

**INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES
AND PROTECTION OF PLANT VARIETIES & FARMERS' RIGHTS ACT**

ORIENTATION LECTURES

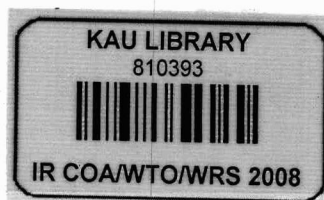
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FORWORD

Agricultural sector in Kerala heavily depends on international trade and approximately 80 per cent of the agricultural produce in the state is one way or other affected by the new trade policies. Hence the agricultural prosperity of the state primarily depends on the efforts for maximizing the benefits and minimizing the adverse impacts of the emerging dynamic trade regime under WTO. With this objective the Centre for WTO/IPR issues was formed in Kerala Agricultural University during 2001. The centre serves as the institutional arrangement for study, documentation, analysis, interpretation and monitoring of WTO related issues in agricultural sector of the state.

To highlight various issues on the conservation and protection of plant genetic resources, the WTO Cell, Government of Kerala in collaboration with Kerala Agricultural University is conducting a one day workshop on "International Treaty on Plant Genetic Resources and Protection of Plant Varieties and Farmers' Rights Act" including lectures by resource personnel from national/state institutes. It is understood that four technical sessions will be included covering areas like International Treaty on Plant Genetic Resources, Protection of Plant Varieties and Farmers' Rights Act, Biodiversity in Agriculture and Geographical Indications of goods.

The delegates include scientists from ICAR institutes and Agricultural University, Officers of Agricultural Department, NGO's and farmers. I am sure that the lectures will be deliberated in detail. It is planned to release the publication covering the topics presented in the form of a book. I am hopeful that the publication will be useful to scientists, extension personnel, students, farmers and other stakeholders.

I wish the deliberations a grand success.

Vellanikkara
09-01-2008

Sd/-
K.R. Viswambharan, IAS
Vice Chancellor, KAU

CONTENTS

	Topic	Page No.
1	<i>International Treaty on Plant Genetic Resource for Food and Agriculture</i> Sudhir. K. Soam	7
2	<i>Indian Legislation on Protection of Plant Varieties and Farmers' Rights</i> S. Bala Ravi	18
3	<i>Conservation and Management of Agro-Biodiversity</i> D. Alexander	37
4	<i>Geographical Indications of Goods</i> C. R. Elsy and K. Jesy Thomas	55



1 INTERNATIONAL TREATY ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

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Plant genetic resources for food and agriculture are crucial in feeding the world's population. They are the raw material that farmers and plant breeders use to improve the quality and productivity of our crops. The future of agriculture depends on international cooperation and on the open exchange of the crops and their genes that farmers all over the world have developed and exchanged over 10,000 years. All countries depend on crops and the genetic diversity within these crops from other countries and regions.

After seven years of negotiations, the FAO conference adopted the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) in November 2001. This legally-binding treaty covers all plant genetic resources relevant for food and agriculture. It is in harmony with the Convention on Biological Diversity (CBD).

The treaty is vital in ensuring the continued availability of the plant genetic resources that countries will need to feed their people. We must conserve for future generations the genetic diversity that is essential for food and agriculture.

Significance of the Treaty

For thousands of years there were no international laws governing genetic resources. Farmers and plant breeders were generally free to exchange seeds and plant propagating material. Free access to plant genetic resources has allowed farmers and breeders to develop a wide diversity of crop varieties and animal species adapted to many different environments and climates, resistant to many different pests and diseases and suited to many different tastes and cultures.



Over time, as crops and livestock spread and developed, every country in the world became dependent on genetic resources from other regions. We owe our agricultural biodiversity to that fact that the patterns of use and exchange of genetic resources were able to develop openly; agricultural growth and innovation depends on it.

Recognizing the global importance of plant genetic resources for food and agriculture, the 1983 FAO Undertaking on Plant Genetic Resources for Food and Agriculture, the non-binding agreement that was the forerunner to the International Treaty, explicitly stated that these resources were the 'common heritage' of humankind. Some countries declined to subscribe to the International Undertaking on the grounds that it did not recognize intellectual property rights.

The Convention on Biological Diversity (CBD), which came into force in 1993, emphasized states' sovereign rights over their natural resources and their "authority to determine access to genetic resources, subject to national legislation." The CBD also establishes that states shall endeavour to create conditions which facilitate access to genetic resources, and that such access, when granted, should be subject to prior informed consent, and subject to mutually agreed terms. These are broad principles that can be implemented in a number of different ways. Most countries' efforts to implement the access and benefit sharing provisions of the CBD have taken the form of creating bilaterally oriented access laws that require case-by-case negotiations to establish legal conditions for obtaining and using materials from a country.

The global community has agreed that this approach is generally not well suited to plant genetic resources for food and agriculture. Such a technically complex process involving heavy reliance on expensive legal backup would have stopped the exchange of germplasm and seriously hampered the development of the variety; it would do so for all agricultural research.



Need for an agreement

Governments negotiating the CBD realized that it was not appropriate, for example, for the existing *ex situ* collections of plant genetic resources for food and agriculture held around the world, that were collected prior to the coming into force of the CBD. At the same time, governments felt it was necessary to promote cooperation between the CBD and the Global System of Sustainable Use of Plant Genetic Resources for Food and Agriculture as supported by FAO. Consequently the global community recognized the need for a new agreement that would bring the FAO International Undertaking in line with the CBD. Seven years of negotiations later, the International Treaty for Plant Genetic Resources for Food and Agriculture was adopted.

In November 2001, FAO conference adopted the International Treaty for Plant Genetic Resources for Food and Agriculture. This legally binding treaty came into force on 29 June 2004, ninety days after forty governments had ratified it. In June 2006, the Governing Body of the International Treaty met for the first time. As of November 2006, 110 countries have ratified the treaty. More countries are now coming forward to join the treaty.

Objectives of the Treaty

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 security.

Its scope is all plant genetic resources for food and agriculture. The treaty defines the plant genetic resources for food and agriculture as any genetic material of plant origin of actual or potential value for food and agriculture. The treaty is at the cross-roads between agriculture, trade and the environment, is on par with trade and environmental instruments, and promotes harmony and synergy across the sectors.



Multilateral System of Access and Benefit-sharing

It establishes a multilateral system of access and benefit-sharing for plant genetic resources, for an agreed list of crops, established on the basis of interdependence and food security. Through the treaty, countries agree to establish an efficient, effective and transparent multilateral system to facilitate access to plant genetic resources for food and agriculture, and to share the benefits in a fair and equitable way. The governing body of the treaty, which will be composed of the countries that have ratified it, will set out the conditions for access and benefit-sharing in a “Material Transfer Agreement”.

Resources may be obtained from the multilateral system for utilization and conservation in research, breeding and training. When a commercial product is developed using these resources, the treaty provides for payment of an equitable share of the resulting monetary benefits, if this product may not be used without restriction by others for further research and breeding. If others may use it, payment is voluntary.

The multilateral system covers a list of 35 food crops and 29 forage crops. They represent most of the important food crops on which countries rely. Through the multilateral system, plant breeders, farmers and public and private research institutions will be able to access these plant genetic resources under standard conditions. Farmers and plant breeders will, therefore, be able to use a wide range of plant genetic resources. This will ultimately benefit consumers, by providing them with greater choice and quality of food products. It will also prevent monopolization by the most economically powerful actors.

The multilateral system will greatly reduce transaction costs for the exchange of plant genetic material between countries. In order to use breeding material from different countries to produce a new variety, plant breeders and researchers will no longer need costly separate bilateral agreements with each donor country. The treaty will also enable developing countries to build the capacity to conserve and use genetic resources. Benefit sharing will include exchange of information, access and transfer of technology and capacity-building.



Another key aspect of benefit sharing is that, in certain cases, those who commercialize plants bred with material from the multilateral system will be required to pay an equitable share of the monetary benefits to a trust fund, which will be used to help developing countries improve the conservation and sustainable use of plant genetic resources. The level, form and manner of the payment will be determined by the governing body of the treaty.

List of crops covered under the Multilateral System

FOOD CROPS

Breadfruit (*Artocarpus*)

Asparagus (*Asparagus*)

Oat (*Avena*)

Beet (*Beta*)

Brassica complex (*Brassica et al.*) Genera included are: *Brassica*, *Armoracia*, *Barbarea*, *Camelina*, *Crambe*, *Diplotaxis*, *Eruca*, *Isatis*, *Lepidium*, *Raphanobrassica*, *Raphanus*, *Rorippa*, and *Sinapis*. This comprises oilseed and vegetable crops such as cabbage, rapeseed, mustard, cress, rocket, radish, and turnip. The species *Lepidium meyenii* (maca) is excluded.

Pigeon Pea (*Cajanus*)

Chickpea (*Cicer*)

Citrus (*Citrus*) Genera *Poncirus* and *Fortunella* are included as root stock.

Coconut (*Cocos*)

Major aroids (*Colocasia*, *Xanthosoma*), they also include taro, cocoyam, dasheen and tannia.

Carrot (*Daucus*)

Yams (*Dioscorea*)

Finger Millet (*Eleusine*)

Strawberry (*Fragaria*)

Sunflower (*Helianthus*)

Barley (*Hordeum*)

Sweet Potato (*Ipomoea*)

Grass pea (*Lathyrus*)

Lentil (*Lens*)

Apple (*Malus*)

Cassava (*Manihot esculenta*)



Banana / Plantain (*Musa*) except *Musa textilis*.
Rice (*Oryza*)
Pearl Millet (*Pennisetum*)
Beans (*Phaseolus*) except *Phaseolus polyanthus*.
Pea (*Pisum*)
Rye (*Secale*)
Potato (*Solanum*) Section *tuberosa* included, except *Solanum phureja*.
Eggplant (*Solanum*) Section *melongena* included.
Sorghum (*Sorghum*)
Triticale (*Triticosecale*)
Wheat (*Triticum et al.*) Including *Agropyron*, *Elymus*, and *Secale*.
Faba Bean / Vetch (*Vicia*)
Cowpea (*Vigna*)
Maize (*Zea*) excluding *Zea perennis*, *Zea diploperennis*, and *Zea luxurians*.

