide in farm output. It is the second largest producer of wheat, sugar, groundnut and inland fish and the third largest producer of tobacco and rice. India accounts for 10% of the world fruit production with first rank in the production of banana and sapota¹. India is the primary centre of diversity for crops like rice, black gram, moth, bean, pigeonpea, cucurbits, jackfruit, banana, mango, and several minor millets and medicinal plants. India is also the secondary centre of diversity for African crops like finger millet, pearl millet, sorghum, cowpea, cluster bean, sesame, maize, tomato, muskmelon, pumpkin, chillies and *Amaranthus*. She is also the Asiatic centre of diversity for crops like maize, barley, amaranth, buck wheat, proso millet, foxtail millet, mungbean, green gram, chickpea, cucumber, bitter gourd, bottle gourd, and snake gourd.

The wild relatives of cultivated plants constitute a rich reservoir of genetic variation in the gene centre and this diversity is of immense value to breeders. Among the 320 species about 60 are endemic/ rare taxa belonging to different economic crop groups. Based on economic importance in different agricultural and horticultural crops, diversity in wild relatives has been grouped as cereals and millets (51), legumes (31), oilseeds (12), fibre crops (24),

¹ Country Report on the State of Plant Genetic Resources for Food and Agriculture, India, (1996-2006).

fruits (100), vegetables (54), spices and condiments (27) and others (26)³. The diversity in wild relatives is distributed in different phytogeographical regions of India, viz. Western Himalayas (125), Eastern Himalayas (82), North-eastern region (132), Upper Gangetic plains (66), Indus plains (North-western plains) (45), Malabar region/western ghats (145) and Deccan region/ Eastern Ghats (91). Among the major food crops, India harbours great diversity in rice and its wild/weedy relatives. The wild and weedy relatives of cultivated rice (*Oryza sativa* L.), extensively distributed in India are *O. nivara* Sharma et Shastry, *O. rufipogon* Griff., *O. officinalis* Wall. ex Watt, *O. malampuzhaensis* Krishn. et Chandr. and *Porteresia coarctata* (Roxb.) Tateoka. The local communities and farmers in India have sustained and enriched the diversity of these resources which they domesticated, used, conserved and made available to meet the ever increasing needs of the present and future generations².

This shows how rich India is in genetic diversity and in PGRFA, and thus is the centre of attraction of the world plant breeders. This also shows how intelligently India should draft her legislations for protecting the rights of the farmers who conserve and preserve the same. With this background in mind, let us look at the way in which BDA has addressed the issue of FR while access is given to the plant breeder to the PGR and TK.

In the context of CBD and Nagoya Protocol it was found that the State is considered as having the ownership over the plant genetic resources as part of the ‘permanent sovereignty ‘ principle. However, regarding the traditional knowledge and plant genetic

² *Ibid.*

resources held or preserved by the local community or indigenous people, (which includes traditional farmers) their PIC was to be obtained, and they must be given a share of the benefit arising out of commercial utilisation of the same. Actually, the obligation of India under CBD, as far as the farmers' rights in the context of access to plant genetic resources (which is otherwise called the new generation rights) stem from the following provisions of CBD.

“Article 8: Each contracting Party shall, as far as possible and as appropriate:

(j): Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the *approval and involvement of the holders of such knowledge, innovations and practices* and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices” (emphasis added)

“ Article 15 (1): Recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation.

(2): Each Contracting Party shall endeavour to create conditions to facilitate access to genetic resources for environmentally sound uses by other Contracting Parties and *not to impose restrictions that run counter to the objectives of this Convention.* (emphasis added)

(3): Access, where granted, shall be on mutually agreed terms and subject to the provisions of this Article.

(4): Access to genetic resources shall be subject to *prior informed consent of the Contracting Party* providing such resources, unless otherwise determined by that Party. (emphasis added)”

Access is to be subject to the PIC of the State Party, and not the indigenous people like the traditional farmers. But, section 8 (j) is a guide to the State Parties when they exercise their sovereignty. The States will have to respect the rights of the indigenous people, and their traditional knowledge. The word ‘wider application’ can be interpreted to include allowing access to others, for further research, and breeding of new varieties. However, restriction cannot run counter to the objectives of the Convention. (The objectives are, conservation of biological diversity, the sustainable use of its components, and fair and equitable sharing of benefits arising out of the commercial utilization of the genetic resources.)

Reading these together, it suggests that the approval and involvement of holders of the knowledge, innovations and practices are to be taken into account while allowing access to others for commercial utilization. In the case of plant genetic resources maintained by traditional people like farmers, the prior informed consent of the State is subject to the prior informed consent of the farmers. The Nagoya Protocol however goes further in two aspects, one in bifurcating access to PGR, and TK, and the other is making the prior informed consent aspect of indigenous and local communities very much express. However, Nagoya Protocol has not yet come into force, and India is not a party to it. Also India’s enacting the

Biological Diversity Act in 2000 is ten years before the Nagoya. Due to these reasons, the BDA might have reflected only the CBD provisions.

Another problem here is, India is also a party to the ITPGRFA, which has, for the first time asserted Farmers' Rights. As per ITPGRFA, there is no concept of access taken from the farmers, or the traditional or local people. Once the State includes any item in the Annexure I to the MLS, the question of access and PIC ends there. So, PGRFA which India has added to the MLS is not covered by the CBD provisions. It is covered by the ITPGRFA. So, the question is, while adding an item to the MLS, what is the legal mechanism that is followed in India? To what extent the PIC of the indigenous and local people like the traditional farmers are taken into account?

Regarding other plant genetic materials (including those for food and agriculture not included in the multilateral system), the access is covered by the CBD, and thus by the Biological Diversity Act in India.

Now, the question is how India has used this obligation while giving access to plant genetic resources and traditional knowledge maintained by farmers? Whether any property right is recognized, or consent is asked for? In other words, has India given the farmers (or any community which hold the PGR or TK, as the BDA covers all the biological resources which includes even animals) any right over their PGR or has only recognized the residuary rights as in the CBD?

The CBD is basically an environmental document whose main objective is the preservation of biological resources in a

sustainable manner. This Convention is highlighted as a vital international document dealing with protection of environment. Access and benefit sharing is also an objective of the Convention. But, there is every possibility for a country to get lost in the environmental aspect of the CBD, and to sideline the access and benefit sharing aspects, including the property rights of the indigenous and local people including the farmers. So, allowing access to others to the plant genetic material with the permission of the State will be in the limelight, resulting in darkening the rights of the farmers' rights. Let us now examine what is the approach of the BDA in this respect.

Under the BDA which works on the basis of State sovereignty has envisaged a three tier enforcement mechanism namely, the National Biodiversity Authority (NBA) in the national level, the State Biodiversity Boards (SBB) in the State levels, and Biodiversity Management Committees (BMC) at local levels. Biological resources is defined as plants, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but does not include human genetic material³. Commercial utilization means the end uses of biological resources for commercial utilization such as drugs, industrial enzymes, food flavours, fragrance, cosmetics ,emulsifiers, oleoresins, colours, extracts, and genes used for improving crops and livestock through genetic intervention, but does not include traditional practices in use in agriculture, horticulture, poultry, dairy farming, animal husbandry, or bee keeping⁴.

³ BDA, Section 2 (c).

⁴ *Id.*, Section 2 (f).

This means, that while access is given for commercial utilization, plant breeding also covered by the commercial utilization. So, access to biological resources has a very close link with farmers and their right over PGR and TK. Because, giving access acts as the first step towards creating property rights of the plant breeders. In that context, it is inevitable that the property rights of the farmers are also looked into. This right can be by a positive assertion of the right, or at least by recognition, by asking for their consent before access is given. This is what is envisaged under the CBD. Actually as an addition, the Nagoya Protocol has bifurcated PGR and TK for the purpose of asking for PIC. However, the concretization of this right is left to the States. This means that India can make even the benefit sharing and PIC principles as a right of the farmers (when it comes to PGRFA).

For the purpose of giving access to biological resources for commercial utilization, the recipients are divided into two under the BDA. The citizens of India, and non-citizens, which includes firms incorporated outside India. In the case of non-citizens, the prior approval of the NBA is needed⁵. In the case of access by Indians, prior intimation is to be given to the SBBs⁶. While an application for approval is given to the NBA, it *shall* after consultation with the concerned local bodies and collecting such additional information from the applicant and other sources, as it may deem necessary, dispose of the application⁷. The approval should be given on agreement on many terms like, general objective and purpose of seeking approval for application, and the intended use of the biological resources (whether for plant breeding or research

⁵ *Id.*, Section 3.

⁶ *Id.*, Section 24 (1).

⁷ Biological Diversity Rules, 2004, Clause 14 (3).

purposes)⁸. The approval can be revoked in case of violation of these conditions.

Regarding the restrictions on the access to biological resources, the following are given as the grounds.

- (i) the request for access is for any endangered taxa ;
- (ii) the request for access is for any endemic and rare species;
- (iii) the request for access may likely to result in adverse effect on the livelihoods of the local people;
- (iv) the request to access may result in adverse environmental impact which may be difficult to control and mitigate;
- (v) the request for access may cause genetic erosion or affecting the ecosystem function;
- (vi) use of resources for purposes contrary to national interest and other related international agreements entered into by India.

From this discussion, two things are clear. One is, when a person from outside India seeks access to the PGR or TK of farmers, there is no direct role to be played by them even in giving consent. Second, even if they are consulted other than for reasons enumerated above, they cannot reject access. However, in the provision which deals with giving approval, two provisions are important, they are,

“On being satisfied with the merit of the application, the Authority *may* grant the approval for access to biological resources

⁸ *Id.*, Clause 14 (6).

and associated knowledge subject to such term and conditions as it may deem fit to Impose.” (emphasis added) And,

“The Authority may for reasons to be recorded in writing reject an application if it considers that the request cannot be acceded to.⁹”

From these two provisions, read with the conditions for restricting access, the inference is that, the Authority can reject an application based only on the conditions given therein. Then the problem is, where is the role of the farmers who could be identified as custodians of some PGR or TK to which access is sought for? Actually, NBA consults the local bodies for giving approval. The presumption is that, the local bodies will identify the indigenous people of local communities, including the farmers who hold a particular PGR or TK, and will ask for their consent and then intimate the matter to the NBA. But, these are all only assumptions.

Suppose that the access is sought to the PGR or TK of a very common crop variety. If the local bodies are consulted by NBA, in the absence of the local bodies making efforts to identify some farmers who conserve or preserve it, they can give opinion based on the conditions on restriction to access. For example, they need only to look at whether this PGR is an endangered one, whether it will affect the livelihood of the people, whether the access will cause genetic erosion etc. This can be done without identifying the stakeholders, or asking for their approval. In fact, the Act is not mandating anywhere that the indigenous people’s or local communities should be consulted before giving access to be given to a foreigner. Then the only possible

⁹ *Id.*, Clauses 14 (4) and (8).

relation with the indigenous people here is the consultation with the local bodies, who *may* seek the consent of the farmers. Because, the structure of NBA is such that there is very minimum representation of the indigenous people or the Local communities like the farmers who are the stakeholders of PGR¹⁰. But, even the word PIC is not used in the Indian Act. Perhaps the word “approval” (of NBA, and SBB) is considered as synonymous to PIC. This may be because, the Act presupposes that the State is the custodian of the PGR and only the PIC of the State is enough. Thus, it should be concluded that in the case of access to PGR given to a non Indian, PIC of the farmers is not even contemplated.

Another problem, rather an anomaly found here is that the Act talks about consulting the local bodies, where under the Act, there is already a wing of the local bodies called the BMC. Whether the Act talks about the BMC or the Local Bodies is not clear. The Act at the same time makes this distinction very clear by defining both the terms. Local Bodies is defined as¹¹

“local bodies” means Panchayats and Municipalities, by whatever name called, within the meaning of clause (1) article 243B and clause (1) of article 243Q of the Constitution and in the absence of any Panchayats or Municipalities, institutions of self-government

¹⁰ NBA consists of a Chairperson with adequate knowledge in conservation, and sustainable use of biological resources, and equitable benefit sharing, *ex officio* members from Ministries of Tribal Welfare, Forest and Environment, Agriculture Research and Development, Biotechnology, Ocean Development, Agriculture and Co-operation, Indian systems of medicine and Homoeopathy, Science and Technology, Scientific and Industrial Research, and five members from among scientists, and five non-official members to be appointed from amongst specialists and scientists having special knowledge of, or experience in, matters relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources, representatives of industry, conservers, creators and knowledge-holders of biological resources. BDA, Section 8(4).

¹¹ BDA, Section 2(h).

constituted under any other provision of the Constitution or any Central Act or State Act”.

At the same time, BMC is a Committee *constituted by the Local Bodies*. This is a clear distinction, and if the local bodies are consulted, to what extent they can be of use is the moot question. But, if the Act meant BMC, when it denotes local bodies, it should be very clearly used as BMC. But, if the Act intended local bodies, then even the expectation that the farmers who hold particular PGR or TK will be consulted is out of place. However, if the Act meant (or amends it) BMC, then its structure will have to be looked into to find out how consultation with it will help the farmers.

Before going to the conditions on access given to Indians, it is inevitable to look at the role of Biodiversity Management Committees (BMC) which is the grass root level machinery under the Act. If, it could be concluded that they are under an obligation to seek the PIC of the farmers, then picture will be different. Biodiversity Management Committee is constituted for promoting conservation, sustainable use and documentation of biological diversity including preservation of habitats, conservation of land races, folk varieties and cultivars, domesticated stocks and breeds of animals and micro organisms and chronicling of knowledge relating to biological diversity¹². The following are the main functions of the BMC.

The main function of the BMC is to prepare, and maintain a *People's Biodiversity Register* in consultation with local people, which has to contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other

¹² *Id.*, Section 41.

use or any other traditional knowledge associated with them. The other functions of the BMC are (1) to advise on any matter referred to it by the State Biodiversity Board or Authority *for granting approval*, and to maintain data about the local *vaid*s and practitioners using the biological resources. The Constitution of the BMC is that there is a Chairperson and not more than six persons nominated by the local body, of whom not less than one third should be women and not less than 18% should belong to the Scheduled Castes/Scheduled Tribes¹³.

The function of the BMC is thus to find out the biological resources including the PGR. But nowhere in the Act is it said that the holders of the same should be identified, and their consent should be obtained before approval is given for access to the same. In the case of Indians who seek approval also, the SBB is to give approval, based on the opinion of the local bodies. All the above mentioned problems are possible here also. Biodiversity Rules are made by the States of Andhra Pradesh, Kerala, Maharashtra, Rajasthan and Tripura¹⁴. In these Rules also, nothing innovative is done to give the BMC any obligation to identify the conservers or preservers of the biological resources including PGR.

So, to conclude on the PIC aspect, it should be said that this concept is not transformed into any form of right. It is not even made mandatory while access to PGR or TK of the farmers is given. *Thus, India did not use the space given by the CBD, even which was only a residuary right.* These point to the fact that there is a need to restructure, and revise the BDA, in order to make it favourable to the

¹³ Biological Diversity Rules, Clause 22.

¹⁴ Andhra Pradesh Biological Diversity Rules, 2009, Kerala Biological Diversity Rules 2005, Rajasthan Biological Diversity Rules, 2010, Maharashtra Biological Diversity Rules, 2008, and Tripura Biological Diversity Rules, 2008.

farmers, as far as PIC is concerned. The next privilege which we found in CBD is the benefit sharing. Now let us see how the benefit sharing aspects for farmers are covered in the BDA.

5.1.2 Benefit Sharing- the position in BDA.

Benefit sharing under the BDA is envisaged under the Act at two places. One is at the time when approval is given for access. The other is when approval is given for applying for IPR. However, the Act exempts those who apply for PBR from benefit sharing from the purview of this Act. But, it is not very clear from the Act whether even for a person who applied for PBR benefit sharing applies to him when access is given. As the provisions are to be read together for an answer, the relevant provisions are extracted below.

Section 6(2): “The National Biodiversity Authority may, while granting the approval under this section, (those who apply for IPR) impose benefit sharing fee or royalty or both or impose conditions including the sharing of financial benefits arising out of the commercial utilization of such rights.

6 (3): The provisions of this section shall not apply to any person making an application for any right under any law relating to protection of *plant varieties* enacted by Parliament.

Section 19: “Any person... who intends to obtain any biological resource occurring in India or knowledge associated thereto for research or for commercial utilization or for bio-survey and bio-utilisation or transfer the results of any research relating to biological resources occurring in, or obtained from, India, shall make application

in such form and payment of such fees as may be prescribed, to the National Biodiversity Authority.

(2) Any person who intends to apply for a patent or any other form of intellectual property protection whether in India or outside India referred to in sub-section (1) of section 6, may make an application in such form and in such manner as may be prescribed to the National Biodiversity Authority.

(3) On receipt of an application under sub-section (1) or sub-section (2), the National Biodiversity Authority may, after making such enquiries as it may deem fit and if necessary after consulting an expert committee constituted for this purpose, by order, grant approval subject to any regulations made in this behalf and subject to such terms and conditions as it may deem fit, including the imposition of charges by way of royalty or for reasons to be recorded in writing, reject the application.”

Section 20: “ (1) No person who has been granted approval under section 19 shall transfer any biological resource or knowledge associated thereto which is the subject matter of the said approval except with the permission of the National Biodiversity Authority.

(2) Any person who intends to transfer any biological resource or knowledge associated thereto referred to in sub-section (1) shall make an application in such manner as may be prescribed to the National Biodiversity Authority.

(3) On receipt of an application under sub-section (2), the National Biodiversity Authority may, after making such enquiries as it may deem fit and if necessary after consulting an expert committee for

this purpose, by order, grant approval subject to such terms and conditions as it may deem fit, including the imposition of charges by way of royalty or for reasons to be recorded in writing, reject the application.”

Section 21 “(1) The National Biodiversity Authority shall while granting approvals under section 19 or section 20 ensure that the terms and conditions subject to which approval is granted secures equitable sharing of benefits arising out of the use of accessed biological resources, their by-products, innovations and practices associated with their use and applications and knowledge relating thereto in accordance with mutually agreed terms and conditions between the person applying for such approval, local bodies concerned and the benefits claimers.”

Reading all these provisions together gives the impression that, at the time when access is obtained itself, there is a possibility of entering into an agreement regarding benefit sharing. So, in the case of a plant breeder, who applied for PBR, he will be exempted from paying the benefit sharing amount, or whatever is agreed to. But, when a plant breeder applies for approval, will he be bound to pay benefit sharing? Section 21 talks about benefit sharing agreements while approval is given under sections 19 and 20. Under section 19, both approval for access (19 (1), and approval for IPR (19 (2)) are dealt with. Regarding the latter, that is, approval for IPR, section 6 (3) exempts the plant breeder from benefit sharing. But the Act is silent about the benefit sharing related to approval under section 19 (1). This perhaps means that a plant breeder will have to pay an amount, or something else as benefit sharing, while access is sought, and also to

pay another amount by way of benefit sharing after obtaining the PBR, under the PPVFRA.

This position is significant for this heading in two ways. One is, there is every possibility of this dual payment of benefit sharing on the same subject matter, by the plant breeders, unless those who are going to use the biological material for plant breeding are exempted from paying any amount for having given access under section 19 (1). Another is, if the Act envisages any payment while access is given, irrespective of the purpose for which approval is sought, benefit sharing aspect for a plant breeder is covered in BDA. Otherwise, benefit sharing part is not covered by BDA. This means that, as far as plant breeders are concerned, only the PIC aspect of CBD is applicable. Rather, to put it within the central theme, while access is given to the plant breeders to the PGR and TK of the farmers is concerned, PIC is the only recognition to the farmers. It is already found that there are no concrete efforts in the Indian Act as far as PIC is concerned. Nowhere in the Act PIC occurs neither in word, nor in spirit.

However, if the position is that of dual payment, as was discussed above, it should be said that some part of the benefit sharing is covered by BDA. The amount of money if received is to be deposited in the National Biodiversity Fund. However, the Act says that “where biological resource or knowledge was a result of access from specific individual or group of individuals or organizations, the National Biodiversity Authority *may* direct the amount to be paid directly to such individual or group of individuals or organizations in accordance with the terms of any agreement and in such manner as it deems fit.”

So, even if benefit sharing provisions of BDA is applicable, the individual or group of individuals is likely to get some amount. This has two dimensions. One is, more than as a community's contribution, BDA considers this also as an individual contribution which is not the principle of CBD. Another dimension of this benefit sharing scheme is that, only if specific individuals or group of individuals are identifiable, this amount will be given to them, which is also not a matter of right. *So, State is not given any obligation to find out the owners of PGR or TK.* Actually, only if such an obligation is given to the State that, there is a possibility of identifying the stakeholders. It is a sheer impossibility to expect that the stakeholders like the farmers will come forward and claim themselves as the conservers or preservers of a PGR or TK. Only when such identification takes place that, there is any possibility of giving them certain right, like solid rights. Also, CBD has certain links with the ITPGRFA, where a gap exists, which has impact on BDA. This is briefly discussed now.

5.2 ITPGRFA and BDA- The position of PIC

It is interesting to note that while BDA came into existence, ITPGRFA was not there. But by being a party to ITPGRFA, India is under an obligation to add all the PGRFA under the control of the State and those in the public domain to the MLS. Once a PGRFA is included in MLS, access to them is not subject to BDA, and thus the terms of approval are covered by the SMTA. So, when a person from outside India seeks approval for access to a PGRFA included in the MLS, NBA has nothing to do with it. Neither are there any guidelines as to what all procedures are to be followed while including PGRFA

into MLS. One thing that is to be noted in the context of MLS is that, only those PGRFA which are under the control of the State and are in the public domain are to be compulsorily included.