FORAGES

Legume Forages

Astragalus chinensis, *cicer*, *arenarius*
Canavalia ensiformis
Coronilla varia
Hedysarum coronarium
Lathyrus cicera, *ciliolatus*, *hirsutus*, *ochrus*, *odoratus*, *sativus*
Lespedeza cuneata, *striata*, *stipulacea*
Lotus corniculatus, *subbiflorus*, *uliginosus*
Lupinus albus, *angustifolius*, *luteus*
Medicago arborea, *falcata*, *sativa*, *scutellata*, *rigidula*, *truncatula*
Melilotus albus, *officinalis*
Onobrychis viciifolia
Ornithopus sativus
Prosopis affinis, *alba*, *chilensis*, *nigra*, *pallida*
Pueraria phaseoloides
Trifolium alexandrinum, *alpestre*, *ambiguum*, *angustifolium*, *arvense*, *agrocicerum*,
hybridum, *incarnatum*, *pratense*, *repens*, *resupinatum*, *rueppellianum*,
semipilosum, *subterraneum*, *vesiculosum*



Grass Forages

Andropogon gayanus

Agropyron cristatum, desertorum

Agrostis stolonifera, tenuis

Alopecurus pratensis

Arrhenatherum elatius

Dactylis glomerata

Festuca arundinacea, gigantea, heterophylla, ovina, pratensis, rubra

Lolium hybridum, multiflorum, perenne, rigidum, temulentum

Phalaris aquatica, arundinacea

Phleum pratense

Poa alpina, annua, pratensis

Tripsacum laxum

Other Forages

Atriplex halimus, nummularia

Salsola vermiculata

For the first time a binding treaty acknowledges the collective innovation on which world agriculture is based. It recognises the “enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin of crop diversity, have made and will continue to make for the conservation and development of plant genetic resources”.

Governments should protect and promote Farmers’ Rights by protecting relevant traditional knowledge, giving farmers their right to participate in national decision-making about plant genetic resources, and ensuring that they share equitably in the benefits.

The world’s most important gene bank collections, around 6,00,000 samples, held by the Consultative Group on International Agricultural Research (CGIAR), will be put under the Treaty.

The treaty’s funding strategy foresees the mobilization of financial resources for plant genetic projects and programmes to help farmers, especially in developing countries and countries in transition.



An important element of the treaty's funding strategy will be the Global Crop Diversity Trust. The Trust will establish an endowment that will provide support for gene bank conservation and capacity-building for developing countries. The CGIAR gene banks will also receive support for long term conservation.

The endowment fund has a target of \$260 million, of which around \$45 million has already been pledged. The trust has been set up by the FAO and the International Plant Genetic Resources Institute on behalf of the CGIAR Centres.

The treaty thus recognizes the enormous contribution that farmers and their communities have made and continue to make to the conservation and development of plant genetic resources. This is the basis for Farmers' Rights, which include the protection of traditional knowledge, and the right to participate equitably in benefit-sharing and in national decision-making about plant genetic resources. It gives governments the responsibility for implementing these rights.

It provides for the realisation of Farmers' Rights by national governments through:

- The protection of relevant traditional knowledge,
- Equitable participation in sharing benefits derived from the use of plant genetic resources for food and agriculture,
- Participation in national decision-making related to their conservation and sustainable use.

The Treaty benefits

- ❖ Farmers' and their communities, through Farmers' Rights;
- ❖ Consumers, because of a greater variety of foods, and of agriculture products, as well as increased food security;
- ❖ The scientific community, through access to the plant genetic resources crucial for research and plant breeding;



- ❖ International Agricultural Research Centres, whose collections the treaty puts on a safe and long-term legal footing;
- ❖ Both the public and private sectors, which are assured access to a wide range of genetic diversity for agricultural development; and
- ❖ The environment, and future generations, because the treaty will help conserve the genetic diversity necessary to face unpredictable environmental changes, and future human needs.

Standard Material Transfer Agreement (SMTA)

All materials within the multilateral system of access and benefit sharing created by the Treaty will be distributed using the same standard material transfer agreement. This was adopted by the first meeting of the governing body of the treaty in June 2006. Countries the world over are in the process of working out how they are going to embed the use of the SMTA in their national policies, laws, and or administrative procedures. Bioversity, on behalf of the CGIAR Centres and FAO are developing a joint programme to provide technical assistance to countries implementing the Treaty, with a particular emphasis on the multilateral system of access and benefit sharing.

The eleven CGIAR Centres with *ex situ* collections of PGRFA signed agreements with the governing body on October 16, 2006, placing the collections they hold under the treaty. Consequently, the list of materials they hold will be distributed using the SMTA. Non listed materials will continue to be distributed using the current interim MTA. The Interim MTA can be found in the Booklet of CGIAR Centre Policy Instruments, Guidelines and Statements on Genetic Resources, Biotechnology and Intellectual Property Rights. At its second meeting, in June 2007, the governing body amended the MTA for use by the centres for non listed materials.



The Role of the CGIAR Centres

The System-wide Genetic Resources Programme (SGRP) has the mandate to harmonize system-wide policies concerning genetic resources. Representation of the CGIAR centres at international meetings concerning the negotiation and implementation of the Treaty is coordinated through SGRP. The centres have been present as observers, actively participating at every meeting for the negotiation of the treaty and the SMTA. The centres have consistently made useful technical contributions throughout the negotiations in the form of targeted research papers, policy briefs, panel presentations to delegates and verbal interventions from the floor of the negotiating halls.

In line with the Convention on Biodiversity (CBD), the International Treaty on Plant Genetic Resources (ITPGR) addresses the problem of ensuring access and fair-sharing of the benefits of genetic resources, in this case specifically in the areas of food and agriculture. Regulating and harmonising international practices regarding plant genetic resources, within a multilateral system, is viewed as key to ensuring their sustainable use. Sustainable use of plant genetic resources is crucial to short-term and long-term food security. The treaty encourages the conservation of plant genetic resources through national and international collections of seeds and plants. The treaty also seeks to balance the rights of various groups involved, for example farmer's rights are specifically mentioned and protected (Article 9). In common with the CBD the need for financial resources and technical assistance for less developed countries is recognised. The treaty is overseen by the Commission on Genetic Resources in Food and Agriculture (CGRFA), a permanent body established in 1983, with the original role of overseeing the International Undertaking on Plant Genetic Resources.

Summary

The treaty is an adaptation of the Food and Agriculture Organisation's (FAO's) International Undertaking on Plant Genetic Resources, originally adopted by the FAO in



1983. There was some reinterpretation of the Undertaking in the late 1980s and early 1990s, through resolutions of the FAO Conferences, which were annexed to it. Then in 1992, Agenda 21 (an outcome of the United Nations Conference on Environment and Development) specifically called for the FAO to strengthen the Undertaking and adapt it in line with the Convention on Biodiversity. In 1993 the process of revising the undertaking was begun within the FAO and the CGRFA adopted a revised undertaking in July 2001. This then became the International Treaty on Plant Genetic Resources for Food and Agriculture when adopted by the FAO conference in November 2001. It operates alongside the Bonn Guidelines on Access to Genetic Resources, adopted by the conference of the parties to the CBD in April 2002.





2 INDIAN LEGISLATION ON PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS

S. Bala Ravi

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Since the dawn of settled agriculture, generations of farmers, world over, and particularly in the centers of crop plant diversity¹ have been continuously selecting domesticated plants to generate many varieties suiting to different agro-climatic and soil conditions. These varieties were also selected to meet changing agronomic requirements such as resistance against different biotic and abiotic pressures, climatic changes and food and fodder needs. Over the millennia, all crop plants spread across the globe through natural processes, human migration, wars, trade, etc. In their new habitats, they got adapted and generated more variability, suited to the new environmental niches, under selection by local farmers. All along human history until recently, all farmers and breeders across the world freely shared the whole genetic resources of crop plants, irrespective of their centres of origin. The global crop genetic diversity was held as 'common heritage of mankind', with no specific ownership to either a region or a country or a community or an individual. This was despite the fact that each plant genetic resource is a product of considerable innovative efforts cumulatively achieved through intelligent selection and diligent conservation across thousands of seed cycles. During the long process of cultivation, selection and conservation in each region, farmers generated a vast body of traditional knowledge from their intimate understanding on each plant variety. This traditional knowledge on each variety in a way showcases its economic value. It would be largely true to state that modern plant breeding had not identified many new traits in most of the genetic resources, which were already not known to farmers. The collective socio-economic capital of this traditional knowledge and the plant variety diversity is so huge to estimate.

1. Each crop species is believed to have originated in a geographic specific region of the world, which is called the 'center of origin of that crop species' (see Figure 1 appended), and from where it had spread to other regions.



It was this immense economic potential of crop genetic resources and the modern market economic thinking that cracked a new turning point to the time-honoured practices on this 'common heritage of mankind'. For the first time in human history, the United States of America in 1930 introduced ownership rights through patents on vegetative propagated plant varieties. Following this, in 1961, a few European countries joined together to establish plant breeders' right (PBR) on newly bred plant varieties under the International Convention on the Protection of New varieties of Plants (UPOV). In 1970 and later, the USA and few other countries extended the patent to all plant varieties. Since 1986 the Uruguay Rounds on the General Agreement on Tariffs and Trade (GATT) negotiated the Trade Related aspects of Intellectual Property rights (TRIPS) under the World Trade Organization for universalizing the IPR protection on plant varieties. The TRIPS required all members of WTO to provide intellectual property rights protection to plant varieties either by patents or an effective *sui generis* system or a combination of both. While patent is widely understood, *sui generis* system of intellectual property protection is less known. The Latin word *sui generis* means 'unique by itself' or 'generated by oneself'. It further means that under *sui generis* system of plant variety protection, a country can design a law suiting to its socio-political realities, while maintaining an effective plant breeder's right (PBR).