Those PGRFA which are under the control of individuals, there is no such compulsion. They should be encouraged to include their PGRFA in the MLS. But, then the problem is with those conserved and preserved by the farmers, and these custodians are not identified, where these might go as the PGRFA in the public domain. The problem is also with those PGRFA which the State preserved through National Gene Banks, or such other *ex situ* preservations. Here, these are to be compulsorily included in the MLS. The conservers of the same will not be consulted. This position stresses on the point that there is a need for identifying all the conservers and preservers and developers of PGRFA, and then to think of giving them solid rights. In the wake of ITPGRFA, the first thing then India will have to do is to identify all the PGRFA, and their owners, ask for their approval, as part of BDA. Then only they should be included in the MLS.

So, to conclude, it is disappointing to see that India did not create any rights out of the principles laid down in CBD called the PIC and benefit sharing. Even these two principles are nothing to balance the rights of the farmers with that of the plant breeders, as the latter gets a property right. But, even these residuary rights are not given any shape in the form of rights. In other words, farmers are not given any right over their PGR or TK, nor are they given even the recognition for having conserved the same which is initiated by the CBD. In this context it is worth to examine two legislations which could act as a guidance for India for restructuring her BDA. These are

Biodiversity and Community Knowledge Protection Act, 1998 of Bangladesh and the African Model Legislation for the Rights of Local Communities, Farmers, and Breeders And for the Regulation of Access to Biological Resources, 2000. In both these legislations, obtaining the PIC of local communities including the Farmers is made mandatory, while access is given to their biological resources. Regarding benefit sharing, it is stipulated that not less than 50% of the benefit is to be shared with the community. These are given as their rights. Apart from these, they are also given IPR over their innovations and practices, along with ownership right over their PGR.. While dealing with PIC, it is thrilling to note that community is given the right even to refuse to give access, unlike in the Indian legislation where for the State (as the approval of the indigenous people like the farmers is not mandatory) to refuse access, there are enumerated grounds. The most important provisions are extracted below.

5.3 Provisions relating to PIC and benefit sharing and other rights of farmers- from the Bangladesh Biodiversity legislation

“The State will... recognize the original rights of indigenous and local communities, farming and fishing communities, and other communities that are directly linked through their livelihood practices to particular ecosystems and to the related knowledge, innovation and culture specific to that livelihood. These rights will be considered inviolable due to the role of these communities as *custodians and stewards, thereby establishing their primary and Residual Title over the resources* remaining aware of the rights of women in particular, to the formal or informal communal systems of

innovation through which they produce, select, improve and breed a diversity of crop, fish, poultry and livestock varieties; the plant varieties, micro-organisms, fish and aquatic life forms, livestock, traditional medicines, agricultural practices and devices, and technologies produced through these systems; the human genetic diversity; all species and varieties of life forms and genetic resources covering the whole range of biological diversity of all genera and species, including microorganisms; and any other life form not explicitly included above.

In determining the access and use rights of the communities the rights of the Residual Title holders will prevail over other Communities.

The State shall recognize, establish and protect the rights of the Communities to collectively benefit from their knowledge, innovations and practices acquired through generations (past, present and future) and to receive compensation for the conservation of biological and genetic resources in accordance with the provisions of this Act and subsequent regulations as well as in accordance with the rights and obligations enshrined in the Convention on Biological Diversity¹⁵.”

“The sovereignty of the State over the biological and genetic resources and the related intellectual and cultural knowledge and practices will always be given effect through the Communities. The State, but only through Communities, shall at all time and in perpetuity be the lawful and sole owners, custodians and stewards of

¹⁵ Biodiversity and Community Knowledge Protection Act of Bangladesh, Article 6(4) and (5).

biological resources, knowledge and innovation related to these resources.

No biological or genetic resource and no intellectual and cultural knowledge and practices related to them as well as innovations arising out of them, shall be sold, assigned, transferred or dealt with in any way whereby the status of the Communities as the common owners, custodians and stewards of the resource or the innovation, or the integrity of the resource or the innovation, is impaired.

“The biological and genetic resources and the intellectual and cultural knowledge and practices as well as any innovations arising from these shall not be sold, assigned transferred or dealt in any manner without explicit Prior Informed Consent and effective participation of the Communities concerned. The Communities will always have the right to refuse transaction based on gainful intent or any commercial utilization, exploitation and exchange.

The State shall ensure that at least a defined percentage of benefits, not less than 50 percent of the net monetary gain, obtained from a direct or indirect commercial use of biological and genetic resources in which the Communities are the common owners, sole custodian and stewards be paid to the concerned local community or the group constituted as a Community¹⁶,”

¹⁶ *Id.*, Article 7.

5.4 Provisions relating to PIC and benefit sharing and other rights of farmers- from the AU Model legislation PIC

“Any access to biological resources, knowledge and or technologies of local communities shall be subject to the written prior informed consent of:

i) the National Competent Authority; as well as that of ii) the concerned local communities, ensuring that women are also involved in decision making.

Any access carried out without the prior informed consent of the State and the concerned local community or communities shall be deemed to be invalid and shall be subject to the penalties provided in this legislation or any other legislation that deals with access to biological resources.

The National Competent Authority shall consult with the local community or communities in order to ascertain that its/their consent is sought and granted. Any access granted without consultation with the concerned community or communities shall be deemed to be invalid and in violation of the principle and requirement for prior informed consent as required under this Article¹⁷.”

“Any access to a biological resource, innovation, practice, knowledge or technology, shall be subject to the prior informed consent (PIC) of the concerned community or communities ensuring that women fully and equally participate in decision making.

¹⁷ African Model legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, Section 5.

Local communities have the right to refuse access to their biological resources, innovations, practices, knowledge and technologies where such access will be detrimental to the integrity of their natural or cultural heritage.

Local communities shall have the right to withdraw consent or place restrictions on the activities relating to access where such activities are likely to be detrimental to their socio-economic life, or their natural or cultural heritage¹⁸.”

5.4.1 Property Rights

“The State recognizes the rights of communities over the following:

- i) their biological resources;
- ii) the right to collectively benefit from the use of their biological resources;
- iii) their innovations, practices, knowledge and technologies acquired through generations;
- iv) the right to collectively benefit from the utilisation of their innovations, practices, knowledge and technologies;
- v) their rights to use their innovations, practices, knowledge and technologies in the conservation and sustainable use of biological diversity;
- vi) the exercise of collective rights as legitimate custodians and users of their biological resources¹⁹,”

¹⁸ *Id.*, Sections, 18, 19 and 20.

¹⁹ *Id.*, Section 16.

Apart from these rights over the biological resources, the Community is given Intellectual Rights also²⁰. Even without any formal registration, this right is recognized.

Apart from the community rights, there is a category of rights devoted exclusively for farmers.

5.4.2 Farmers' Rights under AU legislation

The Act has created a unique way of entailing property right to the farmers for their traditional varieties as well as newly developed varieties, in the following manner.

Section 25 (1) Farmers' varieties and breeds are recognized and shall be protected under the rules of practice as found in, and recognized by, the customary practices and laws of the concerned local farming communities, whether such laws are written or not.

2) A variety with specific attributes identified by a community shall be granted intellectual protection through a variety certificate which does not have to meet the criteria of distinction, uniformity and stability. This variety certificate entitles the community to have the exclusive rights to multiply, cultivate, use or sell the variety, or to license its use without prejudice to the Farmers' Rights set out in this law.”

Farmers rights include, the protection of their traditional knowledge relating to plant and animal genetic resources, the right to obtain an equitable share of benefits arising from the use of plant and animal genetic resources, to participate in making decisions, including at the national level, on matters related to the conservation

²⁰ *Id.*, Section 23.

and sustainable use of plant and animal genetic resources; to save, use, exchange and sell farm-saved seed/propagating material of farmers' varieties, *to use a new breeders' variety protected under this law to develop farmers' varieties, including material obtained from genebanks or plant genetic resource centres; and to collectively save, use, multiply and process farm-saved seed of protected varieties.*

5.5 Conclusion

These two legislations show the scope of development of FR in many respects. These legislations make PIC and benefit sharing as the rights of the farmers. Apart from this, the farmers are also given property right like that of PBR for varieties of specific trait in a collective manner, and property rights over their PGR and TK. This comparison is made just to show the desperate way in which the BDA is drafted in spite of a very high level of scope for creating solid rights for farmers. These two legislations point to the fact that, by being a party to CBD can mean to have a legislation with more rights to farmers (and those who hold biological resources) than what is envisaged under the CBD. The Indian Act on the contrary has created a poor legislation out of CBD, with no rights to the indigenous people or local communities like the farmers.

However, it is not too late for India to opt for better. These legislations, and Her own experiences will definitely guide Her for further looking at BDA. So, this Chapter concludes that, due to the above mentioned problems, BDA requires a substantial revision. This revision needs restructuring the enforcement machinery, revitalizing the principles of PIC and benefit sharing into rights, to identify the farmers who conserve, preserve and develop the PGRFA and TK

(which shall be the obligation of the State), and to give them property rights of some sort over these resources.

This Chapter dealt with the second part of the central theme. The other Indian legislation that deals with the first part of the central theme called the farmers' access to the PGR of the plant breeders, and the benefit sharing fragment of the second part of the central theme is the Protection of Plant Varieties and Farmers' Rights Act, 2001. This legislation is India's *sui generis* law as per the TRIPS stipulation. So, in the next Chapter an examination of this legislation is done to find out what are the protections India has given to her farmers, as far as their access to the seed of the plant breeders is concerned. In other words, what is the nature of the farmers' right to use, save, exchange, and sell the seeds of the protected variety in the Indian legislation? Are there any additional rights given to the farmers, like property right like the PBR as in the AU model legislation? Is the benefit sharing transformed into a right, or is it only a charity or arrangement between the State and the plant breeder? These are the vital questions that are examined in the next Chapter, "Farmers' Access to the PGR of Plant Breeders, and Plant breeders' Access to the PGR and TK of the Farmers - The Protection of Plant Varieties and Farmers' Rights Act."

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**THE INDIAN SCENARIO - FARMERS' ACCESS TO THE
PGR OF THE PLANT BREEDERS AND FARMERS' RIGHTS
OVER THEIR PGR AND TK-THE PROTECTION OF PLANT
VARIETIES AND FAREMERS RIGHTS ACT**

In the previous Chapter it was seen that India's legislation made in pursuance of CBD called the BDA did not do much either to improve the position in CBD, or to develop new positions. In that Chapter it was found that when a person (non citizen) who wants access to the biological resources of India has to ask for approval from NBA for applying for any IPR, and to pay benefit sharing. But a plant breeder who is applying for PBR is not covered by the BDA. This means that, the benefit sharing arising out of the commercial utilization of a variety registered under the PPVFRA, will be covered by the same Act. PPVFRA is also India's legislation to protect the farmers' right to save, use, exchange and sell the seed. This could be said to be India's legislation which ITPGRFA mandates. Though it could be said that ITPGRFA succeeds PPVFRA, as this is the only legislation in India which talks about this right, it could be the national recognition of the right envisaged under the ITPGRFA. However, India had before her, the FAO Resolutions and the Farmers' Rights therein, and the ongoing discussions of ITPGRFA while making PPVFRA.

Thus, PPVFRA deals with one element (benefit sharing) of the second part of the central theme (plant breeders' access to the PGR and TK of the farmers), and the first part of the central theme (farmers' access to the PGR and TK of the plant breeders). However,

while discussing BDA, one question that was examined was, whether there was any recognition of the *farmers' rights over their PGR and TK*, as a part of the rights given to them while access is given to the plant breeders. The answer was negative. That means, there was no property right given to the farmers, over their PGR or TK. Hence, no independent right is recognized, as in the case of plant breeders. Thus, these rights could not be balanced. The scope of property rights for farmers arises in two places. One is over the PGR and TK which they conserved or preserved. Another is, over any new variety developed by them using natural techniques. While in the first, there is not much of a “new” intelligence element, (even conserving and preserving good quality varieties require intelligence. But, this intelligence is not new.), in the second there is a new intelligent output, which is capable of being given IPR.

Interestingly, in the PPVFRA, some attempts are made to give such property rights to the farmers' varieties. So, in this Chapter, in the central theme, the property rights aspect is also coming. This legislation is also India's *sui generis* law under TRIPS for protecting the PBR. As was discussed in the Chapter on UPOV, the UPOV is said to be the model international *sui generis* law for the protection of PBR. Almost every country which has enacted the *sui generis* law has just copied the same, due to the politics played by the UPOV. So, it is essential to examine whether the Indian legislation is also influenced, if so, to what extent? Thus it is necessary to find out the scope and extent of this right to see, how FR is framed to balance against the PBR. Hence this Chapter deals with the following aspects. 1. What is the nature and scope of PBR? 2. What are the rights given to the farmers over the PGR of the plant breeders' variety? 3. What are the

rights given to the farmers when the plant breeders are given access to their PGR and TK, and they register a variety developed out of the same (In this Act, the benefit sharing)? 4. What are the rights given to the farmers over their PGR or TK?

6.1 Nature and scope of Plant Breeders' Rights

The Preamble of the Act says: “And whereas for accelerated agricultural development in the country, it is necessary to protect plant breeders' rights to stimulate investment for research and development, both in the public and private sector, for the development of new plant varieties”. This shows that one of the objectives of the Act is to augment investment. So, it is quite obvious that the Act is going to do a lot of favours to the breeders. However, as different from the UPOV, definition of breeder in the Indian Act covers farmers as well. “Breeder means a person, or group of persons, or a farmer or group of farmers or any institution which bred, evolved or developed any variety¹”. This means that farmers are also entitled to protection of their varieties in the same manner as a new plant variety. However, the conditions required for granting certificate of registration to the farmers are different. A breeder can enjoy the rights only after fulfilling certain criteria. So in the discussion on breeders' rights, the conditions required for registration is to be briefly and critically mentioned.

For a new variety to be registered, there are four conditions to be satisfied. They are novelty, distinctness, uniformity and stability. These conditions resemble the conditions in UPOV. A variety is said to be new, “if at the date of filing of the application for

¹ PPVFRA, Section 2(c).

registration for protection, the propagating or harvested material of such variety has not been sold or otherwise disposed of by or with the consent of its breeder or his successor for the purposes of exploitation of such variety—

- (i) in India, earlier than one year, or
- (ii) Outside India in the case of trees or vines earlier than six years, or in any other case, earlier than four years; before the date of filing such application².”

Actually the influence of UPOV is very clear in all the criteria laid down in the Act. The novelty criterion unnecessarily distinguishes between an Indian breeder and a foreign breeder, by giving them a minimum of three years bonus time for filing an application. This is obviously the influence of UPOV 1991, as the wordings therein are verbatim copied in Indian Act. Likewise, the fact that the variety had become a matter of common knowledge will not affect the novelty criterion (only the sale is considered as criterion) is also the verbatim copying of UPOV. The variety is said to be distinct, if it is clearly distinguishable by atleast one characteristic from any other variety whose existence is a matter of common knowledge. However, as in the case of UPOV 1991, the entry of a variety in the official register is considered as a proof of the variety being a matter of common knowledge, though the proof through other means are not expressly excluded. But this provision does not contain situations which are beneficial to the farmers such as cultivation as a ground of proof of a variety being a matter of common knowledge, as in the UPOV 1978. Thus this criterion also is in tune with UPOV 1991, and

² *Id.*, Section 15 (3).

not UPOV 1978. The uniformity criterion expects that the variety is uniform in its essential characteristics, and the stability criterion requires the variety to retain its essential characteristics even after repeated propagation.

There are, varieties which are excluded from registration, all of which are more in tune with TRIPS relating to patent, and not UPOV. This is a good exercise India has done as this is the space used for making a *sui generis law* for India. The varieties excluded are, those, the prevention of commercial utilization of which is necessary to protect public order or public morality, or human, animal, and plant life and health or to avoid serious prejudice to environment (Article 27 (2) of TRIPS is similar in wording), any variety which involves any technology which is injurious to the life or health of plants, animals or human beings, and also those involving terminator technology or genetically use restriction.³ Also, under the Indian Act, the Central Government is given the discretion to specify the genera or species of varieties for the purpose of registration. This is more in tune with UPOV 1978, and against the UPOV 1991 which has made it compulsory that all species and genera are to be capable of being protected. (Please see discussions in chapter dealing with UPOV). This also goes to suggest that though plant breeders' rights are given a significant place, enough space is left for the farmers as well.

While all these criteria are fulfilled⁴, the plant breeder can register his variety, and on getting a certificate of registration, he (his

³ *Id.*, Section 29.

⁴ There are also other conditions regarding the denomination given to the variety on fulfillment of which only the variety will be registered. The geographical indications, the deceptive nature of the variety, chances of creating confusion in the minds of consumers,

successor, agent or licensee) gets the *exclusive right to produce, sell, market, distribute, export or import the variety*⁵. This PBR is almost like, or more than a patent right. Because in fulfilling the criteria like novelty, and distinctness, the Act requires much less degree than that is expected from a patent. As per the Act, “the fact that the variety has become a matter of common knowledge other than through ‘sale or otherwise disposed for the purpose of exploitation’ shall not affect the criteria of novelty for such variety. Thus, prior publication and prior knowledge of the variety other than by commercial exploitation is not a bar for protection. The conditions of novelty in patents include any form of prior publication and prior use other than the secret use. Even in the case of compulsory licensing provisions, the PPVFRA shows more leniency towards the breeder, than that is shown to a patent holder by the Patent Act. This is due to two reasons. One is, compulsory licensing is possible only after three years of registration. The other is, compulsory licensing is allowed to satisfy the reasonable requirement of the public by providing seeds at a reasonable price, the Act fails to define or explain the ingredients of “reasonable requirement of public”⁶. The bar on the import of a protected variety if such import infringes the rights of the breeder, is also giving the breeder an edge over the farmers, and it is to be noted that even the Patent Act has a provision for parallel import of patented products⁷.

grounds on morality, and national integrity are the main ingredients in disallowing the variety under this provision. See Section 15 (4).

⁵ *Id.*, Section 28.

⁶ N.S.Gopalakrishnan, “An “Effective” *Sui Generis* Law to Protect Plant Varieties and Farmers’ Rights in India” A Critique, 4 J.W.I.P. 157. The author argues that under the Patent Act, there is an elaborate provision dealing with what constitutes “reasonable requirement of public”, which is absent in the PPVFRA, and that its incorporation in the PPVFRA is desirable.

⁷ *Ibid.*

The nature of the right granted to the breeder is 'exclusive', indicating that others are prevented from producing, selling, marketing, distributing, exporting and importing the protected variety. As different from the rights under UPOV's, the word propagating material is not used in the context of breeders' right. The Act says that the breeders gets exclusive right to produce, sell, market, distribute, export and import the *variety*. Variety is defined thus⁸:

"Variety", means a plant grouping except micro-organism within a single botanical taxon of the lowest known rank, which can be—

- (i) defined by the expression of the characteristics resulting from a given genotype of that plant grouping;
- (ii) distinguished from any other plant grouping by expression of at least one of the said characteristics; and
- (iii) considered as a unit with regard to its suitability for being propagated, which remains unchanged after such propagation, and *includes propagating material* of such variety, extant variety, transgenic variety, farmers' variety and essentially derived variety”.

This definition makes it clear that the protection extends also to the propagating material. Thus the problems caused to the farmers because of this exclusive right as in UPOV 1991 can be present in the Indian Act as well. The traditional rights of the farmers to use, save, sow, re-sow and exchange and sell seed can be in peril because of this exclusive right. This is because, the right to sell the seed being now with the breeder, the farmers will have to buy it from him. The farmer can then sow it, and save it after harvest for further

⁸ PPVFRA, Section 2 (za).

production. So, he has the right to save seed, but he cannot use it for further production, because the plant breeders' right is not confined to production for the purpose of marketing, or offering for sale. He is however, not prevented from exchanging it with other farmers. Thus, among various traditional rights, his right to use, save, sow, and exchange remain intact even in the case of seeds of Plant breeders variety (protected variety). But as the right to reproduction is not allowed, he will be compelled to go back to the plant breeder. (He can save the seed for other consumption).

However, this is only a possibility, and a consequence arising from the granting of PBR. This restriction will not however be there, if the farmers are given special protection under this Act. To put it in UPOV language, if the country is using its option to give the farmers certain exception, the plant breeders' right will not stand in the way of the farmers. However, in UPOV, even the optional exception does not cover the right to sell. But right to sell is one of the ingredients of FR in the ITPGRFA. India is a party only to ITPGRFA. So, She has no problem to give even the right to sell seed to her farmers. So, the next analysis is, whether the Act gives exception to the farmers so that they are not affected by any of the rights of the plant breeder. This takes us to the second question that was asked in the beginning of this Chapter, that is, what are the rights of the farmers over the PGR of the plant breeders.

6.2 Farmers' Right over the PGR and TK of plant breeders (Rights of farmers during access to the PGR of plant breeders)

The Act very specifically says that the farmer “shall be deemed to be entitled to save, use, sow, resow, exchange, share or sell his farm produce including seed of a variety protected under this Act in the same manner as he was entitled before the coming into force of this Act⁹”

However, the farmer is not entitled to sell branded seed of a variety protected under the Act. This means, the farmer is exempted from the restriction arising out of the plant breeders' rights in a wider manner than that is envisaged under UPOV. This is possible for India because she is not a party to UPOV. But the recognition of this wider right is a mandate for her because she is a party to ITPGRFA. This right is to be ensured by the Protection of Plant Variety and Farmers' Rights Authority (in short, the “Authority), by making sure “that seeds of the varieties registered under this Act are available to the farmers and by providing for compulsory licensing of such varieties if the breeder of such varieties or any other person entitled to produce such variety under this Act does not arrange for production and sale of the seed¹⁰”.