These rights confer up on the breeder of a plant variety the right to exclude others from production, selling, marketing, distributing, importing or exporting of its seed or other propagating material. This **exclusive right** indeed precludes farmers from producing seed or planting material from a crop raised from the seeds of a protected variety and its planting back, sharing with or exchanging to other farmers. Such restriction on seeds to farmers raises three important issues. First, all plant varieties are innovated from pre-existing varieties. The traditional farmers' varieties contribute to a larger component of the pre-existing varieties. In other words, farmers are the providers of genetic diversity required for plant breeding and developing all new plant varieties. Therefore, ethics, morality



and equity demand that the exclusive right on plant variety should not deny the traditional rights of farmers on seed. Second, the past, present and future contributions of farmers in conservation and improvement of plant genetic resources are vital for the global food and nutritional security, now and in future. For farmers to continue to serve to this important role requires unrestricted right on seeds, particularly the right to save, re-use, share, exchange or sell. Third, the food security of all countries and livelihood security of farmers in many countries are closely linked to opportunities available to them for increasing productivity and income generation. Research on plant breeding plays an important role in productivity and livelihood enhancement. Improved varieties, which are protected by patent or PBR are important source for further breeding for developing far better varieties. Therefore, it is important to ensure that the intellectual property on a plant variety does not prevent or in any way restrict access to it for the purpose of research.

In response to the expanding intellectual property protection on plant varieties which appropriates plant genetic resources by plant breeders or seed companies, the Food and Agriculture Organization (FAO) mooted the Farmers' Right concept in 1983. It was endorsed as an international commitment of the FAO in 1989. According to the FAO, Farmers' Rights is the recognition of "the past, present and future *contributions of farmers* in conserving, improving and making available plant genetic resources, particularly those at the centers of origin or diversity". The FAO also exhorted the global community "to assist the farmers and farming communities in all regions of the world, particularly in the areas of diversity of plant genetic resources, to participate fully in the benefits derived at present and in future, from the improved use of plant genetic resources through plant breeding and other scientific methods". Recently, the FAO Treaty defined two fundamental principles for realization of Farmers' Rights at national and international levels. These are (1) the right of farmers "to save, use, exchange and sell farm saved seed and other propagating material, and (2) their right to participate in decision making regarding and in the fair and equitable sharing of the benefits arising from the use of the plant genetic resources for food and agriculture.



Being a member of WTO, India was bound to establish intellectual property right on plant variety. Respecting the national public opinion on intellectual property rights, India in 2002 chose not to grant patents to plants and animals and their parts. As a consequence, the only option to India to provide intellectual property right on plant variety was the *sui generis* system. India legislated the Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPVFR Act), which is a *sui generis* system to provide intellectual property right on plant variety. Details of this Act are discussed in rest of this paper.

Objective of the PPVFR Act

- To fulfill National commitment under Trade Related aspects of Intellectual Property Rights (TRIPS) of the WTO to provide intellectual property rights protection to plant varieties
- To recognize and protect the rights of farmers' in respect of their profound contribution in conserving, improving and making available plant genetic resources for developing new plant varieties
- To institute plant breeders right with a view to stimulate investment in research leading to the development of new plant varieties to catalyze and accelerate agricultural development in the country
- To promote growth of seed industry to facilitate availability of high quality seeds and planting material to farmers'

Background of the Act

In 1994, soon after the conclusion of WTO negotiations on TRIPS, M.S. Swaminathan Research Foundation organised a National Dialogue on Farmers' Rights and Plant Genetic Resources. This Dialogue developed a draft of Plant Breeders' and Farmers' Rights Bill². First official draft of this Bill was brought out during this year. This draft Bill underwent many changes during succeeding years as a result of intensive interaction with all

². M.S. Swaminathan, 1994. Farmers' Rights and Plant Genetic Resources - Recognition and Reward: A Dialogue. (ed. M.S. Swaminathan), MacMillan India Press, Chennai, 440 p.



stakeholders. The Bill was introduced in the Indian Parliament in 1999 as Bill No.123-C. A joint Parliamentary committee headed by Shri Sahib Singh Verma examined the Bill and offered the final draft. The Parliament passed the Bill on 9th August 2001. The President of India gave assent to the Act during the same year³. Again, the MSSRF under the leadership of this author developed a draft Rules on this Act and submitted to the Government of India in February 2002⁴. The Ministry of Agriculture notified the official Rules in its website in October 2003⁵. The Act is being implemented from November 2004. For the first time registration of plant varieties under this Act is initiated from 2007.

Framework of the Act

This Act has national mandate. The Act is administered by the Protection of Plant Varieties and Farmers' Rights Authority, which has a body corporate status with head office at Delhi. The Authority has a Chairperson and a committee of 15 members. These members include 8 ex-officio members from the Government of India and seven *nominated* members. Nominated members include two officials to represent state governments, one official to represent Agricultural Universities, and one each to represent farmers' organizations, tribal organization and women's organization associated with agriculture at national or state level and seed industry. The nominees of the State and Agricultural University may rotate after every tenure. The Chairperson enjoys the rank of the Secretary to the GOI. For administering this Act, the Chairperson is to be assisted by Registrar General of Plant Varieties, who will be the ex-officio Member Secretary of the Authority with the rank of Additional Secretary to the GOI. The Act provides specific roles and responsibilities for the PPVFR Authority, Chairperson and Registrar General. The Authority

³. The Protection of Plant Varieties and Farmers' Rights Act, 2001. See DoC website <http://www.agricoop.nic.in/seedssf.htm>

⁴. MSSRF, 2002. MSSRF-FAO Expert Consultation on 'Implementing farmers' rights for conservation and utilization of plant genetic resources in the Asia-Pacific region: From legislation to action', 21-23 January, 2002, M.S. Swaminathan Research Foundation, Chennai, 187 p.

⁵. The Protection of Plant Varieties and Farmers' Rights Rules, 2003. See DoC website <http://www.agricoop.nic.in/seed/farmersact2001.htm>



may establish a National Register of Plant Varieties with comprehensive information on the denomination of all registered, extant and farmers' varieties, the details of breeders associated with these varieties and such other details essential for the administration of this Act. Developing and refining test methods on the eligibility criteria of varieties, conduct of these tests, characterization and documentation, indexing and cataloguing of all plant varieties, periodic publication of list of registered varieties, collection of comprehensive statistics on plant varieties, and ensuring availability of seeds all registered varieties to farmers are other responsibilities of the Authority.

The Act provides for establishment of a Plant Varieties Protection Appellate Tribunal with jurisdiction on the jurisprudence of this Act. The Tribunal shall include a Chairperson and Judicial as well as Technical Members. The Tribunal will have the status of a District Court. Until such Tribunal is established, any bench of Intellectual Property Appellate Board constituted under the Trademarks Act, 1999 with substitution of the Technical Member provided under the Trademark Act, shall exercise the subject matter coming under the jurisdiction of this Tribunal.

Plant Varieties Registry

The process of granting intellectual property rights on plant varieties is called 'Registration'. The IPR on plant variety under *sui generis* system is called as plant breeder's right (PBR). The Registry is responsible for granting this PBR. The Registrar General of Plant Varieties under the PPVFR Authority heads the administrative setup of the Registry. On need basis as well as on administrative convenience, the Registrar General may appoint Registrars of Plant Varieties at different regions with defined jurisdiction.

Crop species and varieties eligible for registration

The Act provides for the registration of new variety, extant variety and farmers' variety. Extant variety is defined as those varieties notified under Sec.5 of the Seed Act, 1966, or farmers' variety, or a variety, which is in common knowledge, or any other variety



in public domain. A farmers' variety is defined as a variety, which is evolved and traditionally cultivated by farmers', or a land race or a wild relative about which the farmers' possess common knowledge. Under the Rules of this Act, extant variety includes farmers' variety for the purpose of registration. The Rules provide a period of three years from the date of notification of a crop species for registration for filing application for registering extant varieties including farmers' varieties of that crop species. In the event of an extant variety notified under Sec. 5 of Seed Act, 1966 not registered by the breeder or his/her successor, it shall be deemed to be the property of the Centre or State governments, which has released and notified that variety.

The Act also provides for Registration of Essentially Derived Varieties (EDVs). An EDV is defined as the one, which is predominantly derived from an initial variety, while retaining the expression of the characteristics that results from the genotype or combination of genotypes of such initial variety and also clearly distinguishable from the latter, while conforming to the initial variety in the expression of essential characteristics, except for those differences which resulted from the act of derivation. Registration of EDV follows a different route without notification for inviting opposition and without DUS testing prescribed for other varieties. Its commercialization is also regulated.

The Act does not list out the genera or species of crops brought under its purview for the purpose of registration of their varieties. It also does not preclude any genera or species of crop from being brought under its purview. The Central Government is vested with the authority to determine and notify in its official gazette the genera and species for the purpose of registration of varieties other than extant and farmers' varieties in consultation with the Authority. At present varieties of 12 crop species, namely, rice, wheat, maize, sorghum, pearl millet, Bengal gram, pigeon pea, blackgram, greengram, lentil, field pea and kidney bean are open for registration. Very soon, varieties of 22 other crop species, namely, mustard, soyabean, groundnut, sunflower, safflower, linseed, sesame, castor, tomato, brinjal, bhindi,



810393

cauliflower, cabbage, potato, onion, garlic, cotton, jute, rose, chrysanthemum, Lucerne and berseem may be gradually opened for registration.

Parties eligible for registration

According to the Act, the eligible applicant for registration of plant variety are either any person who is the breeder of a variety, or any successor or assignee of such breeder, or any farmer or group of farmers, or community of farmers, or any person, who is authorized to undertake the registration on behalf of the said farmers, or any university or publicly funded agricultural institutions to be the applicant to register a variety. It is important that any party registering a variety should have adequate proof to prove to the satisfaction of the Authority that the applicant has reasonable claim on the candidate variety.

Eligibility criteria for registration

The Act provides two sets of eligibility criteria for the Registration of new variety and extant variety. Extant varieties are required to satisfy the three requirements, namely, distinctness, uniformity and stability. In addition to these requirements, the new variety is required to satisfy novelty. The novelty is defined in terms of duration of the placement of the variety in commercial parlour with the knowledge of the breeder.

A variety is deemed novel, if it had not been placed under market transaction by or with the consent of the breeder for a period exceeding twelve months in India on the date of filing the application for its registration. In the case of varieties entering India from outside, this period is extended to six years in the case of trees and vines and four years in the case of other crops, in any of the countries it was registered.

A variety is qualified as distinct, if it is clearly distinguishable by at least one essential characteristics from any other variety, whose existence is a matter of common knowledge in any country at the time of filing of the application. The Act defines, the essential characteristics as those heritable traits, which are determined by one or more genes or



other heritable determinants that contributes to the principle futures, performance or value of the plant variety.

Uniformity is defined in terms of the essential characteristics of the variety and is to be within the specified latitude of variations that will be defined in relation to a particular feature of its propagation.

Stability is defined in terms of the essential characteristics of the variety and that these characteristics remain unchanged after repeated propagation or after a specified cycle of propagation, as the case may be.

All new varieties except EDVs are to be compulsorily tested for their DUS requirement. Such test called DUS-test is to be conducted on each variety in at least two locations and for at least two seasons. The Authority is to empanel a group of institutions, build their capability and infrastructure for satisfactory conduct of DUS-tests. Other tests for establishing distinctness may include laboratory-based tests. Less stringent DUS test may be followed for farmers' variety.

Procedure for filing an application to register a plant variety

Application has to be filed in a form prescribed and is available from the PPVFR Authority. Each variety has to be registered through separate application. Application can be prepared in Hindi or English and all applications and documents are to be submitted in triplicate to the Authority. The jurisdiction for filing application is determined by the residence, domicile or principal place of business of the applicant, first named, in case of more than one person as applicant. The application is required to include denomination assigned to the candidate variety, a brief description of the variety highlighting its novelty and DUS characteristics, complete passport data of the parental lines involved in its pedigree, and the geographical location specifying the source (farmer, village community, institution or organization) from where these parental lines were accessed. In case the parental material belonged to the Indian genetic resource, a declaration to the effect that the parental material



used in the pedigree of the candidate variety was legally accessed from the indicated sources is to be attached. Application also should include a sworn affidavit declaring absence of gene or gene sequences classified under genetic use restriction technology (GURT) and other prescribed requirements as well as the prescribed application fee. The application fee prescribed for an EDV is Rs. 5,000 for individual applicant, Rs.7,000 for educational institutions and Rs.10,000 for commercial institutions. In the case of ordinary varieties or hybrids, a fee not exceeding Rs.50, 000 is prescribed for each variety for conducting its DUS testing.

Procedure prescribed for processing variety registration application

According to this Act, an application is acknowledged by issuing to the applicant a receipt under the seal of the Authority indicating the date of filing. All applications except those on EDV are notified through the Plant Variety Journal of India or such other advertisement with a view to inform public and invite opposition, if any, on the registration of the candidate variety. Such oppositions are to be submitted to the Authority within three months from the date of such notification in Form PV-3 along with a fee of Rs.1, 500. Oppositions received are duly processed before proceeding further on the registration process. Whenever an opposition is sustained the registration process is called off therewith. In the mean time, the breeder is called up on to provide specified quantity of voucher seeds or propagules of the candidate variety and its parental lines for the DUS and special tests and for deposition in the National Gene Bank. It is important that these seed samples shall have maintainable standards of genetic purity, and uniformity and germination, sanitary and phyto-sanitary standards. The variety is then examined for its eligibility for registration through verification with the database available in the National Registrar of Plant Varieties as well as by conducting DUS test. In the case of EDV, the test to be conducted will be notified by the Authority in consultation with GOI. On satisfactory conclusion of the process of verification of eligibility requirements, a non-EDV variety is granted registration in Form O-2. The Rules of this Act assure such registration within three years from the date



of filing of the application, if the applicant complies with all timelines on submission of documents, fees and seed samples. All varieties admitted for registration are again notified through the Plant Variety Journal of India with relevant details for public information as well as for inviting applications for benefit sharing from parties eligible (explained later).

The breeder who received registration on a candidate variety is required to remit the awarded share of benefit in the National Gene Fund within six months from the date of such award. The farmer applicants, whether for registration, opposition or benefit share are exempted from payment of stipulated fees. Farmers applying for registration need to give only that information which they know about the candidate variety, although it might be incomplete.

From the date of grant of registration the breeder is legally entitled to the plant breeders rights (PBR) on the candidate variety. The Act also gives protection to the candidate variety during the process of registration starting from the date of filing application.

Plant Breeders' Rights

According to this Act, a certification of registration for a variety shall confer an exclusive right on the breeder, or his/her successor, or the agent, or the licensee, to produce, sell, market, distribute, import or export the variety. This PBR shall be subjected to such limitations and conditions as may be specified in the rules and regulations. Two such limitations provided in the Act are the Researcher's Right and Farmers' Rights.

With respect to the EDV, the right to commercialize the variety conferred with PBR shall not be automatic, in case the initial variety used to breed the EDV is accessed from a third party including farmers. Under such circumstances, the breeder is allowed to commercialize the EDV only after concluding a mutually agreed instrument on its commercialization between the breeder of the EDV and the third party owner of the initial variety.



The assignment of PBR by breeder to agents or licensees done with or without agreement between the parties concerned have to be necessarily registered with the Authority. Applications for such registration of agents or licensees shall be in prescribed Form PV-9 accompanied with a fee of Rs.10, 000. Any variation in the terms of this agreement between breeder or successor and agent/licensee also has to be registered with the Authority by applying in the prescribed Form PV-10 along with a fee of Rs. 5,000 for individual, Rs. 7,000 for educational institution and Rs.10,000 for commercial institution.

Duration of PBR and its maintenance

Registration of a variety, according to this Act offers PBR for a period of 18 years for varieties of trees and vines (eg. Mango, Apple, Coconut, Betel vine, Grapes, etc) and 15 years for varieties of annual crops (eg. Rice, Maize, Greengram, Yams, Tapioca, etc). However, initial grant of this is limited to nine years in the case of trees and vines and six years for other crops. Extension of this initial grant period to an additional period limited to the total allowed period is permissible and can be availed on specific request made on Form PV-6, 12 to 18 months prior to the expiry of the period initially granted. A review on the variety may be done during such extension. Retention of registration or renewal of registration is subject to payment of prescribed annual fee, which is Rs. 5,000 for individual, Rs. 7,000 for educational institution and Rs.10,000 for commercial institution. The registration shall stand automatically forfeited when a breeder, legal agent or licensee fails to pay the prescribed registration retention fee or such other fees imposed by the Authority for two consecutive years and on serving specific notice for the same. All arrears due under a PBR shall be deemed to be arrears of land revenue and recoverable accordingly.

Benefit sharing

Benefit sharing is a legally binding international commitment up on India under the Convention on Biological Diversity (CBD)⁶ and the International Treaty on Plant Genetic

⁶. Convention on Biological Diversity, adopted at the United Nations Conference on Environment and Development, Rio de Janeiro, 5 June, 1992, with 188 countries as the Party. Available at <http://www.biodiv.org/>



Resources for Food and Agriculture (IT)⁷. The Indian Biological Diversity Act, 2002 also stipulates the essentiality of seeking prior approval of the National Biodiversity Authority for filing any application to establish any form of IPR within or outside India on products or processes derived from the use of any components of Indian biodiversity or associated traditional knowledge. In sync with these national and international legal frameworks, the PPVFR Act stipulates equitable benefit sharing with those who had contributed genetic material or associated traditional knowledge for the development of a new plant variety registered under this Act.

While notifying the grant of registration of a variety, the Authority makes public the details of pedigree and accessed parental material declared by the breeder and allows claimants eligible for benefit sharing to prefer application for the same. Individual or group of persons or firm or a non-governmental organization is eligible to apply for benefit sharing. Such applications made out in Form PV-7 along with a fee of Rs.5, 000 should be filed within six months from the date of the said notification. Parties who had contributed parental material or/and traditional knowledge, which were created or conserved by them, are eligible for claiming benefit sharing. These applications are required to provide information on the contribution made by the applicant to the development of the plant variety and the legal status under which the applicant is staking the claim. In the case of an EDV, the terms and conditions agreed up on for authorizing the use of the initial variety assume importance in this context. The applicant is also advised to offer his/her assessment on the commercial standing or the actual market performance of the variety concerned. The Authority examines all applications for benefit sharing and those Parties eligible for the benefit share are awarded with the share of benefit determined by the Authority. The quantum of benefit share is decided largely on the basis of contribution of the claimant (a) in selecting, conserving and providing the genetic material *inter alia* contribution of such genetic material in providing one or more traits which have conferred high commercial value to the candidate variety, and contribution of such genetic material to impart high combining ability to the parents

⁷. The International Treaty on Plant Genetic Resources for Food and Agriculture, FAO, 2001, 45p. Available at <ftp://ext-ftp.fao.org/ag/cgrfa/it/ITPGRc.pdf>



of the hybrid variety relating to benefit sharing. The breeder is required to remit the awarded share of benefit in the National Gene Fund (NGF) within six months from the date of award. Non-compliance shall invite revenue recovery procedure. Then, from the NGF the benefit share goes to the Party concerned.

Researcher's Right

One of the objectives of this Act is development of new plant varieties to promote accelerated agricultural development and supply of increasingly high quality seeds and planting material to farmers. This cannot be best served without uninhibited access to the genetic resources of the country for research and breeding. The Act seeks to accomplish this through Researcher's Right (RR). RR allows access of any variety registered under this Act by any person for use in experiment or research, including use of such a variety for breeding new varieties. Only one exception is that a registered variety shall not be repeatedly used as a parental line for commercial production of a newly created variety. When such repeated use is warranted for commercial seed production of the new variety, prior authorization of the PBR-holder of the variety, which is used as the recurrent parent, is mandatory.