Thus, through compulsory licensing and other measures as the Authority deems necessary, the seeds of the protected variety can be made available to farmers. But the way in which the compulsory licensing scheme is framed in the Act gives very little hope regarding

⁹ *Id.*, Section 39 (1) (iv).

¹⁰ *Id.*, Section 8 (e).

its achieving the purpose. Firstly because compulsory licensing is possible only after three years of registration. Secondly, the Act is not clear about what are the ‘a requirements of the public’. The Act does not oblige the Authority to compel the plant breeder to make the variety available at reasonable price. Rather, the Authority is only to find out the steps taken by the breeder to meet the requirement of the public and to assess the capability, ability and technical competence of the applicant. The provision gives the impression that the reasonable requirement is confined to the availability of the seeds in the market¹¹. The Protection of Plant Varieties and Farmers Rights Rules have also not added anything to rectify this problem¹². The similar provisions relating to patent in the Patent Act, in the case of compulsory licensing, has a detailed provision with respect to when the reasonable requirements of the public shall be deemed to be not to have been satisfied¹³. These situations are (the portions given in bracket are the suggestions for addition in the PPVFRA Act), if due to the refusal of the patent holder to grant license on reasonable terms,

(i) an existing trade or industry or the development thereof or the establishment of any new trade or industry in India or the trade or industry in India or the trade or industry of any person or class of persons trading or manufacturing in India is prejudiced; or (*the farming community is prejudiced*)

(ii) the demand for the patented article (*protected variety*) has not been met to an adequate extent or on reasonable terms; or

¹¹ *Supra n.6.*

¹² PPVFRA Rules, Rule 71.

¹³ Patents Act, Section 84 (7).

(iii) a market for export of the patented article manufactured in India is not being supplied or developed; or

(iv) the establishment or development of commercial activities of India is prejudiced.*(the traditional rights of the farmers are prejudiced)*

These conditions with changes which suit the FR in the context of PBR (as given in the bracket) if, incorporated to section 47 will make the Act work in a proper manner regarding compulsory licensing. However, even if all measures are taken to make available the seeds of protected variety available to the farmers, and thus they are to be ensured their traditional rights, in the context of new biotechnology, this right is still at stake. What are these biotechnology-generated problems regarding the use of seeds, and how far the Act has addressed this issue is the next question.

6.2.1 Farmers' Right to use and re-use the PGR of plant breeders- Problems in the context of Biotechnology

The plant breeding range from the ancient form of hybridisation, to the new genetic engineering technology which includes marker assisted selection, reverse breeding and double haploids, and genetic modification¹⁴. Regarding most of the hybrid seeds, as well as genetically engineered seeds, one thing is common, that its re-use is not simple. Since hybrid seed is obtained from crossing more than two varieties (lines), it not only involves reproducing over two varieties of parents but also preventing the

¹⁴ See http://en.wikipedia.org/wiki/Plant_breeding#Reverse_Breeding_and_Doubled_Haploids_.28DH.29,. Visited on 20-3-2011.

occurrence of impurity. Maintaining purity is the process of hybrid seed production. Therefore this technology is complicated and requires a great amount of work. Only by understanding each technical link in seed production and hybrid seed production can the standard hybrid seed be produced with the expected economic result¹⁵.

When new plant breeds or cultivars are bred, they must be maintained and propagated. Some plants are propagated by asexual means while others are propagated by seeds. Seed propagated cultivars require specific control over seed source and production procedures to maintain the integrity of the plant breeds results. Isolation is necessary to prevent cross contamination with related plants or the mixing of seeds after harvesting. Isolation is normally accomplished by planting distance. But in certain crops, plants are enclosed in greenhouses or cages (most commonly used when producing F1 hybrids.) This means that the seeds of these varieties cannot be simply used, without the help of the breeders. There are other technologies which create seedless fruits, such as parthenocarpy¹⁶ (which means the development of a flower into fruit without fertilization), cytoplasmic male sterility (CMS)¹⁷ the propagating material of which is not at all available with the farm

¹⁵ Amarjit S. Basra, *Heterosis and hybrid seed propagation in agronomic crops*, available at www.books.google.co.in.

¹⁶ Fruits that develop parthenocarpically are typically seedless. Some seedless fruits come from sterile triploid plants, with three sets of chromosomes rather than two. The triploid seeds are obtained by crossing a fertile tetraploid (4n) plant with a diploid (2n) plant. When one buys seedless watermelon seeds, one gets two kinds of seeds, one for the fertile diploid plant and one for the sterile triploid. The triploid seeds are larger, and both types of seeds are planted in the same vicinity. Male flowers of the diploid plant provide the pollen which pollinates (but does not fertilize) the sterile triploid plant. The act of pollination induces fruit development without fertilization, thus the triploid watermelon fruits develop parthenocarpically and are seedless. Another common available fruit thus produced is banana.

¹⁷ This is a maternally inherited trait that makes the plant produce sterile pollen. However, this technology is used with the intention of reducing the labour cost of removing pollen from the plant to avoid natural pollination.

produce. These types of technologies have changed the very nature of the right to use, sow, re-sow, and exchange seed, as there is no seed at all.

However, for the plant breeders there are justifications for resorting to such techniques. This seedlessness will help in ensuring the stability, by avoiding further natural pollination. In the case of CMS, in maize, for example, the pollen produced is sterile, which enables the production of hybrids without labour intensive detasseling¹⁸, which is a pollination control method. Thus, the Act has to balance the traditional rights of the farmers, as well as the plant breeders. In order to achieve this, the Act has put restriction on genetically use restriction technology and terminator technology.

Section 29 (3) reads: “... no variety of any genera or species which involves any technology including which is injurious to the life or health of human beings, animals or plants shall be registered under this Act.”

Explanation—For the purpose of this sub-section; the expression any "technology" includes genetically use restriction technology and terminator technology”

Also, every application for registration has to be accompanied by an affidavit sworn by the applicant that such variety does not contain any gene or gene sequence involving terminator technology¹⁹.

¹⁸ Detasseling corn is removing the pollen-producing flowers, the tassel, from the tops of corn(maize) plants and placing them on the ground. It is a form of pollination control, employed to cross-breed, or hybridize, two varieties of corn. Available at <http://en.wikipedia.org/wiki/Detasseling> .

¹⁹ PPVFRA, Section 18 (1) (c).

These two sections read together is capable of creating a confusion as to whether only terminator or other technologies which are injurious to life or health of human being, animals or plant, are forbidden, or genetically use restriction technologies and terminator technology as such are forbidden. If the former is the case, terminator and other genetically use restriction technologies are allowed, provided they are not injurious to the life or health of human beings, animals or plant. If the latter is the case, irrespective of whether the technology is health hazardous or not, it is forbidden. From the farmers' point of view, the first position will be fatal. This is because, terminator technology which is a kind of genetic (our Act has used the word genetically, which is used as genetic in the authoritative literature) use restriction technology (GURT) (the Act has distinguished both using "and". However, terminator technology is only a subset of GURT) makes the seed incapable of being germinated from its second generation onwards.(there are two types of GURT- the variety use restriction called the V-GURT s, and the use restriction of a specific trait called T-GURTs. The V-GURT is otherwise called the terminator technology.)

In the terminator technology or V-GURT, when the first generation seeds mature, these seeds will be exposed to certain chemical (tetracycline) and sold in the market to the farmers. As a result, of certain reactions²⁰, the seed germinates promptly to produce

²⁰ The repressor protein being produced by the third gene, becomes inactive in the presence of tetracycline and cannot bind on the repressible promoter site. This recombinase gene will become active on the second strip of DNA. The recombinase promptly removes the excision and blocking sequences from the first gene construct. At this stage LEA promoter is in direct contact with the lethal gene. Bu the lethal gene is not expressed, because the promoter has been choosen to be active only at a particular stage of seed development in late embryonic stage. As a result the seed germinates promptly to produce health second generation plant in the farmers' field. When the second generation plant starts producing

healthy second generation plants in the farmers' field. However, the seed produced by this second generation plants will be infertile, which can be used as food but will not germinate if planted for growing further. In T-GURTs, the seeds require external application of inducers to active the traits expression. T-GURT refers to the set of technologies, that by using an external trigger makes it possible to *switch on and off specific characteristics of a plant, such as resistance to disease.*

Thus, these technologies in fact help the seed companies to have a limitless property right, by forcing the farmers to use high level of fertilizers and chemicals, and to always go back to the plant breeder or the seed companies. It is a fact that public sector can also breed plants, and can be a threat to the private seed companies. However, due to the change in the trade relationships caused by trade liberalization, the public sector is slowly vanishing from the seed sector in India. Prior to the late 1980s, plant breeding in India was largely the preserve of the public sector. The seed sector was governed by a regulatory framework that prohibited the entry of large foreign and domestic firms, and inhibited private sector research and development²¹. (During the 1980s, for example, major international

seeds, in the late embryonic stage, the LEA promoter becomes active and produces a large amount of ribosome inactivating proteins, which in turn inactivates the protein synthenergy nature of cells ie, ribosome. This results in the production of infertile second generation seeds.

For details see, Ricardo Melendez-ortiz, Pedro Roffe, *Intellectual Property and Sustainable Development, Development Agendas in a changing World*. Available at www.google.books.co.in.

²¹ A series of policy changes occurred during the late 1980s and early 1990s to facilitate the development of breeding programmes in the private sector, shift the relative magnitude of public and private sector plant breeding, and ultimately help alter the climate of opinion on PBRs. In 1986 the public sector began to provide private seed companies with breeder seed, which enabled the latter to establish their own germplasm collections. In 1987 the Industrial Policy was modified to allow large Indian and multinational companies (MNC) to invest in the production of hybrid seeds and agricultural biotechnology. Liberalisation in the

agro-chemical companies (such as Monsanto, Unilever, and ICI) established plant breeding programmes in an effort to integrate the development of agricultural technology into their operations. Industry concentration in India has been affected by mergers and acquisitions that have occurred internationally. Most notably, Monsanto's purchase of DeKalb and Cargill in 1998 resulted in further concentration within India's private sector, as the Indian subsidiaries of the latter two companies became part of Monsanto's Indian operation. Monsanto has since also purchased a 26 percent share in MAHYCO, a leading Indian seed company.) This shows how the seed companies can monopolise the seed industry and make farmers depend on them totally, if GURT are used in the protected seeds.

So, it is very important to answer the question whether GURTs are *per se* prohibited in the Act. The reading of the provision relating to the filling of application form makes no distinction between terminator technology and GURTs which are injurious to human,

industrial sector was followed in 1988 by liberalisation in the seeds sector, through the New Seed Policy. This policy allowed the import of coarse cereals, oilseeds and pulses for a period of two years by companies collaborating in seed production with foreign firms; the policy obliged the foreign collaborators to provide parental-line seeds to Indian companies within this two-year window. In this sense, the New Seed Policy further encouraged the development of germplasm lines in the private sector for a limited range of crops. Notably, however, wheat and paddy were excluded because of the dominance of the public sector in this area. Of broader significance was the programme of economic liberalisation that India undertook in 1991. The upshot of this policy shift was to further facilitate the development of breeding programmes in the private sector, and loosen restrictions on the activities of foreign firms and multinationals by abolishing licensing in the seeds sector, giving automatic approval to foreign technology agreements, and to Indian subsidiaries with upto 51 percent foreign equity. The introduction of these policies facilitated the growth of the private sector plant breeding. This growth was constituted by the emergence of large Indian companies; increased collaboration between Indian and foreign companies; and the entrance of subsidiaries of MNCs in the Indian market. Concomitant with the growth of private industry in India through liberalisation, was a global trend toward consolidation of agro-chemical and seed companies among large firms. Shaila Seshia, "Plant Variety Protection and Farmers Rights in India: Law making and cultivation of varietal control". Available at <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan021315.pdf>. Visited on 01-01-2011.

plant or animal life or health. But the main provision seems to make such a distinction due to the vague language it has used²². However, it is still possible if the interpretation goes like this.

No variety of any genera or species which involves any technology including which is injurious to the life or health of human beings.. shall be registered. Any technology includes GURTs and terminator technology. Reading these two together becomes, “no variety of any genera or species which involves GURTs, and terminator technology, or any other technology, including which is injurious to life or health of human being, plant and animals shall be registered”. This interpretation takes the position that, all GURTs (and terminator technology, as is given in the Act) and other technologies, which are injurious to human, animal and plant health and life are excluded from being registered. However, it is better to make the ban on GURTs clear in the Act.

It is for the protection of agro diversity, as well as the interests of the farmers, as the varieties used with the help of GURTs tend to destroy the diversity, and the fertility of the soil since the farmers are then forced to use chemical fertilizers and herbicides to adapt to the protected seeds. The provision will have to be rewritten as Section 29 (3): “ ...no variety of any genera or species *which involves genetic use restriction technologies such as terminator technology, and technologies which* are injurious to the life or health of human beings, plants or animals shall be registered under this Act”. Correspondingly section 14 shall also be amended as “ Every application for registration has to be accompanied by an affidavit

²² See *supra* n.6, p. 161.

sworn by the applicant that such variety does not contain any gene or gene sequence involving genetic use restriction technologies such as terminator technology”²³.

However the problems caused by biotechnology cannot be solved by banning varieties which use GURTs alone. As was mentioned earlier, the technology of parthenocrapy, and CMS which produces seedless products, or sterile seeds, and other seeds which requires further processing before use are not always using GURTs. These seeds are not prevented from being registered under the Act. The plant breeders have a reasonable justification for creating many varieties with restriction on further use, which are connected with the uniformity and stability of the variety. However, if any technology which has the effect of restricting further use is banned, it is going to be against the plant breeders’ interest. In fact, they sell their seeds to the farmers, who are their major consumers. If the farmer need not come back to the breeder at all after one purchase of seeds, and he starts producing the seed with the special trait himself, and exchanges them with other farmers, the plant breeders’ return for his invest for the breeding becomes meager.

Here we find the major tension between the farmers’ rights, and the PBR. In fact, one of the major concerns of UPOV²⁴ is also that, unless certain technologies are used to prevent the further use of the seed by the farmers, the plant breeders rights will be of no use. In the Indian context, as one of the objectives of the Act is to encourage foreign investment in the field of plant breeding, total restrictions on

²³ PPVFRA, Section 18 (1) (c).

²⁴ WIPO/IP/BIS/GE/03/11. For the document see http://www.wipo.int/edocs/mdocs/sme/en/wipo_ip_bis_ge_03/wipo_ip_bis_ge_03_11-main1.pdf. Visited on 08-07-2010.

all types of varieties using some technologies to force the farmer to fall back on the breeder will not be easy to incorporate. So, apart from the GURTs, varieties using all other technologies which have the effect of depriving the farmers of their right to save, re-use, and exchange seed (he can use it as the law allows it) will continue to be registered under the Act, resulting in the monopolization of the seeds.

6.2.2 An extension of the traditional right in the context of modern biotechnology

However, a very unique right is recognized in this Act, to ensure the farmers' right to *use* the seed, which if enforced properly can check the technology related problems. This right is²⁵,

“Where any propagating material of a variety registered under this Act has been sold to a farmer or a group of farmers or any organization of farmers, the breeder of such variety shall disclose to the farmer or the group of farmers or the organization of farmers, as the case may be, the expected performance under given conditions, and if such propagating material fails to provide such performance under such given conditions, the farmer or the group of farmers or the organization of farmers, as the case may be, may claim compensation in the prescribed manner before the Authority and the Authority, after giving notice to the breeder of the variety and after providing him an opportunity and after providing him an opportunity to file opposition in the prescribed manner and after hearing the parties, may direct the breeder of the variety to pay such compensation as it deems fit, to the farmer or the group of farmers or the organization of farmers, as the case may be”

²⁵ PPVFRA, Section 39 (2).

Though this provision looks like a savior provision in the context the hidden ditches of biotechnology, there are certain shortcomings in its content, which thus stand in the way of its proper implementation. Firstly, the breeder is to give the “expected performance under given conditions”. Given conditions may be, usage of pesticides, chemical fertilizers, herbicides or any other factor, depending upon the type of new variety. Expected performance can be only the expected performance of the propagating material for once.

This means, if the performance is not there when the propagating material is sown next time, it is not in violation of this provision. For example, the breeder gives the guarantee that the variety is high yielding, or that it is pest resistant, if a particular pesticide and a chemical fertilizer are used. The farmers get high yielding, or a pest resistant variety in that harvest. But if the next generation seeds require further processing before being sown, can it be said that the breeder did not observe the guarantee he gave? Why can't the breeder take the defence that given condition includes further processing by the breeder before sowing it further? Also, even if the breeder sells a branded seed, and all these conditions are printed on the cover, and sold to the farmers, even if the information contains the fact that the seed requires further processing before re-use, can the farmers be expected to read it, or to understand the full implications, or even the very content of it? Here, while the farmer is a loser, the breeder makes himself safe. Perhaps, only if the propagating material did not germinate at all, or did not give the claimed result, that this section is attracted. Thus, the major problem with technology, which

helps the breeder and that harms the farmer is not going to be solved by this right, especially in the case of illiterate farmers in India.

Also, even if there is a failure on the part of the breeder in the guarantee he gave, the remedy is again to trouble the farmer, or group of farmers. The farmer is supposed to make a claim for compensation before the Authority. The farmer is to fight against the breeder as if they are equal. In this battle, it will be easy for the breeder to establish his defence, as he must have taken adequate care even before selling, the propagating material thanks to the legal knowledge and consultation he makes. Under these circumstances, it is doubtful whether the farmers will ever know of their rights, or even if they know, whether they will think of fighting their case. The only hope may be that NGOs, or Organisation of farmers will take the matter in its right course. But, that can only be an expectation. The State cannot leave the matter like that, as the State has the primary responsibility to protect the farmers' rights as against the plant breeders' rights even as per the ITPGRFA, let alone, the Constitution of India.

Another grave problem here is, what if the breeder gives a guarantee, and when on its failure, compensation is awarded, refuses to pay the amount? The Act is silent about it. Instead of making the farmers fight their cause, it is better to make the breeder more vigilant in respecting the rights of the farmers. The breeders should be given the message that non-observance of the rights of the farmers will have very serious consequences. This is possible only if the registration of the variety is cancelled, on non-payment of the compensation. The compensation should not be confined to monetary payment. There

should be a fresh supply of propagating materials free of cost, which are in tune with the guarantee given. Also, the supply of propagating materials should be supplied to the farmers only through the local bodies like Panchayath or Municipalities. The breeder must give the necessary information and guarantees only in the presence of the responsible officers of the local bodies. These officers should ensure that the farmers really got all the implications of the details relating to the propagating material. If the farmers are purchasing branded seeds, that should also be only through the local bodies, the officers there explaining to them the rights they have in this regard.

Another problem in this right is, the section is silent about the potential threat to the fertility of the soil on the use of the genetically modified crops, or hybrid variety, as most of them requires high amount of chemical fertilizers. It is a fact that, the aftermath of green revolution which compelled the farmers to use high quantity of chemical fertilizers in order to get desired result, is that, the soil started to be sterile. If, on use of a particular variety, the fertility of the soil is lost, can this right be used to claim compensation? This is not possible, as this section only deals with the liability of the breeder to guarantee the expected performance under given conditions. So, as long as the seeds give the expected performance, losing the fertility of the soil may be too remote a failure of the guarantee. But, it is a fact that the farmers lose their very plot, and the capacity to farm, due to the usage of a variety. He is without any solution even if this provision is there. Legislations like Seeds Act, and the Order under the Environment Protection Act for regulation of Genetically Modified Organisms, the Plant Quarantine Order, and Revised Guidelines for Research in Transgenic Plants, and Guidelines for Toxicity and

Allergenicity Evaluation of Transgenic Seeds, Plants and Plant Parts are all helpful only in checking the environmental hazards that may be caused by the usage of particular seed, or GMOs. Even those cannot completely guarantee that on real application, they are all safe. Apart from that, if the problem is due to the overuse of fertilizers and pesticides, these legislations, and other measures will be of lesser or no use.

All these problems are caused due to only one reason, that the farmers start depending on the breeders, for high yielding, or other varieties having other qualities, which are not normally occurring in nature. *This dependence is not caused by any legislation, or the plant breeders' rights.* The farmers are still free to use, re-use, save and exchange the seeds developed by them newly, or traditionally. So, the independence of farmers is the only permanent solution to the problems caused to their traditional rights due to the plant breeders right, in the context of new biotechnology. He must be equally producing high yielding, or other varieties with specific traits such as tolerance to salinity, drought, pest, or other ecological challenges. In other words, farmers should also have property rights as breeders. This takes to the need to give property to the farmers in two ways. One, right over the newly developed varieties, and the other, right over the varieties which they conserved and preserved. The former can be undoubtedly a PBR, and the latter can be a special IPR. Fortunately the Indian Act recognizes (rather tried to) both these. But, regarding the right of the farmers over the PGR or TK which they preserved and conserved (matter of common knowledge, or that are commonly used), it is unfortunate that the Act could not do much due to the utter confusion it created. So, the forthcoming discussion is on

the property rights of the farmers over their PGR and TK recognized by the PVFRA.

6.3 Farmers' Rights over their PGR and TK

6.3.1 Property Rights as breeder of new variety (New Farmers' variety)

Though the initial intention of the Indian Parliament was to protect only the rights of the modern breeders, due to the intervention of the NGO's, FR also found a place in the Act. But, while incorporating the farmers' rights, and definition of farmers' rights, no substantial change to other provisions were made, which resulted in a complete chaos in matters relating to farmers' rights. This anomaly is present throughout the Act, and in the absence of substantial correction of all these, the Act will remain futile as far as farmers are concerned. This is evident from the forthcoming discussions.

The farmer can be considered as a breeder in two capacities. One is as an individual breeder who developed a new variety in a traditional way. The other can be, when a farmer, or group of farmers commonly possess knowledge and keeps a wild variety, which is used by all for many years. In fact, the Act recognizes both. The farmer as a breeder recognized and is made clear from the definition of breeder. Breeder is "a person or group of persons or a farmer or group of farmers or any institution which has bred, evolved or developed any variety"²⁶ The Act specifies that 'a farmer who has bred or developed a new variety shall be entitled for registration and other protection in like manner as a breeder of a variety under this

²⁶ PPVFRA, Section 2 (c).

Act²⁷. This means that the farmer is also getting an exclusive right to produce, sell, market, distribute, export and import the variety bred by him. The certificate of registration is valid for maximum of 15 years in the case of new farmers' variety²⁸, which means he will have this exclusive right for 15 years from the date of registration. (as there is already another variety which is called farmers variety, new farmers' variety is used to denote the farmer as a breeder of a new variety). This is recognition of his intellectual property rights over the plant genetic resources and the traditional knowledge which he/they developed or possessed, just like the PBRs over the new variety and the associated modern knowledge.

6.3.2 Property Rights over the traditional PGR and TK (Farmers' Variety) - Problems in enforcement and enjoyment

The commonly developed traditional variety and traditional knowledge associated with that, (the second type mentioned above), is recognized as "farmers variety". Farmers' variety is a variety "which—(i) has been traditionally cultivated and evolved by the farmers in their fields; or (ii) is a wild relative or land race (means primitive cultivar that was grown by ancient farmers and their successors) of a variety about which the farmers possess the common knowledge²⁹". The definition shows that this is a collective right. Apart from this, there is another definition for farmers' variety. This is as part of the definition of extant variety (extant means, still standing or existing) which is "a variety available in India which is—

²⁷ *Id.*, Section 39 (1) (a).

²⁸ *Id.*, Section 24 (6).

²⁹ *Id.*, Section 2 (k).

- (i) notified under section 5 of the Seeds Act, 1966 (54 of 1966);
or
- (ii) farmers' variety; or
- (iii) a variety about which there is common knowledge; or
- (iii) any other variety which is in public domain³⁰.”

So, there is a possibility of the farmers' variety being protected as an extant variety as well as a farmers' variety independently. It is a disturbing thing to note that the word 'common knowledge' appears in the context of extant variety, and in the context of farmers' variety. While in the latter, it is a variety about which there is common knowledge, in the latter, it is wild relative of a variety about which the farmers possess the common knowledge. Actually, if about a variety there is common knowledge, and it is traditionally bred and evolved by the farmers, it is eligible for registration both as an extant variety as well as farmers' variety. This will create a situation where any person other than a farmer who has a common knowledge about a farmers' variety may go for a registration of the variety as an extant variety. A perusal of the applications submitted for registration of extant variety of common knowledge reveals that no criterion is adopted to find out whether this is a variety about which farmers also possess common knowledge³¹. The reason

³⁰ *Id.*, Section 2(j).

³¹ For example, see an application form which is accepted by the Authority for registration for a variety of rice.

Applicant : Syngenta India Limited **Address of the Applicant** : Seeds Division, 1170/27 Revenue Colony, Shvajanagar, Pune-411005, Maharashtra **Nationality of Applicant** : Indian

Application details a. Number : **b.** Date of receipt : 21.07.2009 **c.** Date of acceptance : 07.01.2010 **Crop (Taxonomical Lineage)** : Rice (*Oryza sativa* L.) **Denomination** : SYN-RI-5017 **Type of Variety** : Extant (variety of common knowledge) **Classification of Variety** : Hybrid **Previously Proposed** : Not applicable **Denomination Name of Parental**

may be that after accepting the application, notice is given to the public inviting objections, if any to the registration of the application. Perhaps the Act expects farmers who possess common knowledge to come and challenge the same. So, one will have to wait and see how far the traditional farmers are going to react to the public notice given in the gazette and in the Plant Variety Journal. In the Indian farmers' social and educational context, unless there are NGOs or other organizations or persons who work for the interest of the traditional farmers, this safeguard will not work.

Now let us examine the right which a traditional farmer who bred a new variety, and the rights which the farmers traditionally, and collectively developed, and is commonly used for many years (rather, the rights of the indigenous people over the plant genetic resources and traditional knowledge, in the language of CBD).

Regarding the rights of the farmer of a new farmers' variety, the Act does not make any distinction between a modern plant breeder and a traditional farmer who bred a new variety in the traditional manner. This is evident from the section which deals with farmers' rights which says 'a farmer who has bred or developed a new

Material : IR58025A x RC5054R **Name of Reference Varieties :** PHB 71 & IR 64
Variety Description: OS39 E16

A. Group Characteristics	Remarks, measured values, example varieties, etc.
Basal Leaf: Sheath colour	Green [Rasi, Heera]
Time of heading: (50% of plants with panicles)	Medium [Vikas, Triguna]
Stem: Length (excluding panicle: excluding floating rice)	Very short [Heera] Available at http://www.plantauthority.gov.in/pdf/pvj_mar_02.pdf
Decorticated grain: Length	Long [Ratna, Triguna]

variety shall be entitled for registration and other protection in like manner as a breeder of a variety under this Act’.

It is to be noted here that, in the initial Protection of Plant Varieties Bill, extant variety included only those varieties which were notified under the Seeds Act, and the entire structure of the Act was based on this definition of extant variety. While farmers’ variety and two other varieties were included, the Act has not gone for corresponding changes in the relevant provisions. This has caused serious dilution in implementing the rights of the farmer relating to the farmers’ variety. These problems can be highlighted as follows.

For a farmer who bred a new farmers variety, he will have to file an application for registration just as any modern plant breeder files, giving all the denominations and descriptions in the scientific manner, and on getting a certificate of registration, he gets exclusive right to sell, market, distribute, export and import the variety, for fifteen years. However, this has nothing to do with the rights of a traditional farmer, who conserves, or preserves a variety, or who holds a traditional knowledge, about whom we are worried. To what extent his rights are recognized, so as to prevent the plant breeders from taking away the plant genetic material or the traditional knowledge, without respecting the farmer. Let us examine how and in what manner a traditional variety which is developed and evolved by the farmers, and about which there is common knowledge among the farmers is to be registered under the Act, and what are the rights the holder of the certificate of registration is going to enjoy.

6.3.3 Existing Farmers' Variety- Registration and rights - Problems due to overlapping definition of extant variety and Farmers' variety

The farmers' variety is a variety which is traditionally bred, evolved or developed by the farmers in their fields, or the wild relative or a land race of variety about which there is common knowledge among the farmers. This is standing as a separate variety. At the same time, as was mentioned above, it also forms part of extant variety, where it is not defined. So, for a traditional variety, instead of looking it as an extant variety, it will have to be independently looked as a farmers' variety. Section 14 specifies that application for registration can be made with respect to varieties which are notified (new varieties), an extant variety and farmers' variety. This makes clear that the Act, though on the one hand has counted farmers' variety as an extant variety, considers farmers variety as an independent variety when it comes to the application of registration, and thus for all practical purposes.

Now, section 15 talks about the criteria for registration of new varieties and extant varieties alone (14 1(a) varieties 14 (1) (b) varieties), and not about the farmers' variety. The criteria of novelty, distinctiveness, uniformity and stability, for new varieties and extant varieties are to be different and will have to be specified in regulations. This gives the flexibility to avoid technicalities and scientific aspects and other cumbersome procedures involved in the modern plant breeding, while registering the extant variety. However, the question now is, if a farmer or group of farmers is to register their traditional variety, which they conserve since long time (not a farmer breeding a new variety using the traditional methods), which section is

applicable to them? If an argument is put forward that, as farmers' variety is also a kind of an extant variety, the farmers can follow the criteria laid down for extant variety, a counter argument is possible and it is that, as extant variety and farmers variety are treated differently in section 14, for the purpose of registration, farmers variety stands as an independent variety. Then, where will this variety fit in the Act? The only place to fix it is in the definition of the term variety which says,

“variety” means a plant grouping except micro organism within a single botanical taxon of the lowest known rank, which can be -

- (i) defined by the expression of the characteristics resulting from a given genotype of that plant grouping;
- (ii) distinguished from any other plant grouping by expression of at least one of the said characteristics; and
- (iii) considered as a unit with regard to its suitability for being propagated, which remains unchanged after such propagation, and includes propagating material of such variety, extant variety, transgenic variety, *farmers' variety* and essentially derived variety³².” (emphasis added)

This definition of variety can be interpreted as including farmers' variety, as variety includes the propagating material of farmers' variety. As for extant and essential derived varieties, there are different provisions, which lay down criteria for registration. So, though they are also considered as variety, they are not covered by the definition of general variety. Farmers' variety, not being included in

³² *Id.*, Section 2(za).

the context of fixing criteria, it will have to be considered only as a part of general variety, which will be the same as that is laid down for the new varieties and the new farmers' varieties. This, in result equates the traditionally bred variety, with modern variety. So, all the scientific and laboratory descriptions of the variety will have to be given by the traditional farmer, for the variety which is known to all, but whose genetic information is not known to them. Thus, this scope for interpretation like this leads to the situation of farmer or farmers never becoming in a position even to fill the application. Also, the traditional farmer, if thus somehow registers his variety, he is only going to get the 'exclusive right' to sell, market, distribute, export and import the variety(!) for 15 years.

The words 'exclusive', "sell, market, distribute, export and import" are all alien and unsuitable to a traditional farmers' variety. This variety was commonly used by all. And among the farmers, they were having the common knowledge, and common use. Excluding others from using it is like fencing the sea. Also, such farmers do not sell, distribute, market, export or import the variety. This suits only the modern breeder. So, in a nut shell, there is an inherent problem in the Act which led to this type of an interpretation, as the intention of the legislation cannot be to prevent the farmers from registering traditional varieties, nor to put them at par with modern plant breeders. Had it been so, there was no need of separate definition for farmers' variety. It is very clear from some of the provisions of the Act that it does not want any description of the variety from the farmer at all, while applying for registration.

Though section 18 lays down so many technical requirements to be followed for registration purpose (such as statement of denomination, details of passport data, brief description of the variety bringing out the criteria of novelty, distinctiveness, uniformity and stability), these are not applicable to the farmer. So, even if the farmer is treated at par with the modern breeder as per the above discussion, he is exempted from these technicalities. The farmer is required only to give a declaration to the effect that the genetic material or parental material acquired for the breeding, evolving or developing the variety has been lawfully acquired³³. But there are grave anomalies in these provisions, which is clear from the very first reading of these two provisions. The provisions are reproduced below.

Section 18:

- (1) Every application for registration under section 14 shall –
- (a) be with respect to a variety;
 - (b) state the denomination assigned to such variety by the applicant;
 - (c) be accompanied by an affidavit sworn by the applicant that such variety does not contain any gene or gene sequence involving terminator technology;
 - (d) be in such form as may be specified by regulations;
 - (e) contain a complete passport data of the parental lines from which the variety has been derived along with the geographical location in India from where the genetic

³³ PPVFRA, Section 39 (1) (ii).

material has been taken and all such information relating to the contribution, if any, of any farmer, village community, institution or organization in breeding, evolving or developing the variety;

- (f) be accompanied by a statement containing a brief description of the variety bringing out its characteristics of novelty, distinctiveness, uniformity and stability as required for registration;
- (g) be accompanied by such fees as may be prescribed;
- (h) *contain a declaration that the genetic material or parental material acquired for breeding, evolving or developing the variety has been lawfully acquired; and*
- (i) be accompanied by such other particulars as may be prescribed :

Provided that in case where the application is for the registration of farmers' variety, *nothing contained in clauses (b) to (i) shall apply in respect of the application* and the application shall be in such form as may be prescribed. (emphasis added).

Section 39 (1): Notwithstanding anything contained in the Act,

- (ii) the farmers' variety shall be entitled for registration if the application contains declaration as specified in *clause (h) of sub-section (1) of section 18*.

There are two problems here. One is, though section 18 exempts all the requirements contained therein (from sub clause (b) to (i)), section 39 does not exempt the requirement of sub clause (h).

This is contradictory. The proviso to section 18 must have been worded as, “provided thatnothing contained in clauses (b) to (i) except clause (h) shall apply in respect of...”

Though the technical difficulty could be removed by this amendment, there is an essential problem with respect to clause (h). Clause (h) declaration is to the effect that the genetic material or parental material acquired for breeding, evolving or developing the variety has been lawfully acquired. This clause is to ensure that the plant genetic resources held by the indigenous or local community including the traditional farmers are acquired observing the principles relating to access to plant genetic resource such as seeking of prior informed consent, and payment of share of the benefit, as is laid down in the BDA. This declaration is however not necessary in the case of traditional farmers due to the obvious reason that, the farmers’ variety are not developed using the genetic material or parental material developed by somebody else. So, instead of rewording the proviso to section 18, it is better to delete 39 (ii).

However, this anomaly does not seem to have encroached into the PPVFR Regulations which prescribed the form of application for registration of varieties, including farmers’ variety. There, if the applicant is a farmer, community of farmers, or group of farmers, the application need to be submitted with an endorsement in Annexure 1 (Annexure II in the case of essentially derived variety)³⁴ either by the

³⁴ Annexure 1 is for registration of farmers’ variety, and Annexure II for registration of essential derived varieties. The essential part of the Annexure is given below.

“3a. (Applicable to individual farmer applicant)

I hereby declare that I have been a permanent cultivator since last many years in the village falling under the local body/Panchayat

concerned Panchayat Biodiversity Management Committee, or District Agricultural Officer, or Director of Research of concerned State Agricultural University or District Tribal Development Officer. This declaration is only to the effect that the farmer/group of farmers/community of farmers is/are permanent cultivator/s since last many years and that he/they is/are the initial and exclusive developers and conservers of the candidate variety. In the case of group or farmers or community of farmers, some persons are authorized to do the needful for registration of the variety.

in the District of..... State and that I and my family are the initial and exclusive developers and conservers of the candidate variety denominated as., under the kind..... (Common name of crop) to the botanical species

3b. (Applicable to group/community of farmers applicant)

We hereby declare that we have been the permanent cultivators since last many years in the village(s) falling under the local body/ Panchayat(s) in theDistrict(s) of.State(s) and that we are the initial and exclusive developers and continuous conservers of the candidate variety denominated as under the kind. (Common name of crop) belonging to the botanical species..... We on behalf of our group/community hereby authorise..... s/o..... (Name), who is a member of our group/community and permanent resident of (Complete postal address) to do the needful and be the signatory on our behalf for the limited purpose of securing registration of the candidate variety in our favour under Protection of Plant Varieties & Farmers' Rights Act, 2001.

Dated.....

Place.....

Signature and Name of the Farmer or
Authorised person of Group/Community

(To be signed before the endorsing official)

It is hereby certified that the above said candidate variety is bred / developed and continuously conserved and cultivated only by the applicant farmer / group of farmers / community of farmers who is / are permanent residents of above said village(s) and I am fully conversant with the applicant farmer / group or community of farmers and that the candidate variety is due to their efforts (strike out unwanted words given as options).

Signature

Name

Dated

Place

(Chairperson / Secretary of Concerned Biodiversity Board...)

Available at <http://www.plantauthority.gov.in/pdf/Indgazette.pdf>. visited on 01-05-2011.

This means, that the application for registration of a farmers' variety is not touted by the technicalities, and the only thing that is needed is to give the declaration to the effect that they are the initial and exclusive developers of the variety. This fact however has to be verified by the Panchayat Bio diversity Management Committee, District Agricultural Officer, Director of Research, State Agricultural Universities, or the concerned District Tribal Office. Thus, the grass root level authorities are expected to document or atleast to know the farmers' varieties existing within their jurisdiction. Thus, the State authorities are given the responsibility to identify and ensure that farmers' varieties are registered. The farmer is also exempted from paying any fee in relation to the registration of varieties.

These provisions indicate that farmers' variety is considered as a separate category with special considerations for all purposes in the Act. Even though a confusion is created by treating farmers' variety as a separate variety from extant variety, and laying down criteria of DUS only for extant variety, not much harm is seen when the actual working of the Act comes into play. The actual working of the Act is through rules and regulations. The rules and regulations do not consider farmers' variety as a separate variety, but as a part of the extant variety. But, even the rules and regulations use these two terms separately, as if they are different categories.

The Protection of Plant Variety and Farmers Act Regulations 2006 has laid down criteria for varieties about which there is common knowledge, and farmers' variety³⁵. In effect, this is a regulation for extant variety, as both these are part of extant variety.

³⁵ Notification no, G.S.R.452(E), Gazette No. 376, dated 30-06-2009.Part II-section 3,subsection(ii).

As per this regulation, the farmer is required to deposit half quantity of the seed in five equal numbers of packets for conducting field test, and for depositing in the gene bank. Distinctiveness is to be determined by conducting field test in test centres. Distinctiveness from other variety is to be found out by planting the varieties in paired row test. It shall be a replicated trial which will be conducted for one season at two locations for the limited purpose of confirming the distinctiveness. The length of the row, plant population, and the descriptors for the replicated trial are to be specified in the Plant Variety Journal.

In order to find out the uniformity criteria, the number of off-types are not to exceed double the number of off-types which are specified in the journal. A plant is an off-type when it does not conform to the distinctive characteristics of the variety under consideration³⁶. Usually, for new varieties, the number of off-types allowed are given in a table. In vegetative propagated or fully self-pollinated varieties, the number of off-types must not exceed the numbers given in the table. For example in the case of this table in tomato³⁷ if the comparative growing trial contained between six and 35 plants of the new variety and more than one plant did not conform to the distinctive characteristics, the variety would be considered as

³⁶ “Plant Breeders’ Rights, DUS criteria”, Available at <http://www.ipaustralia.gov.au/pbr/dus.shtml> . Visited on 03-04-2011.

³⁷ . Table showing the number of off types allowed in tomato

Number of plants or plant parts measured	Maximum Number of Off-Types
5	0
6-35	1
36-82	2
83-137	3

Ibid.

lacking uniformity and therefore could not be registered under PBR. For partially self-pollinated varieties the allowable number of off-types is doubled³⁸. Uniformity in cross pollinated varieties is usually assessed using the relative variance method³⁹. Where a characteristic is visually assessed, the new variety is considered uniform if the number of off-types is the same as, or less than, the number found in other known varieties.

From these different types of methods available for finding out the uniformity criteria, in the Regulation, it is found that the farmers' variety is required to have the same uniformity criterion as is required in the case of partially self-pollinated varieties. But, farmers' varieties need not necessarily be partially self-pollinating. They can also be self-pollinating, and cross-pollinating. So the flexibility in using different criteria for different types of plants with different types of pollination is not available with the farmers' variety. This can adversely affect the establishment of uniformity criterion of the farmers' variety. This means that, over a period of time, the Act will have to develop new methods for finding out uniformity criterion.

However, the overlapping caused due to the definition of extant variety and farmers' variety still continues even in the issuance of this Notifications and Regulations. The Regulation is said to have made in exercise of power conferred by section 95 (2) (c) of the PPVFRA. Section 95 (2) (c) gives the Authority the power to make rules and Regulations with respect to "the criteria of distinctiveness,

³⁸ *Ibid.*

³⁹ Here, the variance of a measured distinctive characteristic of the new variety is compared with the average variance of the comparator varieties for the same characteristic. Measured characteristics are considered uniform if their variance is less than 1.6 times the average of the variances of the varieties used for comparison.

uniformity and stability” for registration of *extant variety* under sub-section (2) of section 15. Section 15 (2) deals with registration of extant variety. However, section 14 makes clear distinction between extant variety and farmers’ variety. (sub section (b) deals with extant variety and (c) with farmers’ variety). This distinction is also very clear in the application form for the registration (Form No 1 of the PPVFRA Regulation), which distinguishes between new variety, extant variety and farmers’ variety. Thus, the Notification made under section 95 (2), which talks only about DUS test in extant variety could be said to be *ultra vires* the Act. This is more so, when the Notification says, “any person who applies for registration under *clause (c) of section 14...*”,(emphasis added)⁴⁰ which means DUS criteria for persons covered under section 14 (c). This falls outside the jurisdiction of rule/regulation making power of the Authority, as 95 (2) (c) which deals only with extant variety.

Though quite technical, these arguments are sustainable in the language used in the Act. This is only an unnecessary trouble invited by the legislation by making the farmers’ variety as an independent one, as well as a part of the extant variety, and the usage of these two terms unevenly in the Rules and Regulations. Either, the farmers variety separately defined should be deleted and it should be explained in the context of extant variety. Or, farmers’ variety should be deleted from the definition of extant variety, as there is a separate definition, and provisions dealing with it in the other parts of the legislation. These loopholes, though looks trivial now, will act as spaces for unwarranted litigations against the interests of farmers in the future. For example, even the criteria of DUS laid down in the

⁴⁰ Notification G.S.R. 452 (E), Section 5.

Notification for Farmers' Varieties can be challenged as excessive delegation, and the variety thus registered can also be challenged, thereby creating a delay in the enjoyment of the related rights to the farmer. Thus an amended provision to the following effect is desirable in the PPVFRA.

“Section 2 (j) : (j) "extant variety" means a variety available in India which is—

- (i) notified under section 5 of the Seeds Act, 1966(54 of 1966); or
- (ii) farmers' variety; or
- (iii) a variety about which there is common knowledge; or
- (iv) any other variety which is in public domain.