National Gene Fund

The Act provides for establishment of a NGF by the Central government. The receipts to NGF may include contributions from national and international sources, benefit share deposited, annual fee payable for retention of registration of varieties and compensation awarded on plant breeders for the use of genetic resources conserved by tribal or rural communities. The NGF is required to be used for disbursement of benefit share and compensation to the Parties awarded, promoting on-farm conservation of traditional varieties and wild species through reward and recognition to conservers and sustainable use of genetic resources at community and Panchayat levels, Priority to such promotion will be given to regions identified as genetic diversity 'hot spots'. Since 2007, the PPVFR Authority



has instituted 'Genome Saviour Award' to reward and recognize farmers and community of farmers contributing significantly to conservation and improvement of varieties.

Farmers' Rights

As discussed, Farmers' Rights (FRs) as a concept was first developed in 1983 by the FAO Commission on Plant Genetic Resources chaired by Prof. M.S.Swaminathan⁸. India is considered to be the primary center of origin of about 168 crop species and secondary center of diversity for many more crops. Indian farmers, over thousands of years, had been making continuous rich contribution to the improvement and conservation of many traditional varieties of these crops and wild relatives of some of them crops. These traditional varieties and wild species are serving as the resource base for improvement of these crops by modern plant breeding. Such crop improvement in future and global food security cannot be ensured without continued role of farmers in creating and conserving genetic variability. Fundamental to this critically important process played by farmers is their traditional right on the seeds of plant varieties. In recognition of this important factor and in compliance with India's commitment with international treaties on Farmers' Rights (FRs), the PPVFR Act provides extensive FRs. Thus the three legal rights on plant variety provided under this Act are the PBR, RR and FRs. The Act devotes one chapter on the FRs. These rights derive from the recognition by the Act that the farmer is cultivator, conserver and breeder. The readers may consult another publication of this author for a detailed treatment of these FRs⁹.

These rights are discussed very briefly in the following part.

1. **Right on seed:**

The Act legalizes the traditional right of farmers to save, use, sow, re-sow, exchange, share or sell his/her farm produce including seed of a registered variety in the same manner as he/she was entitled before coming into force of this Act. However, this right does not include entitlement to sell seed of a registered variety in a package or other containers with a label indicating the denomination of a specific registered variety.

⁸. FAO Conference Resolution 9/83. Available at <http://www.fao.org/ag/cgrfa/default.htm> .

⁹. Bala Ravi, S. 2004. Manual on Farmers' Rights, M.S. Swaminathan Research Foundation, Chennai 80p.



2. Right to register farmers' variety:

As the Act recognizes farmer as breeder, it allows farmers and farming community to register either traditional (farmers') varieties developed or conserved by them or new varieties bred by them. Farmers and farming community are exempt from paying fee prescribed for variety registration and retention of registration. Existing farmers varieties of a crop could be registered within three years from the date of notification of the crop species for registration. Relaxed eligibility norms may be followed for registration of farmers' variety.

3. Right to receive an equitable sharing:

Fair and equitable benefit sharing is allowed from the economic gain made by Parties through commercialization of a new variety, when that variety is bred by using genetic resources developed or conserved by farmers or community of farmers.

4. Right to receive reward and recognition:

Farmers and their community are eligible for reward and recognition for conservation of traditional varieties and wild relatives, improvement and making variability available for further improvement. Since 2007, the PPVFR Authority has established the Genome Saviour Award to promote reward conservation by farmers.

5. Right to get adequate seeds of registered varieties:

This right includes the right to get adequate supply of seeds of registered varieties at reasonable price. One of the important objectives of this Act is to provide quality seed to farmers. Breeders or Seed Companies of registered variety are bound to ensure adequate supply of its seeds at reasonable price. The clause on compulsory licensing will be invited on failure in meeting this right.

6. Right to claim and receive compensation for under performance of registered variety:

When seeds of a specific registered variety is sold to farmers with a specific claim on its agronomic performance, and when the farmers fail to achieve this level of



performance by the variety under recommended crop management, this right ensures adequate compensation from farmers/seed companies to affected farmers. Thus law requires that seed sold to farmers shall be appropriately labeled on its performance and the management practices and regions recommended for achieving this performance. This compensation is determined by the PPVFR Authority and paid directly to eligible farmers.

7. Requirement to seek consent of farmer(s):

Farmers or farming communities have right to grant prior approval to allow commercialization of an essentially derived variety (EDV), when such variety is bred from an initial farmers' variety.

8. Non-cognizance of innocent infringement committed by farmers:

Farmers are exempted from penalty for innocent violation of any provision of the PPVFR Act. This is in recognition of the low legal literacy of Indian farmers and their deep entrenchment in traditional practices on seeds.

9. Exclusion of farmers from paying fee:

Farmers are exempted from paying all fees levied by the Plant Variety Registry and the Plant Varieties Protection Appellate Tribunal or other Courts of India.

Compulsory licensing

All IPR laws seek to offer an exclusive right to the innovator on the ground that working of such innovation may better serve the public interest. It is expected that the exclusive right would benefit the IPR holder for establishing a monopoly market for the innovated subject matter and thereby increased economic gains, more investment in R&D, more innovations and greater service to public interest. Hence all IPRs have two important roles to serve. Building a monopoly on the innovation to make private gains and working of the innovation to meet the public interest for improved economic opportunity or quality of life. For ensuring the latter role of the IPR, most IPR laws invariably provide a clause like compulsory licensing. That means the monopoly under an IPR is not inalienable,



when public interest so demand. Under PPVFR Act, compulsory licensing shall be applicable to a variety on completion of three years from date of its registration. A registered variety may attract compulsory licensing when there is wide public perception that the seed of the variety is not made available to farmers in adequate quantity and that it is being sold at unreasonable or exorbitant prices. On satisfaction of these grounds, the PPVFR Authority may grant compulsory license on a variety. Any third party, who wishes to get the compulsory license can apply in Form PV-28. A compulsory license grant would include all the rights enjoyed under PBR to a third party who is not the breeder of the variety. Such grant is given after due process and under specified conditions for specified period. During the period of compulsory licensing, the legal PBR holder may be allowed to receive a compensation determined by the Authority.

Penalty

The Act imposes stiff penalty for infringements of PBR, such as conducting unauthorized commercial transactions with the propagating material of the variety by either direct or deceptive methods. Relief on such infringements apart from prescribed penalty shall include *ex parte* injunction or an interlocutory order to confiscate documents and other evidences on infringement and if necessary, to attach the property of the defendant to recover the damages, costs and other pecuniary remedies awarded to the PBR-holder. Other offences and infringements under the Act includes unauthorized use of denomination of a registered variety, effecting unauthorized alterations to the denomination and misleading the Authority with false information on the registered variety in respect of its name, country of origin, breeder and duration the variety had been placed under trade. In the case of employees committing an offence under this Act, the impugned offender shall be acquitted on proving his/her innocence on the infringement, that it was committed in the course of employment despite all reasonable precautions against committing the offence charged, and that he/she had honestly given all information with respect to the person on whose behalf the offence was committed. If the offender is a staff of a company, every person in charge and responsible to the company for the conduct of its business shall be deemed to be guilty and liable to be proceeded against and punished, in case such collateral defendants



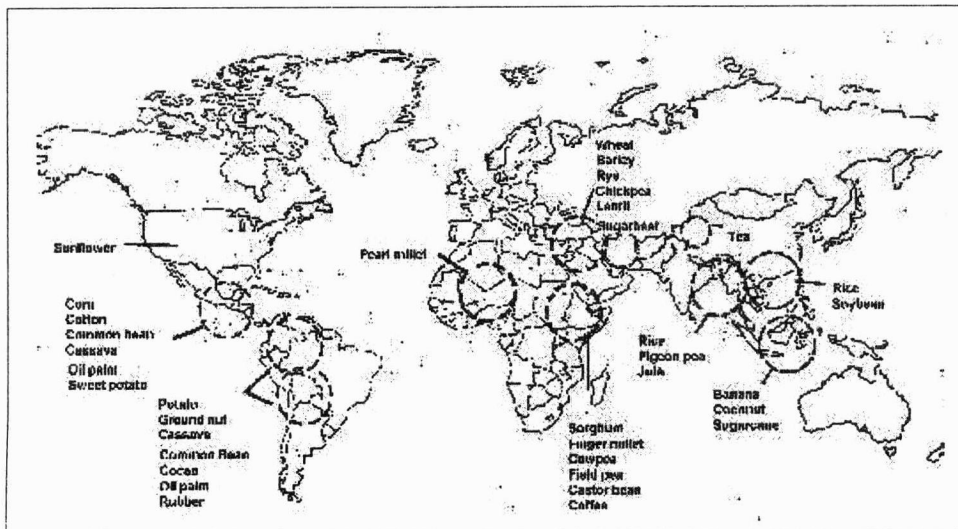
fail to prove that the offence was committed without his/her knowledge and that all due diligence was exercised to prevent commission of such offence.

Penalties for major offences are three months to two years imprisonment or fine of Rs.0.5 to 5.0 lakh or both for providing false information on variety, six months to two years imprisonment or fine of Rs.0.5 to 5.0 lakh or both for selling a variety with false denomination, six months to three years imprisonment or fine of Rs.1.0 to 5.0 lakh or both for falsification of a non registered variety as registered one, and one year to three years imprisonment or fine of Rs. 2.0 to 20.0 lakh or both for repeating any of these offences.

Registration of a plant variety is voluntary

According to this Act, registration of a plant variety for establishing PBR is voluntary. For ensuring a healthy seed industry and availability of good quality seed to farmers with due accountability from the part of the seed vendor, it is important and urgent that the PPVFR Act is complemented with an effective Seed Regulation Act in the line of the National Seed Policy announced by the GOI in 2001¹⁰.

Primary centers of origin of major crop plants



¹⁰. National Seed Policy, 2001. Ministry of Agriculture, Govt of India, Mimeographed 20p.



3

CONSERVATION AND MANAGEMENT OF AGRO BIODIVERSITY

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Biological diversity is the variety and variability among living organisms and the ecological complexes in which they occur. Diversity can be defined as the number of different items and their relative frequency. For biological diversity, these items are organized at many levels, ranging from complete ecosystems to the chemical structures that are the molecular basis of heredity. Thus, the term encompasses different ecosystems, species, genes, and their relative abundance

As defined in the US Congressional Biodiversity Act, HR1268 (1990), “biological diversity means the full range of variety and variability within and among living organisms and the ecological complexes in which they occur, and encompasses ecosystem or community diversity, species diversity, and genetic diversity.”

Genetic diversity is the combination of different genes found within a population of a single species, and the pattern of variation found within different populations of the same species.

Species diversity is the variety and abundance of different types of organisms which inhabit an area.

Ecosystem diversity encompasses the variety of habitats that occur within a region, or the mosaic of patches found within a landscape.

In the simplest of terms, biological diversity is the variety of life and its processes; and it includes the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur.

Biodiversity profile of India

India is the seventh largest country in the world and Asia's second largest nation with an area of 3,287,263 square km. India has a rich variety of wetland habitats. The total



area of wetlands (excluding rivers) in India is 58,286,000ha, or 18.4% of the country, 70% of which comprises areas under paddy cultivation. Two sites - Chilka Lake (Orissa) and Keoladeo National Park (Bharatpur) - have been designated under the Convention of Wetlands of International Importance (Ramsar Convention) as being especially significant water flow habitats.

India possesses great diversity of its natural ecosystems. We have a long tradition of prudent use and wise conservation of all resources that are useful to people. Forests have been the lifeline for tribals and other forest-dwelling communities since ages. For conservation of this green resource, the concept of sacred groves was generally used. In fact, the practice of dedicating groves to local deities has a long history. They are the ancient natural sanctuaries where all forms of living creatures are given protection by a deity. These sacred groves have been a traditional means of biodiversity conservation. None is permitted to cut any tree or plant, kill animals and birds, or do any harm to any form of life in this area. The panorama of Indian forests ranges from evergreen tropical rain forests in the Andaman and Nicobar Islands, the Western Ghats, and the north-eastern states, to dry alpine scrub high in the Himalaya to the north. Between the two extremes, the country has semi-evergreen rain forests, deciduous monsoon forests, thorn forests, subtropical pine forests in the lower montane zone and temperate montane forests. With all these India is one of the richest collections of flora and fauna on this earth planet, and is regarded as **one of the world's eighteen bio-diversity hotspots**.

The Western Ghats are a chain of highlands running along the western edge of the Indian subcontinent, from Mumbai south to the southern tip of the peninsula, through the states of Maharashtra, Karnataka, Kerala and Tamil Nadu. Covering an estimated area of 159,000 sq. km, the Western Ghats are an area of exceptional biological diversity and conservation interest, and are "one of the major Tropical Evergreen Forest regions in India". As the zone has already lost a large part of its original forest cover it must rank as a region of great conservation concern. The small remaining extent of natural forest, coupled with



exceptional biological richness and ever increasing levels of threat (agriculture, reservoir flooding plantations, logging and over exploitation), are factors which necessitate major conservation inputs.

India contains a great wealth of biological diversity in its forests, its wetlands and in its marine areas. This richness is shown in absolute numbers of species and the proportion they represent of the world total as given below.

Comparison between the number of species in India and the World.

Group	Number of species in India (SI)	Number of species in the world (SW)	SI/SW (%)
Mammals	350(1)	4,629(7)	7.6
Birds	1224(2)	9,702(8)	12.6
Reptiles	408(3)	6,550(9)	6.2
Amphibians	197(4)	4,522(10)	4.4
Fishes	2546(5)	21,730(11)	11.7
Flowering Plants	15,000(6)	250,000(12)	6.0

Endemic species

India has many endemic plant and vertebrate species. Among plants, species endemism is estimated at 33% with c. 140 endemic genera but no endemic families (Botanical Survey of India, 1983). Areas rich in endemism are north-east India, the Western Ghats and the north-western and eastern Himalayas. A small pocket of local endemism also occurs in the Eastern Ghats. The Gangetic plains are generally poor in endemics, while the Andaman and Nicobar Islands contribute at least 220 species to the endemic flora of India (Botanical Survey of India, 1983).

Threatened species

As many as 3,000-4,000 higher plants may be under a degree of threat in India. The Project on Study, Survey and Conservation of Endangered species of Flora (POSSCEP)



has partially documented these plants, and published its findings in Red Data Books .A conservation status listing of many of these plants, based on information maintained at WCM Cprovides summary statistics for this information.

Summary of Plant Conservation Status Information at WCMC.

IUCN Threat Category	Number of species
Extinct	19
Extinct/Endangered	43
Endangered	149
Endangered/Vulnerable	2
Vulnerable	108
Rare	256
Indeterminate	719
Insufficiently Known	9
No information	1441
Not threatened	374
Total	3120

Conservation of biodiversity

Humans depend upon biodiversity in many ways, both to satisfy basic needs like food and medicine, and to enrich our lives culturally or spiritually. Yet in an increasingly modern, technological world, people often forget how fundamental biodiversity is to daily life and are unaware of the impact of its loss.

Many wild species are about to depart from our lives. And now the world community started thinking about conserving biological diversity. The Convention on Biodiversity came into force on December 29,1993. India became a party to the convention in 1994. At present, there are 175 parties to this convention.



The Main objectives of the Convention are:

- Conservation of biological diversity
- Sustainable use of the components of biodiversity
- Fair and equitable sharing of benefits arising out of the utilization of genetic resources.

NATIONAL BIODIVERSITY

The Biodiversity Act 2002 has been put forth as the country's response to the Convention on Biodiversity. The act primarily addresses access to genetic resources and associated knowledge by foreign individuals, institutions or companies, to ensure equitable sharing of benefits arising out of the use of these resources and knowledge to the country and the people.

Structure of Biodiversity Act - 2002

A three tiered structure at the national, state and local level is to be established.

National Biodiversity Authority (NBA): All matters relating to requests for access by foreign individuals, institutions or companies, and all matters relating to transfer of results of research to any foreigner will be dealt with by the National Biodiversity Authority.

Functions and powers of the National Biodiversity Authority

- Issue guidelines for access to biological resources and for fair and equitable benefit sharing.
- Advise the Central Government on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of benefits arising out of the utilization of biological resources.
- Advise the State Governments in the selection of areas of biodiversity importance as heritage sites and measures for the management of such heritage sites.

The National Biodiversity Authority may, on behalf of the Central Government, take any measures necessary to oppose the grant of intellectual property rights in any country outside India on any biological resource obtained from India or knowledge associated with such biological resource which is derived from India.



State Biodiversity Boards (SBB): State Biodiversity Boards will deal with all matters relating to access by Indians for commercial purposes. The National Biodiversity Authority shall exercise the powers and perform the functions of a State Biodiversity Board for Union territories. The Indian industry will be required to provide prior intimation to the concerned SBB about the use of biological resources.

Functions of State Biodiversity Board

- Advise the State Government, subject to any guidelines issued by the Central Government, on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of the benefits arising out of the utilization of biological resources.
- Regulate by granting of approvals or otherwise requests for commercial utilization or bio survey and bio utilization of any biological resource by Indians.
- Perform such other functions as may be necessary to carry out the provisions of this Act or as may be prescribed by the State Government

Power of State Biodiversity Board to restrict certain activities

Any citizen of India or a body corporate, organization or association registered in India intending to undertake any activity shall give prior intimation in such form as may be prescribed by the State Government to the State Biodiversity Board.

On receipt of an intimation, the State Biodiversity Board may, in consultation with the local bodies concerned and after making enquires prohibit or restrict any such activity, if it is of opinion that such activity is detrimental or contrary to the objectives of conservation and sustainable use of biodiversity or equitable sharing of benefits arising out of such activity: Provided that no such order shall be made without giving an opportunity of being heard to the person affected.

Any information given for prior intimation shall be kept confidential and shall not be disclosed.



Constitution of State Bio diversity Fund

A fund called State Biodiversity fund is constituted and the following grants to be credited to the fund

- Any grants and loans made to the State Biodiversity Board
- Any grants or loans made by the National Biodiversity Authority
- All sums received by the State Biodiversity Board from such other sources as may be decided upon by the State Government.

The State Biodiversity Fund shall be applied for

- The management and conservation of heritage sites
- Compensating or rehabilitating any section of the people economically affected
- Conservation and promotion of biological resources.
- Socio economic development of areas from where such biological resources or knowledge associated has been obtained, in consultation with the local bodies concerned.
- Meeting the expenses incurred for the purposes authorized by this Act.

Biodiversity Management Committees (BMCs)

Institutions of local self government will be required to set up Biodiversity Management Committees in their respective areas for conservation, sustainable use, documentation of biodiversity and chronicling of knowledge relating to biodiversity.

The NBA and SBBs are required to consult the concerned BMCs on matters related to use of biological resources and associated knowledge within their jurisdiction.



Local Biodiversity Fund

The State Government may, after due appropriation made by State Legislature by law in this behalf, pay to the Local Biodiversity Funds by way of grants or loans such sums of money as the State Government may think fit for being utilized for the purposes of this Act.

Application of Local Biodiversity Fund

The Fund shall be used for conservation and promotion of biodiversity in the areas falling within the jurisdiction of the concerned local body and for the benefit of the community in so far such use is consistent with conservation of biodiversity.

Legislation and Research

There is no requirement under the legislation for seeking permission of the National Biodiversity Authority for carrying out research, if it is carried out in India by Indians, as well as under collaborative research projects that have been drawn within the overall policy guidelines formulated by the Central Government

A person who is not a citizen of India or a citizen of India who is a non - resident or a body corporate, association or organization not incorporated or registered in India shall get previous approval of the National Biodiversity Authority to obtain any biological resource occurring in India or knowledge associated there to for research or for commercial utilization or for bio survey utilization.

No person shall, without the previous approval of the National Biodiversity Authority, transfer the results of any research relating to any biological resources occurring in, or obtained from, India for monetary consideration or otherwise to any person who is not a citizen of India or citizen of India who is non resident or a body corporate or organization which is not registered or incorporated in India or which has any non Indian participation in its share capital or management. For the purposes of this section, “transfer” does not



include publication of research papers or dissemination of knowledge in any seminar or workshop, if such publication is as per the guidelines issued by the Central Government. This legislation will not prohibit collaborative research projects.