Explanation:

Farmers variety means, a variety which—

- (i) has been traditionally cultivated and evolved by the farmers in their fields; or
- (ii) is a wild relative or land race of a variety about which the farmers possess the common knowledge”

Sections 2 (l) and 14 (c) shall be deleted.”

It is a fact that there are many occasions in the Act which requires the using of ‘farmers’ variety’ as part of extant variety”. For example, exemption of fee for registration is allowed only for farmers’ variety, and varieties about which there is common knowledge will not get such privileges. So, the word extant variety cannot be used there, as it encompasses a general set, and the farmers’ variety is only a subset. This is because in extant variety, there are four types of varieties. (varieties notified under the Seeds Act, farmers’ variety, variety about which there is common knowledge, and varieties in the

public domain) So, to specify each one, it is better to use the terminologies, notified variety, farmers' variety, C.K. variety (common knowledge) and P.D. variety (public domain). Thus, all these can be together used as extant variety, if the purpose is to address them all together, and they can be separately called their own names, if the purpose is to address any one of them.

Another grave problem found in the Act, which shows that there is the need to have a conceptual clarity regarding extant variety (which includes farmers variety) is that, there is a time limit prescribed for registering the extant varieties. It is not known why this time limit is needed. There seems to be two reasons for this. One is, as was mentioned earlier, in the original bill, in the category of extant variety, there was only those varieties which were notified under the Seeds Act, which were developed by the State. In order to protect these varieties from being snatched away and registered by the modern plant breeders, there was a need to register all these varieties, within a time limit after the notification of these varieties. This is quite understandable, as there is not much difficulty in undergoing the process of registration, as the denominations and characteristics are already known. But that is not the case with the other varieties which were later on included like the farmers' variety, and the variety of common knowledge. Even for knowing about the legislation, and the time limit prescribed therein, it may take more than three years, as the traditional farmers in India cannot be expected to be conversant with the laws and regulations.

The second reason is that, there is a stipulation in the PPVFRA Rules that "The Authority shall compile and maintain a

database on all varieties of common knowledge including all registered extant and farmers' varieties and such varieties being cultivated outside India for each crop species prior to grant for registration for new varieties belonging to such species⁴¹”. This indirectly implies that the registration of extant varieties and farmers' variety shall be done as early as possible, before the new plant varieties are registered. This is to test whether any extant variety is going to be registered as a new variety. But it is to be noted that this rule is observed more in violation, because no new variety is registered only after the compiling and maintenance of a database on all varieties of common knowledge and farmers' variety. They are simultaneously done. Here also the problem is the same, viz., the extant variety being only one category of variety originally, which are notified under the Seeds Act. Though the rules added all the other varieties which are defined as extant variety, it was only a mechanical addition, without taking into consideration the implications of such additions.

Thus, without any justification, unnecessarily a time limit is prescribed. If the aim was to prevent new varieties being registered, which should have been registered as an extant variety, (only after the compilation of database of the extant varieties as was given in the rule) the Act should have worked in a totally different manner. The new plant breeders should have allowed registering their varieties only after the Authority ensures that all the existing traditional varieties (extant) are registered. Then the responsibility of registration of the extant varieties would have been that of the State. But as the original intention of the Act was only give protection to plant breeders' right,

⁴¹ PPVFR Rules, Rule 22(4).

the Act is more enthusiastic in registering the new varieties. In the light of practical experience, the above mentioned rule is redundant, and thus making the time limit utterly meaningless. In fact, the time limit which must have worked for the welfare of the farmers, now works against them, as they are compelled to comply with registration procedures in a hasty manner, if at all they come to know about it.

Apart from this, there is another confusion caused in the area which prescribes for a time limit. While the Act specifies that for registration of extant varieties there should be a time limit, the rules have put this time limit thus⁴².

Rule 24 :(1) Registration of extant plant varieties under sub-section (2) of section 15:

(1) The registrar shall register every farmers' variety which is an extant variety within five years from the date of its notification under the Act, with respect to genera and species eligible for registration subject to conformity to the criteria of distinctiveness, uniformity and stability as laid down under the regulations.

(2) The registrar shall register other extant variety within three years from the date of its notification under the Act, with respect to genera and species eligible for registration subject to conformity to the criteria of distinctiveness, uniformity and stability as laid down under the regulations.

Provided that the Registrar may, for reasons to be recorded in writing, register a farmers' variety and other extant variety after the

⁴² PPVFR (Second amendment) Rules, 2009, Rule 24.

expiry of the said period of five years or three years as the case may be.”

There are two serious problems with this provision. One is, this rule is made in pursuance of section 15 (2), which does not speak of farmers’ variety as is defined in 2 (1), but only about farmers’ variety as a part of extant variety, which is not defined. The preceding section makes a clear distinction between farmers’ variety and extant variety. So, subsection (1) of rule 24 does not apply to farmers’ variety as a traditionally cultivated or evolved variety. If the rule is addressing the farmers’ variety as a part of extant variety, there is no explanation to that variety, so that a traditional farmers’ variety fits only to the farmers’ variety which is outside extant variety as a separate variety. Thus, it takes us to the conclusion that, the time limit is *not applicable* to a traditionally cultivated, or evolved variety, or a wild relative or land race, or a variety about which farmers possess a common knowledge.

The second problem is, the rule talks about notification of genera or species of extant varieties, which are eligible for registration. However, the Act is very clear that such a notification is necessary only in the case of registration of new varieties. This is clear from the following provision.

“Section 14: Any person specified in section 16 may make an application to the Registrar for registration of any variety -

(a) of such genera and species as specified under subsection (2) of section 29; or

(b) which is an extant variety; or

(c) which is a farmers' variety. “

“Section 29 (2): The Central Government shall, by notification in the Official Gazette, specify the genera or species for the purposes of registration of varieties *other than extant varieties and farmers' varieties* under this Act.”

Thus, the rule when says about a time limit to be counted from the date of notification of genera and species of extant and farmers' variety is against the Act, and against the very philosophy of extant variety. There is a reason for notifying certain genera or species of crops, or varieties for the purpose of registration of new varieties. This is to prevent new varieties being entered into the market and monopoly created in the said area which is required to be available to the public, with the State help. While UPOV 1978 talks about inclusion of genera or species of varieties which are eligible for registration, and for plant breeders' rights, UPOV 1991 made it compulsory that all genera and species should be available for registration. Thus the space given to the member country to protect its domestic industries, keeping in mind food security, is taken away. (see discussion in chapter II). India, not being a party to UPOV, thus still has the space to include only those genera and species which she feels is not going to affect any vital sector.

Thus, India can think of not including rice, or wheat from being included in the notification, in order to maintain the public dominance in this sector. Thus, the plant breeders are given a notice to the fact that the new bred varieties in rice will not be registered in India. (It is to be noted that, India is free to choose any genera and species for notification for registration. But, deletion of once included

item can be only in the interest of public). This is the background in which the notifications in section 29 (2) is envisaged under the Act. Such a notification is absolutely unnecessary in the case of extant varieties or farmers' variety which are already existing. There is no need of giving a notice that the variety in this area need not be bred for the purpose of registration in India, as the extant varieties are *not to be newly bred or developed, but are already existing*.

Thus these two problems with the rule is against the spirit of the Act, though the five year period limit for farmers' variety is capable of being interpreted as not applicable to the farmers' variety, thanks to the confusion in the Act, as well as the rule regarding the farmers' variety. (In the absence of the confusion, farmers' variety will be interpreted as a part of the extant variety, and then the time limit will be applicable to the farmers' variety). These problems with Rule 24, however, are not limited in theory. Its practical ramifications are much more than the theoretical possibility.

Take a case when there is a notification of genera and species of particular crops of extant varieties eligible for registration with one date, and the gazette notification of the criteria of DUS test is with a later date, from which date onwards the time limit will start to run? Should it be from the date of notification of genera and species, or from the notification of criteria of DUS test, *subject to* which only the variety can be registered? This is not a hypothetical situation. In spite of the inherent errors in Rule 24, actually, there are notifications regarding the genera and species of extant varieties and farmers varieties eligible for registration! In an order by the PPVFR Authority, which it took *suo motu*, the question was whether the time limit for

twelve crop species for registration of extant varieties which were notified on 1-11-2006 should be counted from 1-11-2006, or from the date of notification which laid down the criteria of DUS test, which is, 30-06-2009? If the first date is taken, by before 1-11-2009, the time limit for extant varieties, and before 1-11-2011, the time limit for farmers' variety is also over, and the application for these varieties cannot be accepted.

However, the DUS criteria test was laid down only in 30-06-2009. So, in the case of an application for registration of an extant variety or farmers' variety (as the Rules and Regulations and the order under the Act distinguish them) on a date before 30-06-2009 (for example, on 1-11-2007), how could it have been registered, as the criteria to be found out was not yet laid down? However, the rule is very clear that the time runs from the date of notification of the varieties. It is also very clear that the notification was with respect to extant varieties. (This is in pursuance of the PPVFR Rule (Rule 24), but the rule is against the Act, and thus the notifications of genera and species of extant varieties eligible for registration is also against the Act.)

However, as the rules and regulations, and the time limit thus put on the extant variety and the farmers' variety, not being challenged by anyone, it still works. But, as the number of applications received by the Registry, for registration of extant variety and farmers' variety being very low (especially farmers' variety- which is a wrong usage given the type of applications received, which are new farmers' variety), there was a concern about the time limit. The Registry, returned several applications for extant varieties of

common knowledge, as the time limit was reached, if counted from the date of notification of the genera and species were counted. The above mentioned order was the result of this problem. In dealing with this issue of which date should be taken into account for counting three year and five year limitation, the Authority was confronted with all these inherent confusions in the Act with respect to the unnecessary putting of time limit which is unwarranted as per the Act, on the one hand, and the usage of farmers' variety in a wrong way.

The Order says that the notification of genera and species is applicable only in the case of new varieties, and thus the notification of genera and species for registration is not applicable in the case of extant varieties. The Order gives an impression that the notification is under section 29 (2) of the Act, which applies only to new varieties. But, then the question is, what is the date of notification which is given under Rule 24? A perusal into the notification dated 1-11-2006 shows that it is not expressly with respect to extant varieties as well as new varieties. But it is also capable of being interpreted as covering also the extant varieties. The notifications are made under section 29 (2). The said Order very clearly says:

“In exercise of the power conferred by subsection (2) of the section 29, read with section 14 of the Protection of Plant Varieties and Farmers' Rights Act, 2001, the Central Government hereby notifies the following crops with their genera *eligible for registration of varieties under the said Act*”

If, the words, “eligible for registration of varieties under the said Act” alone is taken, it can be interpreted to include extant varieties (including varieties of common knowledge, and farmers'

variety), and farmers variety (the separately defined one) also, as these are varieties under the Act. But, Section 29 (2) is very clear that the notification is needed only in the case of new varieties, other than extant and farmers' varieties. So, this notification applies only to new varieties. But due to the usage of the term notification of genera and species eligible for extant and farmers' varieties in Rule 24, the Registry interpreted this notification as a notification applicable to the extant and farmers' varieties as well. The Authority did not delve into this aspect where the root cause lies, and it tried to interpret the provisions of the Act and Rule 24, along with the notification in the midst of this confusion.

While the Act is very clear that notification is necessary only in the case of new varieties, and no notification is mentioned in the case of extant varieties and the farmers' varieties, how can the rule notify genera and species eligible for registration of extant and farmers' varieties? Thus, the confusion created by the Act is multiplied by the rules. A notification which is in tune with the Act, while issued in pursuance of a rule which is against the Act was to be reconciled by the Authority in its order. The order declared that the notification part of Rule 24 is not applicable, (even though the Authority had to take into account the date of notification of genera and species eligible for registration, as this date is the crucial date in Rule 24) and that as without knowing the criteria of distinctiveness, uniformity and stability criteria, a variety cannot be registered, the date of the notification which laid down the criteria of DUS test should be counted for the purpose of calculating the time limit and that as without knowing the criteria of distinctiveness, uniformity and stability criteria, a variety cannot be registered, the date of the

notification which laid down the criteria of DUS test should be counted for the purpose of calculating the time limit. Thus, for farmers' variety, for registration of the notified variety, the five year period has to be calculated from 30-06-2009, and three years from this date, for the registration of the extant variety (of common knowledge).

However, this interpretation will not hold good for varieties which were notified after 30-06-2009, as the criteria of DUS test is already available. Also, the order could not have simply rejected the notification as applicable only to the new varieties, as Rule 24 is very clear about the notification of genera and species eligible for extant varieties. It is true that this Rule is in violation of the Act. So, the Order must have pointed out this anomaly in Rule 24, and asked for correcting the same. The Authority could have pointed out also that the Rule 24 is *ultra vires* the Act, and that no notification is necessary in the case of extant varieties, and that the notification is in tune with the Act, and that the notification does not mention anything about the extant varieties. If the intention of the Authority was to safeguard the interests of the farmers, and other persons who come forward for registering other extant varieties, by extending the time limit, the best method was to ask the Registrar to use the flexibility given in the proviso, which says that the Registrar may register a farmers' or extant variety beyond this time period, for reasons to be recorded. This could have acted as a stop gap arrangement, till the confusions in the Act was cleared at least in the area of putting this time limit in the case of farmers' variety and the extant variety. However, the Order could have been a golden opportunity to achieve this, had it been well articulated.

As that opportunity was not used by the Authority, the problems still continue, with respect to the time limit. Perhaps more confusions are now added. While the rule says that extant varieties and farmers' varieties shall be *registered* within the time period, the new notification is to the effect that, the *application shall be filed* within this time period, without any amendment made to Rule 24. Though this seems to be a better position than the earlier, this notification is *ultra vires* the rules. One more perplexing event that happened because of the Authority's order without proper analysis of the Act is that, while in the 2006 order, the notification did not include extant varieties into it, the new notifications are more in tune with Rule 24! This means that, while Rule 24 itself was the root cause of the problems relating to notification of genera and species eligible for registration, that Rule is retained and made safe, and the notifications are changed to its tune. This is done under the impression that the notification is wrong. Now, the notification of genera and species eligible for registration under section 29 (2) clearly and expressly is made applicable to extant and farmers' varieties! To make this position very clear, a public notice given in the Plant Variety Journal⁴³ (January 3, 2011) is reproduced below.

“Central government in exercise of its powers under Section 29 (2) of PPV & FR Act, 2001, notified vide S.O. 2883 (E) dated 2nd December 2010 the following crops with their genera and species which are eligible for registration as new varieties.

⁴³ Plant Variety Journal of India, Vol.5. No.1., January 3, 2011.

S. No	Common Name	Hindi/ Local Name	Botanical Name
1.	Potato	Aloo	<i>Solanum tuberosum</i> L.
2.	Garlic	Lahsun	<i>Allium Sativum</i>
11	Chrysanthemum	Guldaudi	<i>Chrysanthemum</i> ⁴⁴ .

Accordingly, this Public Notice is issued under Rule 24 of PPV&FR Rules, 2003 inviting *application for registration of extant varieties in the above said crops/ crop species with their genera and species*. It is also hereby brought to notice that the applications for registration of extant varieties in the above said crops/ crop species *should be filed* within a period of three years from the date of notification of the above said crops/crop species in the Gazette, namely, 2nd December, 2010 and in the case of application for registration of farmers' varieties in the above said crops/crop species the same should be filed within a period of five years from the date of notification in the above said crops/ crop species in the Gazette, namely, 2nd December 2010.”

In effect, the clear distinction which was made by section 29 (2) to new variety, from extant and farmers' variety (with the inherent confusion) for the purpose of notification for registration was thrown to the wind by the working of the Act through notification thus. Now, the notification made under 29 (2) is also considered as a notification for the purpose of extant varieties and farmers varieties.

⁴⁴ The other items are, onion, brinjal, tomato, cabbage, cauliflower, ladies finger, rose, and mango.

This kind of a notification was out of the compulsion made by Rule 24 which talks about the time limit from the date of notification. So, without a date of notification, computation of time limit became impossible. Here also the villain is Rule 24. This notice makes clear that the working of the Act, through the Rules and regulations are against the Act. This notification made in pursuance of Rule 24 completely ignores the fact that the Act does not envisage any notification of genera or species eligible for registration. However, there is an inherent problem with the Act in its stipulating a time limit in section 15 (2). So, it is quite natural that the Order made in this regard tried to read the Rule 24 in tune with the Act, by neglecting the notification of genera and species eligible for registration of extant varieties.

But, even before that, there was another grave problem in the Act itself which created the villain called the Rule 24, and that is the stipulation of time limit for registration of extant and farmers' variety under section 15 (2) of the Act. In the absence of such a time limit, Rule 24 would not have been there at all. But, the Authority is not capable of striking down the provision in the Act. But it could have taken this opportunity to point out the same, as the root cause of all these problems. So the Order could not discard the time limit. It only said that the time limit starts only from the date of notification laying down the criteria of DUS test, and not from the date of notification. This means that for future notifications of genera and species, the date of notification will be counted. This is what exactly one sees in the public notice above.

Another serious problem with the Act is the confusion it has created with respect to farmers' variety, as a part of the extant variety and as a separate variety, and also confusing between the new farmers' variety and the farmers' variety.

Even in the case of applications submitted for farmers' variety, and the varieties which are registered as farmers' variety, there is lack of conceptual clarity. Three farmers' varieties are so far registered in India for variety of rice namely, Indrasan, Hansraj, and Tilak Chandan. And we boast that, by doing so, India became the first country in the world to have granted registration to Farmers' varieties⁴⁵. In fact a perusal into the applications submitted for the registration of farmers variety, and the three varieties which are given protection are all the new farmers variety, and not the farmers variety, which is defined as the variety which is traditionally cultivated and evolved by farmers in their fields, or the wild relatives and land races of varieties about which there is common knowledge among the farmers. If there is an argument that, even a new farmers' variety falls within the ambit of section 2 (1) (i) (traditionally cultivated and evolved), there is another terminology used for it in the Act in section 39 (1)(i), and it is a variety which is *bred or developed* by a farmer. This means that, though farmers' variety is considered as an existing variety, which the farmers developed, which needs a *perpetual* protection, farmers' varieties are also given only the status of new farmers' variety, and the new farmers' variety is utterly confused with farmers variety, for the purpose of registration as well as protection. For example, in a video related to the description of Indrasan variety (one of the three 'farmers' variety' in India which got registered), the

⁴⁵ Protection of Plant Varieties and Farmers' Rights Authority, Annual Report, 2009-2010.

rice variety is described as having the capacity of high yield. This was developed by a farmer. It is true that he has not developed it in the laboratory. But, it was not an existing variety. Neither was it traditionally cultivated or evolved. This clearly shows that this is a new farmers' variety which is not much different from a new plant breeders' variety.

Actually, the farmers' variety needs protection as recognition of the efforts the farming community contributed in preserving it for so long a period, and for contributing to the food security. Their efforts need to be recognized in the form of permanent property rights. Traditional farmers' efforts, and their contribution to the development and conservation of the traditional varieties, which pave way even for the development of new varieties cannot be equated with the efforts of a plant breeder, or a farmer who developed a new variety. Also, the special status of the farmers in India as a supplier of food materials in an environment friendly way, and thus in a healthy way, make him deserve more than a temporary right. Also, given the situation that such a special category, who feed the world, depend for their livelihood on farming, stresses the need to argue that without any technicalities farmers' variety should be recognized, and protected, especially in the context of new plant breeders' rights. The method of this recognition, and mode of enforcement should be different from those in the case of new varieties. This creates a situation where one should suspect whether this Act is the right place for recognition of farmers' varieties and their rights. Perhaps, mixing two entirely different types of varieties, and rights with each other in the Act is the root cause of all the confusions and chaos found in the Act.

All these problems in the Act make the farmers' additional right namely, the property right as traditional breeders becomes very difficult for enforcement. However, with suitable amendments in the Act by clarifying the farmers' variety as an extant variety (as was mentioned above), and by removing the time limit for registration of the farmers' variety, and also by giving a perpetual right in the traditional varieties will make the Act work at least with some meaning. However, as the farmers' variety are mostly a collective right, it is better that those rights are taken away from the purview of the legislation, and put in a new legislation along with the procedure for recognizing those property rights. Regarding the new farmers' variety, this Act is enough, as it does not distinguish between the two varieties. But, even there, equating a new plant breeder with a traditional farmer is not good. So, keeping the place within the Act itself, there is a need to have a relook at the nature, and duration of the rights to be given to the farmer as a breeder.

So, it could be concluded that, though the Act tried to give the farmers a kind of IPR over the newly developed variety, and the traditionally preserved variety, regarding the latter, the Act failed in two levels. One is the kind, and the other is the way in which the property right is recognized. Just like the PBR, even for a traditionally developed PGR and TK, a temporary IPR is given, which goes against the very nature of farmers' variety. Even this minimum right is not capable of being recognized, or enjoyed by the farmers due to the confusions and anomalies caused by the overlapping definition of farmers' variety and the extant varieties, and sometimes even the new Farmers Variety. (Those varieties which are registered as farmers' variety are actually new Farmers' Variety). So, in a nut shell it should

be reiterated that, though the Act in principle has laid down the possibility of creating an IPR for the farmers over their PGR and TK, it requires a crystal clear working most preferably in a different legislation (a *sui generis* law for protection of FR).

As was mentioned in the beginning of this Chapter, it was said that while access is given to the plant breeders to the PGR or TK of the farmers, and when they apply for PBR, the benefit sharing aspect is covered by the PPVFRA. So, this part of the central theme is covered by PPVFRA. It is interesting to note that the Indian Act is recognizing benefit sharing as well as compensation to be paid to the farmers for their efforts in preserving the PGR and TK. But, there are also some problems here. These are examined in the forthcoming discussion.