Legislation help to check bio-piracy

To check bio-piracy, the proposed legislation provides that access to biological resources and associated knowledge is subject to terms and conditions, which secure equitable sharing of benefits. Legislation further says that, no person shall apply for any intellectual property right, by whatever name called, in or outside India for any invention based on any research or information on a biological resource obtained from India without obtaining the previous approval of the National Biodiversity Authority before making such application. Or if a person applies for a patent, permission of the National Biodiversity Authority may be obtained after the acceptance of the patent but before the sealing of the patent by the patent authority concerned.

The National Biodiversity Authority may, while granting the approval under this section, 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. This does not in any way prevent the use of these biological materials within the country in whatever manner they are being used. These instances highlighted the need for the documentation of the knowledge of Indian system of medicine, to prevent such cases by proving that such use is already in vogue and therefore does not qualify for grant of patent.

Exemptions in the legislation

➤ Value added products excluded from the definition of biological resources

The Act does not cover value added products of biological resources. Value added product implies products containing portions/extracts of plants and animals in



unrecognizable and physically inseparable form, For example: Chyawanprash, Isabghol, Pudina Hara, Turmeric creams etc. Export of value added products is not banned by this act

The Indian industry is required to give prior intimation to the concerned SBB about obtaining the biological resources for commercial purposes. The SBB will have the power to prohibit or restrict any such activity, which violates the objectives of conservation, sustainable use and equitable sharing of benefits.

➤ **Legislation on biodiversity and development of Ayurvedic industry**

The Act does not aim at banning the use of medicinal plants. It provides that for commercial use of resources and related knowledge by Indians only. And even Indians require prior intimation from the State Biodiversity Board. Hakims and Vaidas will continue to have free access to resources and knowledge.

➤ **Use of bio-resources by local people**

An explicit exemption has been made in this act for local people and communities, including growers and cultivators of biodiversity, and vaidas and hakims. The Act also excludes traditional practices and use in agriculture, horticulture, poultry, dairy farming, animal husbandry etc.

The provision of mandatory consultation of BMCs by the NBA and SBBs would ensure formalization of Prior informed consent PIC by the communities and the involvement of BMCs in the decision making process.

Protection of traditional knowledge

The subject of protection of knowledge, practices and innovations of local people and communities is quite complex.

The informal knowledge available with people presents following difficulties in being recognized for purposes of intellectual property protection:



- Community is not a legal entity.
- Knowledge is quite often in parallel held by individual organizations, groups of people, communities.
- The conditions of novelty and innovative step necessary for grant patent are not satisfied.

Considering these complex nuances, an enabling provision for protection of traditional knowledge has been made under this legislation. The modalities for protecting indigenous knowledge are still emerging and evolving and therefore the measures for doing so have been left open and flexible under this provision.

Benefit sharing

Conservers of biological resources, creators and holders of knowledge and information relating to the uses of biological resources, can claim benefits.

The National Biodiversity Authority shall, while granting approvals, state the terms and conditions subject to which approval is granted and secure 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 there to in accordance with mutually agreed terms and conditions between the person applying for such approval, local bodies concerned and the benefit claimers.

The National Biodiversity Authority shall, subject to any regulations made in this behalf, determine the benefit sharing which shall be given effect in all or any of the following manner, namely:

- Grant of joint ownership of intellectual property rights to the National Biodiversity Authority, or where benefit claimers are identified, to such benefit claimers;
- Transfer of technology;
- Location of production, research and development units in such areas which will facilitate better living standards to the benefit claimers;



- Association of Indian scientists, benefit claimers and the local people with research and development in biological resources and bio-survey and bio utilization;
- Setting up of venture capital fund for aiding the cause of benefit claimers;
- Payment of monetary compensation and non monetary benefits to the benefit claimers as the National Biodiversity Authority may deem fit.

In cases where specific individuals, or group of individuals are identifiable, the monetary benefits will be paid directly to them. Otherwise, the amount will be deposited in the National Biodiversity Fund.

Heritage sites

These are areas of biodiversity importance, which harbour rich biodiversity, wild relatives of crops, or areas, which lie outside the protected area network. The purpose is not to cover the already designated protected areas such as national parks and wildlife sanctuaries.

The state government has to designate such areas in consultation with the local self-governments. The State government are also required to frame rules for conservation and management of such heritage sites. So designation of Biodiversity Heritage sites is vested with State Governments

Power of Central Government to notify threatened species

Without prejudice to the provisions of any other law for the time being in force, the Central Government, in consultation with the concerned state government, may from time to time notify any species which is on the verge of extinction or likely to become extinct in the near future as a threatened species and prohibit or regulate collection thereof for any purpose and take appropriate steps to rehabilitate and preserve those species.

Power of Central Government to designate repositories

The central government may, in consultation with the National Biodiversity Authority, designate institutions like BSI, NBPGR etc. as repositories under this Act for different



categories of biological resources. The repositories shall keep in safe custody the biological material including voucher specimens deposited with them. Any new taxon discovered by any person shall be notified to the repositories or any institution designated for this purpose and he shall deposit the voucher specimens with such repository or institution.

Appeal

Any person, aggrieved by any determination of benefit sharing or order of the National Biodiversity Authority or a State Biodiversity Board under this Act, may file an appeal to the High Court within thirty days from the date of communication to him, of the determination or order of the National Biodiversity Authority or the State Biodiversity Board, as the case may be.

Provided that the High Court may, if it is satisfied that the appellant was prevented by sufficient cause from filing the appeal within the said period, allow it to be filed within a further period not exceeding sixty days.

Protection of action taken in good faith

No suit, prosecution or other legal proceedings shall lie against the central government or the state government or any officer of the central government or the state government or any member, officer or employee of the National Biodiversity Authority or the State Biodiversity Board for anything which is in good faith done or intended to be done under this Act or the rules or regulations made there under.

Penalties

If a foreign national do not take approval from NBA for obtaining biological resources or Indian individuals/entities do not seek approval before transferring knowledge/research and material to foreigners or if prior approval of NBA is not obtained before applying for any kind of IPR based on research conducted on biological material and or associated knowledge obtained from India he/she is liable for punishment with imprisonment for a term which may extend to five years, or with fine which may extend to ten lakh rupees. Whoever contravenes or attempts to contravene or abets the contravention of the provisions



of section 7 i.e. Indians required to provide prior intimation to State Biodiversity Boards for obtaining biological material for commercial purposes shall be punishable with imprisonment for a term which may extend to three years, or with fine which may extend to five lakh rupees, or with both.

If any person contravenes any direction given or order made by the Central Government, the State Government, the National Biodiversity Authority or the State Biodiversity Board for which no punishment has been separately provided under this Act. He shall be punished with a fine which may extend to one lakh rupees and in case of a second or subsequent offence, with fine which may extend to two lakh rupees and in the case of continuous contravention with additional fine which may extend to two lakh rupees everyday during which the default continues.

Offences by companies

Where a company has committed an offence or contravention under this Act, every person who was in charge of company or was responsible to conduct the business of the company will be punishable.

Salient provisions of Biological Diversity Act, 2002

- Section -3: All foreign national require approval from NBA for obtaining Biological Resources.
- Section – 4: Indian individuals/entities to seek approval before transferring knowledge/ research and material to foreigners.
- Section-5: Guidelines for Government sponsored collaborative research projects.
- Section – 6: Prior approval of NBA before applying for any kind of IPR based on research conducted on biological material and or associated knowledge obtained from India.
- Section – 7: Indians required to provide prior intimation to State Biodiversity Boards for obtaining biological material for commercial purposes. SBB can regulate such access.
- Growers and cultivators of Biological Diversity and vaidas and hakims who are practicing Indian system of medicines and local people exempted.
- Section – 8: Establishment of NBA, its composition



- Section – 13: Committees of NBA.
- Section – 18: Functions and powers of NBA
- Section – 19: Approval by the NBA
- Section - 21: Determination of equitable benefit sharing by NBA
- Section – 22: Establishment of State Bio-diversity Boards
- Section – 23: Function of the State Bio-diversity Boards.
- Section – 24: Powers of State Bio-diversity Boards
- Section – 26: National Biodiversity Fund
- Section – 32: State Biodiversity Fund
- Section – 36: Central Government to develop National strategies plans etc. for conservation of biodiversity.
- Section – 36(1A) : Central Government to issue direction to State Governments to take corrective measures for conservation of biodiversity.
- Section - 36(3)(i): Impact assessment of developmental projects on biodiversity.
- Section –36(3)(ii): Regulate release of GMOs
- Section – 37: Biodiversity heritage sites
- Section – 38: Notifications of threatened species
- Section-39: Designation of Repositories
- Section – 40: Exemption for normally traded commodities from purview of the act.
- Section – 41: Establishment of Biodiversity Management Committees by local bodies.
- Section – 42: Local Biodiversity Fund
- Section – 52 A : Appeals to High Court on the decision of NBA/SBB
- Section – 53 B: Orders of NBA/SBB at par with civil courts
- Section – 55: Penalties – imprisonment upto 5 years and or a fine of 10 lakhs or to the extent of damage caused.
- Section-59: Act to have effect in addition to other Acts
- Section – 61: Cognizance of offences
- Section – 62: Power of Central Government of make Rules
- Section – 63: Power of State Government of make Rules
- Section – 64: Power to make regulations
- Section – 65: Power to remove difficulties



BIODIVERSITY OF KERALA

Kerala is blessed with biodiversity. The greatest natural endowment of this humid-tropic region was the existence of a high degree of biodiversity. Plant diversity of the state is given below.