6.4 Rights of the farmers when plant breeders are given access to their PGR and TK- (a) Benefit sharing and (b) Compensation

6.4.1 Benefit Sharing

As per the PPVFRA, “benefit sharing in relation to a variety, means such proportion of the benefit accruing to a breeder of such variety or such proportion of the benefit accruing to the breeder from an agent or a licensee of such variety, as the case may be, for which a claimant shall be entitled as determined by the Authority...”⁴⁶.The PPVFR Authority is entrusted with the duty to implement this right. The invitation for claiming share of the benefit is done, after the variety is registered, by publishing the contents of the

⁴⁶ PPVFRA, Section 2 (b).

certificate. On invitation, a person, or group of persons, or governmental or non-governmental organization (only Indian citizens, or organization or firm registered in India) can submit its'/ their claim on benefit sharing. The Authority while disposing the claim, (after hearing the breeder and the claimant) shall explicitly indicate in its order the amount of the benefit sharing, if any, for which the claimant is entitled. The extent and nature of the use of genetic material of the claimant in the development of the variety relating to which the benefit sharing has been claimed, and the commercial utility and demand in the market of the variety relating to which the benefit sharing has been claimed⁴⁷, the contribution of the claimant in selecting, conserving and providing the genetic material, the contribution of such genetic material in providing one or more traits which conferred high commercial value to the variety, and the contribution of such genetic material to impart high combining ability to the parents of the hybrid variety⁴⁸ will have to be considered by the Authority while determining the amount. This amount is to be deposited by the breeder in the National Gene Fund.

The Gene Fund is to be applied for paying the amount of benefit sharing through one or more schemes which are to be notified⁴⁹. If this amount is not paid by the breeder, the same section shall, on a reference made by the Authority in the prescribed manner, be recoverable as an arrear of land revenue by the District Magistrate

⁴⁷ PPVFRA, Section 26.

⁴⁸ PPVFR Rules, Rule 43.

⁴⁹ PPVFRA, Sections 45 (2) and 46 (1).

within whose local limits of jurisdiction the breeder liable for such benefit sharing resides⁵⁰.

The way in which this right is to be enforced has mainly three problems. One, is the farmers are expected to be vigilant about the publication of the contents of certificate of registration of new varieties. The second is that the farmers are forced to undergo all the cumbersome legal procedures, by taking pains to travel all the way up to either the Head Quarters, or the branch offices of the Authority. The third is the difficulties involved in realizing the amount of benefit sharing in case of default of payment. The contents of certificate registration used to be notified in the Gazette, as well as in the Plant Variety Journal of India both in Hindi and English. But, all the farmers, or even the farmers organization cannot be expected either to be vigilant in watching these notices, or to understand even the language, let alone, the scientific contents. The Head Quarters as well as the branch offices of the Authority are all situated in Metropolitan cities like Delhi or Chennai. And the Act expects group of farmers in the remote villages of Tamil Nadu to keep an eye on the Gazette, or the Plant Variety Journal to check the invitation calling for benefit sharing, and to travel up to Chennai to file a claim or for participating in other proceedings. If this is the case with farmers in Tamil Nadu, in whose capital there is a branch office, what will be the case with farmers from Kerala, or from the north eastern states?

The very fact that the public notice will not *actually* bring the content of the notice to the public makes the issuance of a public notice a farce. The Act equates traditional farmers with modern plant

⁵⁰ PPVFRA, Section 26 (7).

breeders and expects the same vigilance, legal support, and infrastructure from the traditional farmers also. In other words, the Act leaves the enforcement of the right with the farmers (as in the case of modern breeders) as if the State is not interested in their rights. This is more obvious in the manner in which the breeder is made liable to pay the amount of benefit sharing. If he is not paying the amount, the same is to be recovered as arrears of land revenue. This forces the farmers to go through the procedures of the legal battle, and to chase the breeder. If the breeder is not an Indian, the recovery is also not going to take place. Here also the State equates the farmer with that of a modern breeder who may be a multinational company.

Actually the provisions would have worked well, if the State had taken some responsibilities in this matter. While applying for registration, the breeder is supposed to reveal the genetic material, or traditional knowledge which he used for breeding the new variety. The filing of passport data, and other information are mandatory under the Act, and in the event of any suppression of these facts, the registration of the new variety is bound to be cancelled. So, instead of inviting for claims of benefit sharing from the farmers, or other persons, it is better if, based on the information given by the breeder, the farmer, community of farmers or persons who developed or conserved the genetic material the Authority itself invites the holders of this genetic material. However, this is possible only if the State has a complete picture about the existing traditional varieties and traditional knowledge. This matter is more covered in the Biological Diversity Act, under which State Governments, and the local bodies like the Panchayats are endowed with the duty of documentation of all the vital plant genetic resources, and the holders of the same. The

PPVFRA also entrusts the Authority to document, and to create database of all extant varieties *prior to* the registration of new varieties. If these are properly done, and as the Regulations stipulate, new varieties are registered only after documenting all extant varieties, instead of troubling the farmers, the State could have identified the real owners of the genetic material which contributed to the development of the new variety. The respective farmers could then be *invited* to receive the amount of benefit sharing.

Also, in the case of non-payment of the amount of benefit sharing, instead of making the farmer the plaintiff, why can't the breeder be made to bear the burden? If this amount is not paid, registration should be cancelled. This cancellation should be done by the Authority on its own, and not after getting an application by any interested party, as in the case of revocation of registration under section 34.

So, it could be said that, theoretically the right to share benefit is given by the Act, by recognizing indirectly the rights of the farmers over the genetic material they developed. But, some changes here and there is needed in the Act to make it workable. Apart from benefit sharing, another monetary right recognized by the Act is compensation to those who contributed to the evolution of the . This is the next aspect of the new generation right. In essence, this is equal to benefit sharing. In fact, from the breeders' point of view, it is double payment, and thus there is a possibility of litigations. The right to compensation is examined next.

6.4.2 Compensation

This right is recognized for the contribution made by the local community or the group of farmers for having contributed to the evolution of the variety. The Act says:

“Any person or group of persons (whether actively engaged in farming or not) or any governmental or nongovernmental organization may, on behalf of any village or local community in India, file in any centre notified, with the previous approval of the Central Government, by the Authority, in the Official Gazette, any claim attributable to the contribution of the people of that village or local community, as the case may be, in the evolution of any variety for the purpose of staking a claim on behalf of such village or local community⁵¹”

On finding out that the village or local community has thus contributed in the evolution of any variety, the Authority *may* grant such sum of compensation to be paid to such persons who made the claim. This amount is also to be deposited in the National Gene fund. This amount is also recoverable as an arrear of land revenue.

Both, the fact which leads to the benefit sharing and compensation are the same. In benefit sharing, the basis of the claim is the contribution of the claimant in selecting, preserving, and providing the genetic material, the contribution of this material in adding to the commercial value of the variety, and the contribution of the material in developing the distinguishing trait in the new variety. The basis for claiming compensation is the contribution of the

⁵¹ PPVFRA, Section 41 (1).

claimant in the evolution of any variety. All the factors which are to be taken into account while determining benefit sharing will be the same in the case of compensation also. This right, thus, though recognized by the Act is not going to be of much use to the farmers, due to the chance of this going to be challenged by the breeders. One difference, that could be made between these two is, benefit sharing relates to sharing the benefit accruing out of commercial utilization of the variety, or its potential utility. Compensation need not have any connection with the benefit.

The very fact that the local community such as farmers contributed to the evolution of the variety itself is the basis for claiming the compensation. So, many factors which are to be considered in the context of benefit sharing can be avoided here. For example, the factors such as, the contribution of the material in adding the commercial value can be avoided. However, even in this distinction, there is overlapping. Thus, it is better to avoid the compensation aspect in the Act as a separate one, as this is substantially covered under the benefit sharing aspect. It is better to add one more sub clause section 26 (5) thus.

Section 26 (5) (c): “ contribution of the people of that village or local community, as the case may be, in the evolution of any variety”.

This will enable the Authority to fix a higher amount of benefit sharing. This is because in benefit sharing provisions, the Act does not speak anything about the contribution of the provider of genetic material in preserving it, though the Rules stipulate that it

should also be taken into account while determining the amount of benefit sharing.

So, in order to recognize the right of the farmers (or others as the case may be) in having contributed to the evolution of the variety expressly in the Act itself, it is better to have a component as 'right to compensation', as part of the benefit sharing, without expressly using this term. Thus, it could be said that the Act added one more right to the set of new generation rights, namely, the right to compensation, which is emanating from the recognition of the effort to have maintained the plant genetic material or the traditional knowledge.

But regarding benefit sharing and compensation also, these are only residuary in nature, and the Act has not even raised them to the level of rights. Actually benefit sharing or compensation can be given the status of a right, only corollary to the right to property. So, it is in the fulfillment of effectively creating a property right, that these aspects are also dependent. Till then, benefit sharing or compensation will remain as the State's discretion, rather a charity.

6.4.3 Impact of scheme of benefit sharing under ITPGR on the recognition of FR

It is a very important fact that, India's legislation can work only in consonance with her international obligations. As was discussed above, the benefit sharing appears in the context of CBD, ITPGR, PPVFRA and the Biological Diversity Act. While under all the three documents, there is a direct dealing with the farmers in benefit sharing, under ITPGR, only the State parties are in picture, in the MLS. The share of the benefit does not go directly to the farmers.

State parties are allowed projects for conserving some vital varieties. *And, there is no benefit sharing, if the breeder makes the plant genetic material of the new variety available to the multilateral system.* So, if India adds one crop which is conserved or preserved by the farmers to the MLS, and based on the genetic material of that crop a plant breeder develops a new variety, *no money is going to be directly paid to the farmers who contributed to the evolution of that crop.*

Also, if the plant breeder makes the plant genetic material of the new variety to the multilateral system, *he is not under an obligation to make any payment towards benefit sharing.* So, if that plant breeder comes to India and makes an application for registration of that variety, he cannot be asked to pay the amount of benefit sharing, or compensation. Also, even if he does not make the plant genetic material available to the multilateral system, but pays the benefit sharing amount under ITPGR, he is not under an obligation to pay the amount of benefit sharing. Thus, regarding such crops, the benefit sharing provisions in the PPVFRA remain as dead letters.

This is because, the philosophy of ITPGRFA and the PPVFRA are different in many respects, and especially in the case of benefit sharing. While the object of ITPGRFA, is the preservation of the plant genetic material for food and agriculture in a sustainable manner, and it starts from the premise that farmers who conserved or preserved the common crops cannot be identified, the object of PPVFRA is for the protection of plant breeders' rights, and the farmers rights, and it starts from the premise that such farmers can be identified. So, under ITPGRFA, those provisions which do not benefit the farmers directly are not against the spirit of the Treaty. It is true

that, without the consent or interest of such farmers no item can be included in the MLS. But, India is under an obligation to include all the PGRFA which is under the State control and are in public domain. This means that all the PGRFA in the *ex situ* collections in the State owned centres will have to be definitely included in the MLS. In the Country Report on the State of PGRFA in India, it is mentioned that there are many farmers' varieties which they abandoned in lieu of hybridized varieties. These are preserved in *ex situ* centres of the State. India will have to include all these PGRFA in the MLS, though at present India has not added anything to the MLS⁵².

In fact, the farmer's interest is more protected if India makes available as less as possible varieties of PGR held by farmers in the MLS, as far as benefit sharing is concerned. But, the philosophy and the mandate of ITPGRFA is that, as far as possible, the plant genetic materials of maximum items of the Annexure I items should be made available to the MLS. ITPGR mandates to encourage private persons also to include plant genetic materials under their control to be made available to the multilateral system. Actually, this encouragement will result in depriving those persons of the possible benefits and recognition of their property rights over the plant genetic materials.

It is a very interesting fact to note that in PPVFRA, there is a special right or a recognition to those farmers who conserved or preserved a genetic material which led to the development of the registration of a new variety, and this is considered as one of the Farmers' Rights under the Act. The provision says:

⁵² Available at www.planttreaty.org. Visited on 20-10-2011.

“a farmer who is engaged in the conservation of genetic resources of land races and wild relatives of economic plants and their improvement through selection and preservation shall be entitled in the prescribed manner for recognition and reward from the Gene Fund.

Provided that material so selected and preserved has been used as donors of genes in varieties registrable under this Act⁵³.”

Here also, suppose that a farmer/ a group farmers in India conserved a genetic resource of a land race, and it is included under the multilateral system under the ITPGRFA. And that the genetic material of the same is used to develop a variety, registrable under the PPVFRA. Are the farmer/ farmers entitled to the recognition or reward from the Gene Fund, or from the ITPGRFA benefit sharing system? In fact, this amount is to be paid from the Compensation paid to the Gene Fund, as the compensation amount is paid to compensate the farmer for his contribution in the evolution of the variety. As in the multilateral system, there is already a payment, (or in case the material is already made available to the multilateral system, there is no payment at all) the applicant for the registration of this variety is not going to pay another amount under the PPVFRA (in the absence of any caution India takes as suggested above). So, as the farmer/ farmers *may receive* some amount, or other benefits (mostly by way of projects) PPVFRA will also have to leave the matter to ITPGRFA, and avoid double payment.

So, this right of the farmer, which is in recognition of his efforts to have preserved or conserved a plant genetic material, for the

⁵³ *Id.*, section 39 (1) (iii).

development of a new variety, which may be called the 'wage of a security guard' may remain redundant in the case of items included in the multilateral system. Here also, the above mentioned suggestion of prioritizing the PPVFRA over ITPGRFA in such cases is highly essential.

6.5 Conclusion

The reading and understanding of the PPVFRA is one of the most herculean tasks for the academicians, the Advocates, or the researchers. It is so because of the confusions it has created in certain areas which are very vital for the farmers. The Act has made very many pivotal rights of the farmers mere mockery, by creating this confusion. The Rules and Regulations have added much to the confusion, and even where the Act is clear, Regulations created confusions there also. In such a situation, what should the poor illiterate farmers of India understand about their rights which are 'guaranteed' under the Act? However, the Act is unique in that, it has tried to highlight the interests of the farmers throughout the Act. With this introduction, an examination as to whether the Act balances the rights of the farmers and breeders in this Act is done in the following manner.

The Act recognizes three types of rights which can go as part of the farmers' right to remain sovereign.¹ The traditional right to save, use, re-use and exchange seeds 2. Additional right as a breeder just like the modern breeder, and as a conserver of the wild relatives or land races, and traditional cultivator 3. New generation rights which include right to benefit sharing and compensation, as a recognition for having conserved and preserved the plant genetic

resources for making it available for the plant breeders to develop new varieties.

Regarding the traditional right to save, use, re-use and exchange seeds, the Act is unique in the sense that it does not allow varieties with genes containing terminator technology or genetic use restriction technology. In fact terminator technology is only a kind of genetic use restriction technology. Though both these terms are not thus actually necessary, the Act uses only the term terminator technology in the context of affidavit to be filed along with the application for registration. This means that other types of genetic use restriction technologies are allowed. However, the Act in its body forbids the use of both (though is not needed, as one is the subset of the other). So it is better to use only the term genetic use restriction technology throughout the Act. Nevertheless, in the context of biotechnology which is conquering new horizons, apart from the genetic use restriction technology, there are other technologies (like parthnocrapy) which help the breeder to retain the power to use the seed with himself, by making the farmer depend on him. If the breeder is asked not to use any technology at all, and to make available the propagating material of the protected variety to the farmers without any use restriction, and to allow him to exchange it with other farmers, a major chunk of the plant breeders right remains futile.

So, it is quite natural that there is every possibility that the breeders use restriction technologies, other than genetic use restriction technologies. The Act has not, and cannot forbid it. Thus, in the area of traditional rights of the farmers to use, save, exchange ,or re-use seed will have to be divided into two types. One is the traditional

right to use, save, exchange, re-use the seed, and the other is the traditional right to use, save, exchange, and re-use the *protected seed*, (or the propagating material). Regarding the first, his right remains the same even in the context of PBR, and regarding the second, only with respect to the propagating material of the GURT, he *can use his right* (though the Act gives him the right in all cases). So, as long as the farmers are exclusively depended on the protected varieties, their right depends on the type technology that is used. In some cases, the farmer gets the right, and in other cases, the breeder has an upper hand. Even with respect to the special privilege guaranteed by the Act, called compensation in case of failure of expected performance, due to various reasons, the farmers are not much benefited.

Regarding the property right of the farmer as a modern breeder and as a conserver or traditional variety, which could have helped him to remain independent and self sufficient also, the Act is not offering much. As a modern breeder he is not treated in any way different from a modern breeder who uses the lab. But throughout the Act, the Act has confused the new farmer breeder, with the traditional farmer. This led to confusing between the resultant varieties (which for convenience the author has named) called the new farmers varieties, and the farmers' varieties. In fact, for both these terms, the Act, the Rules and the Regulations have only used the term farmers' variety. To add more confusion, there is another farmers' variety also in the Act which is defined as a part of extant variety. The definition of farmers' variety thus remains as an independent variety, as a part of the extant variety, and also as the new farmers' variety. But, farmers' variety as a part of extant variety is not defined. The independent farmers' variety falls within the definition of variety, which is

applicable to the modern plant breeder. Though the Act intends to use these three terms in distinct situations, only one term is used. The result is that, if a traditional cultivator has to apply for registration under the Act, as a traditional breeder he is placed along with the modern breeder.

But in Rules and Regulations, wherever farmers' variety is used, it is used as the farmers' variety as an extant variety. But even where the Act (though erroneously) uses extant variety and farmers' variety separately, and prescribes for different procedure for DUS test, the corresponding rule has treated it as a farmers variety as an extant variety. Even when the Act has very clearly specified that notification of genera and species, which are eligible for registration is necessary only for new varieties, and specified for a time limit for registration of extant varieties and farmers' varieties, the Rules have put time limit for these two varieties, from the date of notification of genera and species which are eligible for registration. This time limit is unwarranted, and it is to be taken away from the Act, and the notification of genera and species of extant varieties eligible for registration is against the very Act itself and it is also to be struck down.

All these mess which are created in the area of farmers varieties and the registration therein also have led to the pathetic situation that, a farmer who preserved a land race or a particular variety, on registration of that variety, (if at all he is in a position to register his variety in the midst of all the legal chaos in the Act) will be entitled to the exclusive right to sell, market, distribute, import and export it for fifteen years! This means that the Act has lost sight of its

concept of farmers variety, which is a collective one, and permanent in nature also. Another interesting aspect is, the varieties which are registered as farmers' variety (which is defined as a traditionally cultivated, and evolved one, and as a wild relative or land race) are, actually the new farmers' variety!.

This makes it clear that the place of the farmers in the Act, though is omnipresent, they are entitled to nothing as a breeder, or as a traditional cultivator. Thus the intention of the Act to keep the farmers at par with the modern plant breeders got crushed, due to the confusions in the Act. Due to the lack of conceptual clarity regarding the type of rights which should be given to the farmers as traditional cultivators, and preservers of the wild relative or land race, they lost that part also.

Regarding the benefit sharing and compensation (the amount to be paid by the breeder for having used a genetic material which is preserved by the farmers or other persons) is so arranged in the Act that, even if the plant breeder ignores the payment of benefit sharing, he is to lose nothing, and the farmers are dragged to a legal battle to recover it from the breeder. Right to get compensation is not even going to survive for a long time, due to the overlapping with the amount to be paid as benefit sharing. The compensation which is a recognition of the efforts of the farmers or other local communities for having contributed to the evolution of the variety, waits for its death, on the moment any breeder is asked to pay the compensation, as it will amount to dual payment. The case with the plant genetic materials which India made available in the multilateral system of the ITPGRFA is that the farmers are not going to get any amount *under*

the PPVRA. This is because of the indirect method of payment of benefit sharing in the multilateral system, and also because there is no concept of payment of benefit sharing in the multilateral system, if the plant breeder makes available the plant genetic material of the protected variety in the multilateral system. This is not a surprise, as the ITPGRFA says that making available the plant genetic materials to the multilateral system itself, is the most important (benefit) sharing, (as there is a sharing of plant genetic material).

So, though there are many rights which are tried to be given to the farmers in the context of plant breeders rights in the PPVFA, only the rights guaranteed to the plant breeders are really effective. Due to some vagueness, and incoherence in the Act, which is mainly because it added farmers' varieties in unsuitable places, without making corresponding changes in other places, the Act requires a complete revamping. This is also the case with the Rules and Regulations and Notifications under Act. Even the Orders made by the Authority under the Act regarding the time limit for registration of extant and farmers' variety needs to be thoroughly relooked in the light of the jurisprudence of the farmers' rights. However, even with all these shortcomings, India can be proud in that she is the first country to give effect to an effective *sui generis* law for the protection of plant breeders' rights. This Act remains also superior in the fact that, though there are some copies from UPOV 1991, the vices of (which are against the farmers) UPOV has not crept into it, and that the farmers' rights provision which gives the right to compensation to the farmer in case of failure of the guaranteed performance, and forbiddance of genetic use restriction technology cuts at the root of the UPOV 1991. In that sense, PPVFA is a *sui generis* law. But how far

it is *effective* is the only question. It can be made effective also, with the whole hearted efforts of those who work with the Act, and also for the interests of the farmers. That is not impossible, though difficult.

This Indian legislation, which though tried to give some solid rights to the farmers, fails in concretizing it, because of the incorrect appreciation about the concept of the nature of farmers' relationship with their PGR and TK. It could be seen in the previous Chapter as to how the Bangladesh Biodiversity legislation and the AU Model legislation marvelously weaved out the property rights of farmers as an IPR and as a *sui generis* right. India can surely learn lessons from these examples. PPVFRA is superior in many respects, and only thing is, it needs some substantial correction with respect to the FR. However, BDA was very disappointing a legislation. So, this takes us to the conclusions and suggestions part of this thesis. What all measures should be adopted by India to effectively protect the FR? Is there any need for international initiatives also in this regard? If so, what should be such an initiative? In what all manner the Indian legislations require changes? These questions are tried to be answered in the next Chapter, Conclusions and Suggestions.