Plant Diversity of Kerala

Plant Diversity	Number
Flowering Plants	4000
Grass species	350
Bamboo species	15
Reeds species	9
Orchid species	214
Gymnosperms	4
Ferns and Fern allies	200
Algae	231
Fungi	1044
Lichens	800

The Silent Valley forests in Kerala is one of the world's richest biodiversity **hot spots**. The Silent Valley ecosystem comprises of 8,952 hectares of forest land on the Nilgiris plateau closed on all sides by mountains of the Western Ghats, some as high as 2000 metres. It is an "ecological island" with a relatively undisturbed evolutionary history of at least 50 million years manifested in a high degree of floral and faunal endemism. Rare, endangered and new biological species continue to be discovered from the Silent Valley National Park

The agricultural settlements of Kerala, which evolved nearly two thousand years ago, have depended on this biodiversity as their prime resource. People in this area traditionally used their own "homesteads" [a small garden surrounding the house] for a



variety of needs such as food, energy, shelter, medicines, etc. Unlike other parts of tropical India, inhabitants of the agricultural land of Kerala have not depended on forests or community-owned lands for their biomass requirements. A relatively small piece of land could provide a variety of commodities for human sustenance due to the high degree of biodiversity of the region. Following are the most common homestead plants and trees and their uses:

Name of the tree or plant	Uses
Mango (<i>Mangifera indica</i>)	Fruit, Timber, Non-staple food, organic manure
Silanti (<i>Thespesia populnea</i>)	Timber, Organic Manure, Support for wines
Erukku (<i>Calotropis gigantea</i>)	Organic Manure, Support
Avarum (<i>Cassia auriculata</i>)	Organic Manure, Support
Laurel (<i>Calophyllum inophyllum</i>)	Non-edible oil, org. manure
Jack (<i>Artocarpus integrifolia</i>)	Semi-staple food, fruit, timber
Anjil (<i>Artocarpus</i>)	Timber
Coconut (<i>Cocos nucifera</i>)	Several uses
Tamarind (<i>Tamarindus indica</i>)	Spice
Tree Cotton (<i>Gossypium arboreum</i>)	Silk cotton
Yam (<i>Dioscorea esculenta</i>)	Tuber (semi-staple food)
Chempu (<i>Colocasia antiquorum</i>)	Tuber (semi-staple food)
Elephant yam (<i>Typhorium tricobatum</i>)	Tuber (semi-staple food)
Pepper (<i>Piper nigrum</i>)	Spice
Ginger (<i>Zingiber officinale</i>)	Spice
Turmeric (<i>Curcuma longa</i>)	Spice
Plantain (Several varieties of <i>Musa sapientum</i>)	Fruit, semi-staple food

Note: In addition to the trees cited above, there are several other varieties used for organic manure and/or as support for pepper wine.



The biodiversity of Kerala homesteads has declined drastically during the last four to five decades. The majorities of the homesteads have been converted into small-scale coconut plantations or have moved toward cropping systems with but a few crops. The naturally-grown trees have almost disappeared. *Anjili*, a variety of the *Artocarpus* species which, with the jackfruit tree, supplied the bulk of timber for house construction, has disappeared from farmlands because farmers just haven't replanted it. The number of jackfruit trees has also declined considerably because of the low-market price for many indigenous varieties of jackfruits. Thus, people now depend on the marketed timber, which is taken mostly from the forest areas. This has resulted in excessive pressure on forest timber, increased price, and the increased cost of house construction.

Though coconut still provides the bulk of the cooking fuel for homesteads, the total biomass available for that purpose has come down. Even medium-size households depend on other fuels, partly due to the scarcity of the biomass and partly due to the availability of "clean" petroleum-based fuels at subsidized prices.

The most important activity needed in Kerala is to conserve the biodiversity of the homesteads. The mixed system provides the much-needed organic manure for further cultivation, apart from providing a variety of commodities. Moreover such systems do not upset the farmer's financial position when the price of any single commodity declines. Relying on biodiversity may not increase the short-term economic benefits generated from agriculture. However, biodiversity will improve the stability of the system, improve the quality and diversity of commodities available for home consumption, improve the ability of the farmer to make his own dwelling unit, and reduce fluctuations in cash income.





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GEOGRAPHICAL INDICATIONS OF GOODS

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World Trade Organization has its implications in every sector of our country. Agreement on trade related aspects of Intellectual Property Rights (TRIPS) is an important agreement under WTO for protecting Intellectual Property Rights on innovations and new creations. TRIPS deals with intellectual property protection of innovations through patents, trademarks, copyrights, integrated circuits, geographical indications and undisclosed information. In line with the TRIPS agreement, Government of India has enacted many new legislations and had amended the existing ones.

Darjeeling, Assam, Champagne, Kolhapuri etc. are names associated throughout the world with products of a certain nature and quality. One common feature of all these names is their geographical connotation, that is, their function of designating places, towns, regions or countries of origin. WTO have approved the term Geographical Indications to designate such goods. Geographical Indications can acquire a high reputation and thus are valuable commercial assets in international trade. For this very reason, they are often exposed to misappropriation, counterfeiting or forgery; and hence their protection at national as well as international level is highly desirable.

Article 22(1) of the TRIPS agreement defines Geographical Indications as the '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'. Most commonly, a geographical indication consists of the name of the place of origin of goods. Agricultural products typically have qualities that derive from their place of production and are influenced by specific local factors such as climate, soil and methods of cultivation. The geographical indication also highlights specific qualities of a product which are due to human factors associated with the products such as specific manufacturing skills and traditional knowledge.



The use of geographical indications is an important method of indicating the origin of goods. One of the aims of their use is to promote commerce by informing the customers of the origin of products; implying a certain quality he may be looking for. The protection of geographical indication means prohibiting any unauthorized person from using the geographical indication to the products, which do not originate from the indicated geographical region or place. The geographical indication is a community right, which can not be granted to a single person like a copyright or trade mark. It can be used by all producers of a particular good from a geographical region covered by the particular geographical indication. In some countries like France and the United States, protection can be granted as a collective mark or certification mark.

The historical background of geographical indications reveals that the first multilateral agreement related to geographical indications was Paris convention in 1883 for the protection of Industrial Property. The Convention used the expression 'appellations of origin' to protect objects by national industrial property law. Madrid Agreement in 1891 provided that 'all goods' bearing a false or misleading indication to signatory country or a place in that country shall be seized on importation. The Lisbon Agreement in 1958 established an international system of registration and protection of appellations of origin. In 1975, WIPO issued a Draft Treaty on the Protection of Geographical Indications and issued a model Law on Geographical Indications for adoption by developing countries. In 1990, WIPO issued a memorandum asserting the continuing need for a treaty on Geographical Indications.

Protection of geographical indications was a key demand of European countries during the negotiations at the Uruguay Round of the GATT. Section 3 of TRIPS agreement covers definitions and scope of a geographical indication, minimum standard and common protection provided for geographical indications corresponding to all kinds of products, the interrelationship between trade marks and indications of origin, additional protection for geographical indications for wines and spirits and exceptions to the protection of



geographical indications. Items covered under geographical indications include agricultural goods, natural goods and manufactured goods like goods of handicraft, industrial goods and food stuffs. Examples of such goods are Swiss watches, wines like Champagne, Burgundy, Chablis, Kyoto bean cakes and Darjeeling Tea. The famous aromatic rice variety from Indian subcontinent is a unique product that need protection as GI. Recent reports indicate that India and Pakistan will file a joint application for registration of GIs of Basmati rice in US and Europe (The Hindu, dated June,18, 2006)

The Government of India in tune with the provisions of TRIPS agreement had enacted legislations to protect GIs of unique goods in the country. This legislation entitled “The Geographical Indication of Goods (Registration and Protection) Act, 1999” seeks to provide for the registration and better protection of Geographical Indications relating to goods in India. Geographical Indication of Goods (Registration and Protection) Rules, 2002 would go a long way to protect Geographical Indications and provides a model for other countries to follow. Enforcement of the above act is with effect from 15th September 2003. While the act does not make a provision for individual ownership, any association of the persons or producers or any organization or authority established by or under the law representing the interest of the producers of the concerned goods can apply for registration as proprietor. The producers of goods have to register as authorized user with respect to registered geographical indications. An authorized user has the exclusive rights to the use of geographical indication in relation to goods in respect of which it is registered. The application has to be submitted to the Registrar of Geographical Indications along with the prescribed fee. The registration is valid for a period of ten years which can be renewed. The GI Registry is located at Chennai.

In India, 28 products have been registered as GIs till now. The products registered under GI protection include Darjeeling tea, Kancheepuram sarees, Pochampally handloom, Mysore silks, Chanderi sarees, Mysore agarbathies, Bhavani Jamukkalam, Aranmula metal mirror, Salem textiles, Coorg oranges etc. Darjeeling tea is the first product to register as



GI in India. It has acquired substantial domestic and international reputation and has for long been known to the trade. Tea produced in 87 gardens of Darjeeling district in Assam is designated as Darjeeling tea. Due to the unique and complex combination of agro climatic conditions prevailing in the region and the production regulations imposed by the Tea board, the tea produced in the said region has distinct taste, aroma and mouth feel which have won the patronage and recognition all over the world.

The first product to be granted GI protection in Kerala is Aranmula metal mirror. This is an excellent example for granting GIs for traditional and handicraft products. Aranmula metal mirror is claimed to be superior to metal mirrors produced in other parts of the world. The mirror is made from a special alloy comprising of copper, zinc, tin, phosphorus, iron and nickel. Traditional knowledge passed from generations to generations and special skills maintained by the artisans contribute to the worldwide fame and reputation of the product. Palakkad matta rice and Njavara rice have been granted GI registration recently. Pokkali rice is another candidate for GI protection in Kerala. Kerala Agricultural University in association with the Pokkali Land Development Agency has submitted the GI application for Pokkali rice which is in the final stage of granting GI registration. This has been achieved by organizing workshops in pokkali tract, with financial support from Kerala State Council for Science, Technology and Environment, Thiruvananthapuram, to create broader awareness about the significance and possibilities of GI registration of pokkali rice and related products among the farmers and other stakeholders.

Kerala is a treasure house of goods awaiting protection under Geographical Indications Act. Identification and registration of our unique and traditional goods can be achieved through concerted efforts of research and developmental organizations in the state.

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