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CONCLUSIONS AND SUGGESTIONS

7.1 Conclusions

Law is a powerful instrument. But, it can work only in a conducive social environment. This favourable climate can be created only if the right holders and the duty holders are equally responsible. While the right holders are supposed to know their rights, and to act in the right time, the duty holders are supposed to respect the right of the other, which created obligation for them. If the right holders are in such a disadvantaged social or economic position, the State is under an obligation to help them in realizing their rights. This principle is equally applicable to the farmers and the plant breeders. It is a great responsibility to the State to not only to see that solid rights are created for the farmers as against the PBR, but also to see that they enjoy these rights. In India, however, this position is disappointing, in creating the rights, as well as the efforts in making available to the farmers.

It is a peculiarity of FR that, it was created as a reaction to the PBR. It was the necessity of the plant breeders themselves that some kind of recognition is given to the farmers so that they can get raw materials for plant breeding. The FR is also an outcome of balancing the rights of the plant breeders and the farmers. When an IPR was given to the plant breeders for their efforts in creating new varieties, and thus adding to the food production, the farmers, who also do the same were to be given some rights. But, a journey through the International laws makes it very clear that no balancing has been

done. Because as against the property right of the plant breeders, no right (nether property right nor any other right) is given to the farmers. What is given is to facilitate access for the plant breeders. It means that the farmers are made to stand just as mere spectators to see their PGR and TK being accessed by the plant breeders. As a reward for *this* (and not as conservers of preservers of the same) they are offered something, but not rights. And when the plant breeders develop a new variety based on the same, the PGR of such a variety becomes the exclusive property of the plant breeder. Thus, when the farmers seek access to the PGR of the plant breeders, things are totally different. Now the access is not easy. However, these laws left enough space for the State parties to create solid rights. So, if no right is created, the State parties alone are responsible.

Thus, the crux of FR in the context of PBR centres round the theme called the farmers' access to the PGR of the plant breeders and the plant breeders' access to the PGR and TK of the farmers. In these two themes, one vital role that is expected from the law is its contribution in deciding the *farmers' rights over their PGR and TK*. In six Chapters, different aspects of this theme is examined, in three Chapters in the international level which has impact in India, and in two Chapters the Indian level.

In the International level UPOV, CBD and ITPGRFA were discussed. UPOV dealt with the farmers' access to the PGR of the plant breeders. Rather, the farmers' right to use, save, exchange, re-use and sell the seeds of the protected variety. In that Chapter it was found that UPOV 1978 did not create any restriction on this right of the farmers, as the scope and extent of the PBR was limited to the commercial use of the propagating material. However, UPOV 1991

expanded the scope and extent of the PBR almost to the level of the patent right. As result, even the production, reproduction, (for non commercial purposes also) and stocking for these purposes, of the propagating as well as harvested material were covered by the PBR. This prevented the farmers from using, saving, exchanging, re-using and selling the farm saved seeds- the freedom which they were enjoying. This right had always been recognized as a part of their efforts in preserving and conserving the PGRFA and making them available for the world for further development. But, UPOV did not seem to have recognized this right. As a favour the UPOV has only given an optional exception to the State parties to exempt the farmers from using their farm saved seed for further propagation in their own holdings. Thus, even this optional exception did not give the farmers the right to exchange and sell their seeds. Thus, this model *sui generis* law for the protection of PBR does not respect the FR much.

Another international law which deals with the farmers' right to use, save, exchange and sell seed (farmers' access to the PGR and TK) is the ITPGRFA. In this Treaty Farmers' Rights is recognized formally for the first time in principle. However, its implementation is left to the State parties. State parties are thus to recognize the farmers' right to use, save, exchange and sell the seeds. So, if country is a party to both UPOV and ITPGRFA, even if it uses the exceptional clause in the UPOV, it cannot give the farmers the right to exchange and sell the seeds. If it gives this right to the farmers, to respect the ITPGRFA mandate, it will be a violation of UPOV. Thus this is an area which requires immediate solution, as these two documents are contradictory to each other regarding the right to exchange and sell the seeds. Even regarding the right to use, or re-use, due to the biotechnologies like the

GURT, the farmers will not be in a position to re-use the seed, which is also an issue which requires solution.

As far as the farmers' right over their PGR and TK is concerned (farmers' right during plant breeder's access to the PGR and TK), in CBD two recognitions were developed, namely the PIC and benefit sharing. As per CBD, thus the PIC of the indigenous people or the local community who hold the biological resources and the TK are to be obtained. When it comes to the PGRFA (biological resources include PGRFA also), the indigenous or local community are the farmers. Thus, the PIC of the farmers is to be obtained when access is given to their PGR or TK. Benefit sharing is not given as a matter of right in the CBD. This is a deal between the genetic material provider country and the plant breeder directly, and the country has to act as a medium to give the share of the benefit to the concerned indigenous people or local community like the farmers. That means, it is almost *quid pro quo*.

However, benefit sharing covered in the ITPGRFA is multilateral in nature. The reason is that in the international level, to identify a particular group or even a country as the conservers or preservers of a PGRFA which is very common is impossible. Here, the contributors of the PGR are not going to be directly benefited. So, if a farmers' variety in a country (where it is possible to identify the conserver or the preserver) is included in this MLS, there is no direct benefit sharing. Also, if the person who received the PGRFA from the MLS is making the genetic material of the variety developed out of it back to the MLS, he is not under an obligation to benefit sharing. This is because the aim of PGRFA is increased food production, and eradication of poverty of the globe, and not the protection or

promotion of FR. The priority goes to food production, and thus the PBR. It is true that increased food production does not lead to eradication of poverty. Because, even if production increases, poverty will still remain unless there is purchasing power for all. Also, if the increased production is through modern plant breeding, the increase will result in more and more concentration of wealth through the commercial exploitation through PBR. So, in the politics of PBR, in the name of increased food production, the FR loses its vigor. However, the State parties are given the opportunity to use the mandate of ITPGRFA for a strong foundation for FR.

The net result is that, while access to the PGR and TK of farmers is given to the plant breeder, certain peripheral recognition is given to the farmers' efforts. But nothing substantial is given to them in their relationship to their PGR and TK. In other words, they are not recognized as the owners of the PGR and TK. But, these international laws have not plugged any possibility of creating such a right in the national legislations. This is evident from the Biodiversity and Community Knowledge Protection Act of Bangladesh and the African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources.

However, when one examines the Indian legislations called the BDA (made in pursuance of CBD) and PPVFRA (India's *sui generis* law as per the TRIPS mandate) picture is not very promising. The BDA regulates the access to the PGR, and the PPVFRA deals with the farmers' access to the PGR of the plant breeders, and also with benefit sharing and compensation (which is partially a part of the central theme called the plant breeders' access to the PGR and TK of

the farmers.). BDA has not created any right to the farmers, while access is given to the PGR or TK maintained by the farmers. PIC of such farmers is not made either a right, or a mandatory requirement. Also, the three tier system of NBA at the national level, SBB at the state level, and BMC at the local level gives only minimum power to the grass root level body called the BMC. In fact, it is the grass root level bodies which are desirable to identify the holders of PGRFA or TK in the locality. Even though the BMC is required to create a Peoples' Register, for identifying the biological resources (which includes PGRFA), nothing is mentioned about identifying the holders of the same. This may be because, this 2000 legislation did not envisage FR in detail which was only developing at that time. However, it is to be noted that the Bangladesh Act is a 1998 Act which has created a strong property right regime for its farming community. So, altogether, the BDA is not up to the expectations from the FR point of view. So, the entire legislation needs a revamping, and this is another area which requires solution.

Coming to the PPVFRA, this Act has several positives as well as negatives. Firstly, the Act gives the farmers, the right to use, save, exchange and sell the seeds of even the protected variety. Thus, this can be India's legislation to respect the ITPGRFA mandate. That means India has not blindly followed the model *sui generis* law called the UPOV. Also, India has gone a step further to give some additional rights to the farmers' right to use, save and re-use the seeds. This right is given in the context of the GURT which was mentioned above. India has prohibited the registration of plant varieties which are made using GURT like the terminator technology. Also, if the seeds of a registered variety do not give the claimed results, the farmers are

entitled to compensation from the breeder. Though there are certain drawbacks to this guarantee, this is a right guaranteed only by the Indian legislation, among any other plant variety protection legislations in the world.

Other very innovative rights which the Indian Act try to recognize are, the IPR given to the farmers over their PGR, and TK, as well as their newly developed varieties. As far as the latter is concerned, the farmer is given the right just as a modern plant breeder, which means he is also given the PBR. Regarding the former, actually the Act was trying to give IPR to farmers over their traditionally bred varieties, and TK. But due to the lack of conceptual clarity with respect to extant variety, farmers' variety and new farmers' variety, the Act created a lot of confusions which were doubled or tripled by the Rules and Regulations. In fact, the Act does not appreciate the "commonly available", and "collective" nature of the extant variety and the farmers' variety. As a result, while giving IPR to the farmers over their PGR or TK the Act treated FR at par with other IPR, and gave only a temporary right. Even while giving the farmer the PBR for creating a new variety, the Act fails to appreciate that even this modified variety form part of the collective right of the farmers who were adding such varieties for ages.

Here the problem is, though the Act tried to respect the farmers by giving them property right, the way in which is done is not going to work at all. So, this is also another area which requires solution. This solution is only to modify the existing property jurisprudence recognized by the Act. It is a matter of pleasure that the Act has accepted property right for the farmers in principle. The researchers will only have to shape this right keeping in mind the

collective, and perpetual nature of this property. As was mentioned earlier, this legislation is also a platform for the working of ITPGRFA. But, there are some contradictions between the principles of PPVFRA and ITPGRFA, which will eventually lead to blocking the functioning of either the Act, or the Treaty. This happens mostly in the case of benefit sharing. The benefit sharing under the PPVFRA is bilateral in nature, and it is between the plant breeder and the donor of the genetic material (farmers). But, the farmers are to come forward and fight for their benefit sharing. So, the State is not under any obligation to find out the PGRFA and their conservers or preservers under the BDA. Unless it is the obligation of the State, benefit sharing will remain only in letters as far as the farmers are concerned, as they are not themselves aware of what they are preserving, and that they are subject matters of protection.

Though this short coming is there, the Act can still transform this benefit sharing into a right, with some modifications. But, in the context of ITPGRFA, for those PGR which are included in the MLS, the benefit sharing is covered by the ITPGRFA, and not PPVFRA. So, the farmers who conserved the PGR will not directly get any benefit, if their PGR is added to the MLS. So far India has not added anything to the MLS. But, sooner She will have to add all those PGR under the State control, especially those in the *ex situ* collections in the gene banks. Actually the ITPGRFA mandates that the State should encourage legal and natural persons to include their PGR also into the MLS. It is better that India does not include any variety conserved or preserved by the farmers under any circumstance, in which case , the benefit sharing provisions in the PPVFRA will remain redundant, even if they are made effective.

Apart from benefit sharing, PPVFRA also stipulates for a compensation to be given to the farmers who conserved and preserved a particular genetic material which was used for developing a new variety. Actually there is every possibility of benefit sharing and compensation being asked from the plant breeder based on the same genetic material, for the same set of persons. This will invite unnecessary litigations, and this is also another area which requires solution.

These discussions point to the fact that the legal position in India is not far from being improved to the betterment of FR. Now, as the problem areas are identified, the next part of this Chapter proceeds to suggestions.

7.2 Suggestions

As was mentioned above, the most important problem in entailing the farmers with any solid right is the difficulty in identifying even a particular group or community of farmers who conserved or preserved a particular PGRFA or TK. So the first task is to identify them. This duty rests with the State. At present this job is done by two Authorities. One is the BMC under the BDA, which deals generally with all the biological resources. The BMC, is to create a People's Register where to enter the biological resources. There also there is no mandate to identify the conservers of the same. The other is the National Bureau of Plant Genetic Resources (NBPGR), which has so far already identified about four lakhs of PGR. But they have also not identified the farmers who conserved them. So, as there are already two bodies which are entrusted with the job of identifying the PGR, they can be utilized for the purpose of

identifying the farmers who conserved them also. The drawback with the existing functioning of BDA is that it has given the vital powers with the centre. So, a complete restructuring to the following effect is necessary.

A draft Model Legislation to that effect is attempted below, which is the restructured form of BDA. As the function of the restructured BDA is mostly to identify the farmers and to give them property right, the name is also changed to that effect. Regarding the protection of biodiversity, and other matters, the provisions of BDA will continue to be the same. This legislation is to add the identification of farmers, and for giving them certain rights.

7.2.1 Draft Model Legislation for identifying the farmers who conserved the PGRFA and to give them certain rights over the same

The Indian Biological Diversity and Farmers' Collective Rights

Act (BDFCRA)

This Act may be called the Indian Biodiversity and Farmers' Collective Rights Act.

Section 1.

Objective

The objective of the Act is the preservation of biodiversity, the identification of the farmers who preserve and conserve the plant genetic resources for food and agriculture, and making them available for the world for present and future need, and to entail them with right to ownership over the same.

Section 2.

Definitions

- (a) “Farmers’ Collective Rights” means the property right given to the farmers, and the allied rights therein, which the NBA or the SBB will have to respect when access is given to their plant genetic resources or traditional knowledge.
- (b) “Farmers’ Certificate” is the certificate issued to the farmers as per section 7, which give them ownership right over the PGRFA or TK.
- (c) “Farmers’ Colligation” means the group farmers who are to be consulted and whose prior informed consent is to be obtained before access is given to the RPGRFA or RTK.

Section 3:

There shall be established a NBA in the central level and SBB in the State level to act as the agencies for giving approval for access to the biological resources owned by the State. There shall be established BMC in the local bodies for identifying, the biological resources except PGRFA, and for identifying the holders of the same. For identifying the PGRFA, and the holders, there shall be established as part of the BMC, a body called the PGRFAMC. (Plant Genetic Resources for Food and Agriculture Management Committee).

Section 4:

Biodiversity Management Committees (BMCs) – Structure

The BMC shall consist of such number of members as may be prescribed. Among these members there shall be a person who is an expert in the knowledge and use relating to medicinal plants, a person with track record in fighting for environment protection, the Councilor

within the jurisdiction of the respective BMC, an activist in protection of animal rights, and two persons having knowledge about the existing biological resources in the locality.

Section 5:

Functions of the BMC:

It shall be the duty of the BMC to identify all the biological resources in the locality, and the conservers and preservers of the same, as far as possible. The data of all these resources and the conservers shall be entered into a Register called the Biological Resources Register. The Conservers shall be classified into various categories like that of medicinal plants, other plants, (other than PGRFA), flora, and fauna, and any other category that is needed. For each category there shall be a separate Register. Separate Colligation shall be formed for each category, by selecting some eminent persons from the conservers. Each Colligation shall be named after the respective biological resources.

Section 6:

**Plant Genetic Resources for Food and Agriculture Management
Committees (PGRFAMCs) - Structure**

The PGRFAMC shall consist of the following members.

(a) A Chairperson who is to be appointed by the State Government, in consultation with the respective Local Body. The Chairperson shall be well versed in the agricultural practices, and varieties prevailing in the locality.

(b) The Councilor of the locality

(c) The Agricultural Officer of the respective Local Bodies

(d) Five farmers who are involved in conserving and preserving PGRFA, and TK preferably those who actually work in the field and

(e) Two noted activists in protecting the interests of farmers

Section 7:

Functions of the PGRFAMC:

It shall be the duty of the PGRFAMC to identify the PGRFA in the locality, and the conservers and preservers of the same as far as possible. These data shall be entered into a Register called the PGRFA Register. On entering these details, including that of the conservers, the conservers shall be given a certificate called the Farmers' Certificate (FaC). Those who hold these certificates are the registered owners of the respective PGRFA, or TK, whichever is applicable. These Registered PGRFA and TK are called RPGRFA and RTK respectively. From among the conservers of RPGRFA or RTK, depending upon the number of conservers, certain number of persons shall be elected by the conservers as representatives to form a Farmers Colligation (FC). For every practical purpose, the FC shall be consulted by anybody who is under an obligation under this Law to do so. It shall be the duty of the PGRFAMC to consult the FC before access is given to any PGRFA or TK which are registered. It shall be the duty of the SBB to co-ordinate the activities of all the BMCs and PGRFAMCs in the State. For this purpose, there shall be held the meeting of all the Chairpersons of BMCs and PGRFAMCs every trimester, and whenever necessary as may be prescribed by the Rules.

Section 8:

Procedure for giving access to RPGRFA and RTK to non-citizens

(1) Any person who is not a citizen of India, or a corporation or a company registered outside India, shall not have access to the PGRFA or TK without the approval of the NBA. Provided that when access is to be given to RPGRFA or RTK, the NBA shall refer the matter to the concerned PGRFAMC. The PGRFAMC shall consult the concerned FC for seeking approval, and their prior informed consent shall be obtained. The PIC shall be obtained by explaining to them the reason for such access is sought, the amount of compensation that is agreed by the person who seek access. The PIC shall be reduced to writing in the Form prescribed in the Rules. The FC shall be absolutely free to give or not to give consent for giving access to their PGRFA or TK. The PGRFAMC shall intimate the decision of the FC to the NBA, along with the evidence to the effect of giving consent. If consent is not given, that matter shall also be intimated to the NBA with reasons, along with evidence to show that it was refused by the FC, after getting enough information.

Section 9:

Procedure for giving access to RPGRFA and RTK to citizens:

Any person who is a citizen of India shall have access to the PGRFA or TK with the approval of the SBB. Provided that when access is to be given to RPGRFA or the RTK, the SBB shall refer the matter to the concerned PGRFAMC. The PGRFAMC shall consult the concerned FC for approval.

Section 10:

Collective Rights of Farmers

On getting registration, the Farmers who are conservers and preservers of PGRFA and TK (holders of RPGRFA, and RTK) have the following rights.

- (a) The Farmers are having the Collective ownership over their PGRFA and TK. This ownership gives them the exclusive right to use, save, exchange, and develop the same.
- (b) Anybody who wants to have access to the same shall get the consent of such Farmers.
- (c) The Farmers have every freedom to give consent or not.
- (d) In case consent is given, the Farmers are entitled to right to compensation from those who seek access to their PGRFA or TK, for breeding purposes, or research purposes as a reward for their efforts in conserving, and preserving the same.
- (e) As a part of this right, the Farmers can ask for any reasonable amount of money, on the refusal of which the Farmers can refuse consent.

While The Biodiversity and Collective Rights Act identifies the farmers who conserved and preserved the PGRFA, and gives them collective ownership over the same, and the collateral rights like the PIC and right to compensation, which are relevant when the plant breeders have access to the PGRFA and TK of the farmers, there is a need to have various rights to farmers in the context of PBR.

7.2.2 Suggestions for including FR in TRIPS – Plant Breeders’

Access to the PGR and TK of farmers and Farmers rights over their PGR and TK

These rights are the rights over the PGR of the plant breeders, and the farmers’ other rights over their PGR and TK. These are to be recognized in a *sui generis* law for the protection of FR. This means that it is better to separate the Farmers’ Rights part and the allied rights from the PPVFRA, and to make them part of the *sui generis* law. But, before India goes for such a *sui generis* law, it is essential that there should be a provision for that in the TRIPS itself, as in the case of PBR. Also, there should be an International Convention for the Protection of Farmers’ Rights as the model *sui generis* International law, just like the UPOV. Otherwise, an isolated law like that in India will have only a short life span. Also, FR will not have international development or support.

However, to include FR in TRIPS has certain limitations. Because, hitherto, almost all the IPR recognised in the TRIPS have certain characteristics in common. They are individualistic and private in nature, and are given temporarily. The owner is definite, as in the case of the analysis of Locke and Hegel (discussed in first Chapter). The owner of these properties has various allied rights called the right to own it, use it, and *alienate* it. That is why in all the IPR, the holder is capable of giving license to others to use it. Though the intellectual part is not alienable, the material expression of the same is alienable.

However, many of these characteristics are absent in the case of FR. Because first of all FR is collective in nature. Due to the same reason, it is not alienable as well. But to recognize a property

right, alienability need not be an essential thing. The purpose is to be taken into account. There could be two purposes for giving property rights to the farmers over the PGRFA and the TK. One is, they can sell it and make money, like any other property. The other is, they can preserve, it and prevent the plant breeders from misappropriating it, or even to appropriate it without rewarding them for having maintained them, and having helped them to get PBR. For which of these purposes property right should be given to the farmers? Obviously the second purpose is the answer. Recognising the TK as a property which is inalienable, will raise question as to whether TK is capable of being considered as a property. Because, as the TK is collectively owned by many, a single owner cannot be found out. Also, even if an owner is found out, he cannot alienate it, as it is a knowledge which can only be shared.

Here, what is crucial is, the purpose for which the property right is recognized. Is it for alienating it? The answer is an emphatic no. It is only to protect it from being taken away *unjustly*. Hence there is no need of alienating TK. So, also there is no need of identifying a single owner. Thus, there is no need to search for the bundle of rights associated with right to property forwarded by Salmond¹. It is a fact that before the concept of individualistic or private ownership, there was a property jurisprudence based on collective ownership as was advocated by Seagal². It is worth to quote him as he observed “if a

¹ These bundle of rights are, (a) the right to possess a thing (b) the right to use and enjoy the thing (c) the right to consume, destroy or alienate the thing (d) characteristic of being indeterminate in duration (e) the residuary character. Salmond, *Jurisprudence*, Sweet & Maxwell, London, (12th Edn.-1966), p. 246.

² See, N.S. Gopalakrishnan, *Intellectual Property and Criminal Law*, National Law School of India University, Bangalore, at. P.6

cultivator shares with other members of the community, he may be said to hold the land for the benefit of all. The important question is not who occupies the soil but what is done with the fruits of the soil” This shows that collective ownership is possible, as the object of giving property right over PGRFA and TK is for retaining them.

This discussion suggests that there is a jurisprudential basis for collective property right, even those which are inalienable. Now the question is, whether it is possible to consider FR as an IPR and place it in TRIPS.

As was mentioned above, almost all IPR are individualistic, temporary and alienable. But, that does not mean that an *ejusdem generis* is capable of being reduced from those rights. Because, the contents of these rights are not uniform in nature. Even regarding the intellectual output, or the amount of creativity, these rights differ. In the case of copyright, as a synonym to these three aspects, originality is the word used. “Originality’ is a very important aspect of this right, however slight the originality content may be³. The types of literary and artistic works that are included also show that some amount of creativity is needed here. In the case of trademarks (even personal

³ Article 2 of the Berne Convention for the Protection of Literary and Artistic Works, (which forms part of Article 9 of the TRIPS) reads thus: The expression "**literary and artistic works**" shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression, such as books, pamphlets and other writings; lectures, addresses, sermons and other works of the same nature; dramatic or dramatico-musical works; choreographic works and entertainments in dumb show; musical compositions with or without words; cinematographic works to which are assimilated works expressed by a process analogous to cinematography; works of drawing, painting, architecture, sculpture, engraving and lithography; photographic works to which are assimilated works expressed by a process analogous to photography; works of applied art; illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science.” Also see Indian copyright Act, 1957, section 13.

name or letters are eligible for registration⁴) and geographical indication⁵, however, the amount of creativity and intellectual output are much less.

However, in the case of patent, things are different, this right is given when the subject matter is new, involve an inventive step, and capable of industrial application⁶. Invention is defined by some legislations as any *new and useful* art, process, method or manner of manufacture etc.⁷ Among these rights, PBR is close to patent in the sense that both these require novelty, usefulness, and inventiveness, and thus a higher level of intelligent input. However, there are differences between these two rights as well.

Also, take the case of Geographical Indications (GI). Geographical indications are “indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.” This is a collective right. This shows that, a collective right, which is

⁴ TRIPS, Article 5: 1. Any sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings, shall be capable of constituting a trademark. Such signs, in particular words including personal names, letters, numerals, figurative elements and combinations of colours as well as any combination of such signs, shall be eligible for registration as trademarks. Where signs are not inherently capable of distinguishing the relevant goods or services, Members may make registrability depend on distinctiveness acquired through use. Members may require, as a condition of registration, that signs be visually perceptible.

⁵ TRIPS Article 22: 1. Geographical indications are, for the purposes of this Agreement, indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.

⁶ *Id.*, Article 27 (1).

⁷ Indian Patent Act, 1970, section 2(j).

inalienable, and involves a different type or level of creativity, will fit into the classification of IPR, and thus can find a place in TRIPS. Thus, a new provision should be added to IPR in the following manner.

“Farmers’ Rights: Farmers Rights are given as recognition of the farmers’ efforts in conserving, preserving and developing plant genetic resources for food and agriculture and traditional knowledge associated with the same.

Farmers shall be given intellectual property rights over the plant genetic resources for food and agriculture, and traditional knowledge called the farmers rights (FR). The access to the same shall be subject to this right and the allied rights. FR shall be protected through an effective *sui generis* law for the protection of FR. The salient features of the *sui generis* law shall be as follows.

- (a) (1) This right shall be a permanent right. (2) It shall be given over plant genetic resources which are conserved, preserved by farmers which are of actual or potential value. (3) This right shall also be given over the Traditional Knowledge developed by them which are of actual or potential value.
- (b) Nature and extent of this right: FR excludes others from using for any purpose the PGRFA or TK of the farmers (a) without their prior informed consent and (b) without paying adequate compensation. When the use of such PGRFA or TK results in property rights like PBR, or any other commercial utilization, the farmers are entitled to the share of the potential as well as actual benefit arising out of the utilization of the same. The violation of these conditions will result in the cancellation of

property rights where such rights are granted, along with penal consequences. In other cases, with penal consequences.

- (c) Plant varieties which are developed by farmers using traditional methods, called the New Farmers Variety shall be given New Farmers' Rights (NFR). The criterion for the same shall be only distinctness. (Distinct means, this New Farmers' Variety is distinct from all the existing varieties at least in one characteristic). When the Farmer/farmers applies for registration of NFR, the State shall adopt different test for finding out the criteria, and the farmer/ farmers shall not be asked to give any scientific explanation for the same. It shall be the duty of the State to satisfy itself of the criterion."

7.2.3 Suggestions to be included in TRIPS – Farmers' access to the PGR of plant breeders

This is regarding the plant breeders' access to the PGR and TK of the farmers. Regarding the farmers' access to the PGR of the plant breeders, (farmers' right to use, save, exchange and sell the seeds of protected varieties), there exists a problem as was discussed in the previous Chapters. While UPOV gives only an exceptional option to the States to allow the farmers to use, save and re-use the seed, ITPGRFA recognizes the farmers' right to use, save, exchange, and sell the seeds. This anomaly shall be corrected in TRIPS. For this, after section 27 (3) (b) a proviso should be added in the following manner.

TRIPS, Article 27 (3): "Members may also exclude from patentability:

-
- (a) diagnostic, therapeutic and surgical methods for the treatment of humans or animals;
- (b) *plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof.*”

Provided that , the *sui generis* law shall exempt from the purview of PBR, the farmers’ right to use, save, exchange, and sell the farm saved seeds of the protected variety”.

This then suggests that India should also go for a *sui generis* law for the protection of FR. Thus, including the registration of new farmers variety (farmers are also given breeders’ rights in the PPVFRA. See Chapter on PPVFRA- Chapter VI), everything related to farmers’ relationship with their PGRFA and TK shall be taken out of the PPVFRA. Those provisions which deal with the farmers’ right to use, save, exchange, and sell the seeds, and the rights relating to compensation aspects on failure of the performance of the registered seeds shall be retained in the PPVFRA itself, as they are linked to the PBR. The PPVFRA should then be renamed as “The Protection of New Plant Varieties and Plant Breeders’ Rights Act”, (PPVPBRA). The *sui generis* law for the protection of FR shall be named as “Protection of New Farmers’ Varieties, Farmers’ Varieties, and Farmers’ Rights Act”. (PNFVFRA).

The PNFVFRA should deal with the details of the *sui generis* law as is proposed in the TRIPS. The rights of the farmers

when access is given to the PGRFA and TK proposed in TRIPS will be taken care by the revised BDA (proposed BDFCRA). Thus, these two legislations together can make a Farmers' Rights Code for India.

7.2.4 Other Suggestions

- (1). The most important thing about any right is that, it should be made known to the beneficiaries, with all details, and dimensions. So, first of all, the farmers should be made aware of the existence of the rights for them. The initiative for the same shall be taken by the Local Bodies. For this purposes, classes shall be conducted for the farmers in the grass root level.
- (2). The farmers shall be encouraged to be engaged in farming using their traditional varieties, which will reduce the risk to environment as well as the health of the animals, plants and human beings. This shall be the duty of the State agencies.
- (3) One of the main reasons why farmers do not get their deserving rights is that *they are not organised*. A very strong farmers' movement is necessary for fighting their causes. Creation of governmental as well as nongovernmental organizations (NGOs) is a must of the hour. But, it is to be noted that these organizations sideline the main issues that affect the farmers and exist for grabbing money from the government or other funds.
- (4) This thesis dealt with the rights of farmers over the PGR of the protected variety. In other words, farmers' right to use,

save, exchange and sell the seeds of the registered variety. The reason why this right is recognized is to help the farmers to continue in the profession by making available the fruits of technology. So, if a high yielding variety is developed by the plant breeders, the benefit of the same shall be available to the farmers, so that they can continue in farming with higher profits. This will act as an incentive.

However, given the possibilities of the hybrid varieties and GM varieties being health hazardous, and anti-environmental, it is better that the farmers do not try to use such seeds. This will avoid the problems caused by UPOV, 1991. It is pointed out by the world famous agricultural scientist Sri. Masanobu Fukuoka that without resorting to any modern techniques, it is possible to have high yielding crops. He points out that nature has the capacity to give high yield, and man need not manipulate anything for the same. Only thing that is needed is, to let the nature in its natural form. So he forbids three things. These are, tilling the land, using artificial fertilizers, and removing herbs (weeds). This looks like cutting at the very root of the concepts of farming, and also as a utopian idea. But, as Fukuoka himself testifies from his experience⁸, there are also many others who tried the same and found it to be true. From the personal experiences of many farmers at Thrissur, Fukuoka's unconventional method of farming was and is still found to be more yielding, without using any chemical fertilizers. This gives independence to the farmers along with producing safe food.

⁸ Masanobu Fukuoka, *One Straw Revolution*, Other India Press, Goa, 1978.

Such types of organic farming using the traditional seeds should become more prevalent among the farmers. State shall promote this type of farming through the grass root level agencies like the local bodies. The Agriculture Officers of the Panchayats shall be entrusted with the duty to frame schemes in this regard. For those who are interested, land should be allotted. It has already become a reality in Mizoram atleast in the form of legislation called the Mizoram Organic Farming Act, 2004. Organic farming is defined as “a system of cultivation which is eco friendly and which can achieve sustainable productivity without the use of artificial or external inputs such as chemical fertilizers and pesticides..⁹”

As was seen in the earlier discussions, there are atleast three ways in which farmers get some benefit in monetary and otherwise. (1) The share of the benefit under BDA which is to be deposited in the National Biodiversity Fund, (2) the share of the benefit, and (3) compensation under the PPVFRA which is to be deposited in the National Gene Fund. These amounts are to be given to the farmers who are found to have contributed the conservation and preservation of a genetic material which was used in the development of a new variety as per the Act. This amount shall be utilized for the purpose of promoting such eco friendly farming.

- (5) Another more important factor to be noted is that, with the advent of PBR, there is a possibility of the small scale farmers' disappearing from the profession. So, as in the case of plant breeders who is given incentive to breed new varieties in the form of property rights, farmers shall also

⁹ Mizoram Organic Farming Act, Section 2(i).

be given incentive. This incentive shall be in addition to the property right to be given to them as was suggested above. It is a fact that the farmers (usually the small scale farmer) who produce the agricultural products do not get a proportionate reward for his efforts. This is because the profit is made by the intermediaries. So, the local bodies shall also create markets for the farmers to directly sell their products with the deserving price.

- (6) For all these things to happen, there should be strength for the farmers which is possible only if they are *organised*. Farmers are of various types, ranging from capitalist farmer, to the agricultural labourer. But a major chunk of the farming community in India are illiterate, and poor. They cannot fight for their right unless there is the backing of a strong organization behind them. Every Panchayat or such other local body shall create Farmers' Organisations in their locality. Training classes, and awareness creation shall be given to the members of the Organisation by the local bodies.

The net result of all these shall be to create a situation where *farmers become proud of being farmers* just as the plant breeders.

The rights of farmers all around the world shall be respected through a United Nations Convention on the Human Rights of Farmers. A model Convention is drafted below.

7.2.5 Draft United Nations Convention on the Human Rights of Farmers (CHRF)

PART I -GENERAL

Recalling the efforts of the international community in protecting the rights of the farmers in the wake of the PBR,

Keeping in mind the definition of Farmers Rights given in the International Treaty on the Protection of Plant Genetic Resources for Food and Agriculture,

Realising the need to recognize the Human Rights of the farmers including property rights over the Plant Genetic Resources for Food and Agriculture, and traditional knowledge conserved and preserved by them in the context of PBR,

Aware of the need to create a new Human Rights Regime for protecting the collective intellectual property rights of the farmers, as different from the Human Rights Regime of individualistic intellectual property rights enunciated in the International Covenant on Economic Social and Cultural Rights,

Being aware of the consequences of the farming community disappearing due to the modernization of farming for the environment, as well as food safety,

Recalling the need to be fair and just to the needs of the farming community especially in the wake of plant breeding and PBR, and to give the farmers the deserving place by recognizing solid rights for them,

The United Nations adopt the Convention on the Human Rights of Farmers on this date.

Article 1

This Convention shall be called the UN Convention on the Human Rights of Farmers.

Article 2

Definitions

- (a) “Farmer” is defined as (a) a person or group of persons who conserve and preserve the plant genetic resources for food and agriculture (PGRFA), and traditional knowledge in the process of doing farming, and/or (b) those who contribute to the food production in that process, and handle the seeds for further production.
- (b) “Farmers’ Rights” means the rights of farmers which are recognized by this Convention.
- (c) “Plant Breeders’ Rights” are the intellectual property rights given to the plant breeders as per the *sui generis* law in the member countries in furtherance of their obligation under TRIPS.

PART II- FARMERS’ RIGHTS

Article 3

Basis of Farmers’ Rights

- (1) Farmers have a unique role to play in the globe which no other section of the society is capable of playing. They are the producers of food, and conservers or plant genetic

resources for food and agriculture. They thus contribute to conservation of agrobiodiversity, and biological diversity. Their method of farming helps in sustainable use of the genetic diversity. They are thus the key factors in achieving the objects of CBD also. They are also making available the plant genetic resources for food and agriculture for plant breeding, and thus the newly developed varieties. Thus the farmers are entitled to all the rights associated with these capacities. These rights are the Human Rights of Farmers which enable them to continue as farmers.

- (2): State Parties shall therefore take all measures to identify the conservers and preservers of the PGRFA and TK in their State for the purpose of giving them the rights enshrined in this Convention.

Article 4

(1) **Rights emanating from the capacity as food producers:**

Being producers of food, the farmers are entitled to autonomy in all activities of farming, which includes their autonomy in handling the seeds in the manner they like. This includes their right to use, save, exchange, re-use and sell the seeds even of the protected variety. Selling of the seeds can be subject to the limitations arising out of the plant breeders' rights which are recognized by International Laws. This is notwithstanding the limited, optional, exceptional privilege given to the farmers in the International Convention for the Protection of new Varieties of Plants (UPOV), 1991.

- (2) No technology shall be employed by the plant breeders with the purpose of preventing the farmers from using and re-using the seeds. State Parties shall take measures to see that such measures results in the cancellation of the registration of the variety. These measures shall also ensure that Farmers are given adequate compensation for the non-performance of the seeds, or other failures. The compensation shall be such that the monetary or other losses occurred due to the failure are completely made good.

Article 5

**(1) Rights emanating from the capacity as conservers of
PGRFA and TK:**

Farmers are the **collective owners** of the PGRFA and TK conserved and preserved by them. They have thus the Human Right to benefit from the moral and material interests arising from the utilization of the same, of which they are the owners. State parties shall recognize these rights in the following manner.

- (2) The farmers are entitled to property rights over the PGRFA and TK preserved by them. State Parties shall take legislative measures to entail collective property rights including Intellectual Property Rights to the farmers.
- (3) By being the owners of PGRFA and TK, the farmers have the full autonomy to give consent or not to give consent for giving access to their PGRFA and TK. Nothing mentioned

in any other international law shall restrict this right of the farmers in any manner.

- (4) By being the owners of the PGRFA and TK, the farmers have the *right to get a share of the benefit arising from their utilization.*

Article 6

(1) Other Human rights of Farmers:

Farmers are entitled to all Human Rights which are needed for their sustenance as farmers as individual or as a group or community. These include the right to do farming in a profitable manner, and the right to be benefited from the scientific advancements such as plant breeding. This gives the right to be benefited from the use and re-use of the seeds of the new plant varieties which are subject to PBR.

- (2) State Parties shall take all measures to ensure that the farmers exit from the profession due to lack of State support or financial support. State Parties shall take measures in the grass root level to find out the difficulties of the farmers in continuing in the profession, and to frame schemes for their welfare. If the reasons are connected with the emergence of plant breeding or PBR, State shall find out the problems with the existing legislations, and other measures, and correct the same by way of amendment, or alteration, or any other measure.

PART III- ENFORCEMENT MACHINERY

Article 7

Enforcement Machinery:

- (1) There shall be established an enforcement machinery of this Convention called the **Court on Farmers Rights (CFR)**.

Article 8

The Constitution of the Court:

The Court shall consist of two divisions. One is the **Administrative Division of the CFR (ADCFR)**, and the other the **Judicial Division of the CFR (JDCFR)**.

Article 9

The Constitution and functions of ADCFR

- (1) The ADCFR shall consist of such number of the persons as the State Parties, and two members each from the Union for the Protection of new Plant Varieties, and the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture. This body shall be a permanent body, with one third of the members retiring every five years. There shall be one member from each State Party from among five persons to be nominated by the State. This person shall be an eminent person in the field of protection of farmers' rights in a significant way.
- (2) The ADCFR shall ensure the enforcement of this Convention. The ADCFR shall meet twice in a year in its

Head Quarters. In these meetings, there should be review of the steps taken by the State Parties in the implementation of this Convention in their countries. Every year a Report shall be submitted by State Parties in this regard. This Report shall highlight the steps taken by the State Parties to find out the reasons (if any) for the farmers' exit from the profession, or any other problems faced by the existing farmers, and the measures taken to solve them. The ADCFR shall act as a co-coordinator between the Union for the Protection of Plant Varieties, and the Governing Body of the International Treaty on the Plant Genetic Resources for Food and Agriculture. Problems arising out of conflict between the PBR and FR shall be discussed, and solved in the meetings of the ADCFR.

Article 10

Constitution and functions of JDCFR:

- (1) The JDFCR is a court where the complaints of farmer, group of farmers, community of farmers or the Organisations of farmers, and State Parties are filed and redressal sought for. The complaint shall be regarding the violation of any rights enshrined in this Convention, or the action or non- action of the State parties regarding anything in this Convention. The complaints shall not be anonymous. The local or domestic remedies shall be exhausted, and the complaint shall be filed before nine months from the exhaustion of the last local or domestic remedy. However, for valid reasons to be recorded by the

Plenary Court, the complaint can be entertained even after the said period.

The JDFCR shall consist of (a) Plenary Court, (b) Preliminary Court, (c) Superior Court and (d) Supreme Court.

- (2) **Plenary Court:** This Court will act as the registry of the court where the complaints are scrutinized, and rejected or received for obvious reasons mentioned in Article 10 (1). When the Plenary Court receives a complaint, the matter shall be referred to the Preliminary court.
- (3) **Preliminary Court:** This Court shall consist of nine judges to be elected from among the panel presented by the State Parties, who are well versed in the practices relating to agriculture, and plant breeding, along with International Human Rights Law and Intellectual Property Rights Laws. The composition should be such that atleast half of the judges are from biological rich countries, with agriculture as a source of main income and as a livelihood of the people. The tenure of the judges shall be decided by the State Parties in their meetings. The Court shall decide on the matter with two third majority. The decision shall be based on the principles of international laws, international customary laws and the national legislations in question.
- (4) If any party is dissatisfied with the decision of the Preliminary Court, the matter shall first be intimated to the *amicus curie* of the Superior Court. Appeal can be preferred to the Superior Court, if the *amicus curie* of the

Superior Court gives approval, with a reasoned certificate to that effect.

- (5) **Superior Court:** The Superior Court shall consist of twelve judges to be elected from among the panel presented by the State Parties, who are well versed in International Human Rights Law and Intellectual Property Rights Laws. The composition should be such that at least half of the judges are from biological rich countries, with agriculture as a source of main income and as a livelihood of the people. The tenure of the judges shall be decided by the State Parties in their meetings. The Court shall decide on the matter with two third majority. The decision shall be based on the principles of International Laws, international customary laws and the national legislations in question. The decision of the Superior Court shall be final unless the Superior Court refers the matter to the Supreme Court. This reference shall be done when the case involves the interpretation of an International law, which in the opinion of the Superior Court involves substantive question of law, or of grave importance, or is a matter which due to any other reasons requires the expertise of the Supreme Court.
- (6) **The Supreme Court:** The Supreme Court shall consist of twenty one judges to be elected from among the panel presented by the State Parties. The judges shall be eminent jurists who are well versed in the International Law especially law relating to biodiversity, PBR, Intellectual Property Rights, and International Human Rights Law.

Article 11

State Parties undertake to comply with the decision of the Courts without delay.

Article 12

No reservation to this Treaty is allowed.”

7.2.6 Some more general Suggestions.

Before concluding the thesis, some general suggestions are also put forward. Any measure taken by the State will have limitations, if the farmers themselves are not comfortable in their profession. The reason why farmers disappear from the State of Kerala in India is that the people prefer white collar jobs, and are distracted to the toiling job which gives them no status in the society. Agriculture, and thus farmers (especially the medium) are not rated as good profession, and professionals respectively. This is because of the impression among the people that agriculture is a manual labour which involves no intellectual output. Perhaps this is the reason why the IPR do not equate the efforts of the farmers with that of plant breeders.

It is high time that the people are made aware of the greatness of agriculture and the farmers, and the enormous contribution they make to the world. To be indifferent to their needs and sufferings, and to put them at stake in the wake of new plant breeding technologies like gene technology is an unpardonable omission and commission from the part of the human conscience. It is the moral as well as legal obligation of the international as well as national laws and of every human being, to see that farmers are considered as the most respected professionals, and that they enjoy all

sovereignty in their profession, and all comforts in life. May the mother earth be then saved by their sustainable methods of farming! May the mother earth dance with joy in seeing them happy!

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