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INTELLECTUAL PROPERTY RIGHTS IN INDIAN AGRICULTURE

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FOREWORD

Following the Agreement on Trade related aspects of Intellectual Property Rights (TRIPS) in the World Trade Organization (WTO), most countries are committed to the provision of certain minimum standards for the protection of intellectual property. Such intellectual property rights (IPRs) raise crucial issues for the future development of agriculture and are particularly important for a developing country like India. These issues are being extensively debated in India and have contributed to the preparation of legislation on IPRs with respect to plant variety protection, patents and geographical indications.

This paper by Jayashree Watal sets the public debate on IPRs in Indian agriculture in the framework of India's international commitments on TRIPS and at the same time provides an overview of the state of play on implementing IPR legislation in agriculture in India. It also makes some specific suggestions on how to resolve some of these important issues.

ICRIER scheduled a Seminar on 9 July, 1998 to discuss this study. Participants in the Seminar included representatives from the Ministry of Agriculture, Research Institutions, NGOs and the Private Sector (A list of participants is included at the end). The discussion confirmed the importance of the issues raised in the paper and a number of points of view emerged. The paper has been revised in the light of the discussion. A summary of the discussion is also presented separately at the end of the paper.

It is hoped that this paper will help readers understand the context of the debate on intellectual property rights in Indian agriculture.

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INTELLECTUAL PROPERTY RIGHTS IN INDIAN AGRICULTURE

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I. INTRODUCTION:

Intellectual property rights (IPRs) can be broadly defined as legal rights established over creative or inventive ideas. Such legal rights generally allow right holders to exclude the unauthorized commercial use of their creations/inventions by third persons. The rationale for the establishment of a legal framework on IPRs is that it is a signal to society that creative and inventive ideas will be rewarded. This does not mean that there is no other way of rewarding such ideas or that this system is absolutely necessary, even less sufficient, to reward inventiveness or creativity. Nevertheless, it would be difficult to deny that IPRs do have a role to play in setting up of any such reward system.

There are two broad categories of IPRs: one, industrial property² covering IPRs such as patents, trademarks, geographical indications and industrial designs; two, copyright and related rights covering artistic and literary works, performances, broadcasts and the like. IPRs that do not fit into this classical division are termed *sui generis*, meaning one-of-its-kind. Such *sui generis* rights include those covering lay-out designs of semi conductor chips and plant breeders' rights.

This paper will in the next section distinguish the IPRs relevant to agriculture and explain these rights. In Section III the international intellectual property law for these rights will be described. Section IV sets out India's international obligations vis-a-vis her own IPR laws and Section V goes on to an analysis of the public debate in India on the controversial IPRs and the status of the legislation on these. This paper concludes in Section VI with prescriptions for public policy on IPRs and agriculture in India.

¹ The author has worked in the government of India, dealing with TRIPS, in the Ministry of Industry and in the Ministry of Commerce at New Delhi. The views expressed here are based on publicly available material, including newspaper reports, and are not attributable to any institution or organization with which the author is or has been associated. The author gratefully acknowledges, with the usual disclaimers, material and useful comments received from C. Niranjan Rao of Indian Council for Research on International Economic Relations (ICRIER), New Delhi. This paper has greatly benefitted from useful comments made at a seminar held at ICRIER, New Delhi on 9.7.1998 and is a revised version of the draft presented at that Seminar. A gist of the discussion is at Annex-I.

² The term industrial property covers protectable ideas in both industry and agriculture.

II. IPRs RELEVANT TO AGRICULTURE:

Several of the IPRs mentioned above are relevant to the agricultural sector in that they can be used to protect goods or services produced in the agricultural sector.³ These are mainly patents, plant breeders' rights, trademarks, geographical indications and trade secrets. It is possible to include lay-out designs for chips that are designed to perform certain functions related to agriculture, but these are assumed to be incorporated in machines produced in the industrial sector. Similarly, scientific papers or television programmes covering ideas related to agriculture are not seen as directly being produced in this sector. The relevant IPRs are dealt with below.

Patents are probably the most important IPR today for agricultural goods and services as they provide, wherever these are available, the strongest protection for patentable plants and animals and biotechnological processes for their production. Patents universally give the patentee the right to prevent third parties from making, using or selling the patented product or process. Patents, however, have to be disclosed to the public through the patent documents. This enables researchers to develop further useful products or services. Patentable products have to meet the criteria of patentability, viz., novelty, i.e. that which is not known in the prior art, non-obviousness i.e. that which involves an inventive step and usefulness i.e. that which is industrially applicable. With some nuanced differences the patent laws of all countries follow these criteria. However, not all countries allow the patenting of plants and animals or even microorganisms or biotechnological processes.

Biotechnology is the sector that holds the most potential for advances in agriculture to improve productivity. Biotechnology R&D is mostly concentrated in the hands of large multinational enterprises in the US, Europe and Japan. It is in this field of technology more than others, that proprietary rights over knowledge is getting increasingly important. Today, in the United States, patents are even granted to animal inventions and human gene sequences, if these are eligible for such protection. The case law in the United States developed rapidly since the early '80's with the grant of a patent for a bacteria that 'ate' oil spills. This gave rise to the patenting of micro-organisms found in nature, if it involved a new,

³ It was felt at the ICRIER Seminar that IPRs which were originally formulated to cover industrial products could not blindly be used for biological materials. However, the jurisprudence and practice has evolved to take care of some technical issues as, for instance, in the case of deposit of micro organisms.

inventive and useful technical intervention by man. Another landmark case was the patent granted to the 'Harvard oncomouse', useful in research on cancer. The European Union has been slower to follow suit on the patenting of plants and animals due to the opposition it faced from environmental activists in the European Parliament. This has now been largely overcome with the imminent finalization of the new Biotechnology Directive by the European Parliament, authorizing the grant of patents to plants and animals, with limited exceptions. Thus, research on the cloning of animals, which is advancing rapidly, would be eligible for patents in at least some developed countries.

Many countries have developed plant breeders' rights to reward conventional plant breeding efforts. Such *sui generis* protection is weaker than patent protection in that the right holders can only prevent third parties from commercially exploiting the protected material. The criteria used to grant such protection is also lower than that used to determine patentability as these are distinctness, i.e. distinguishable from earlier known varieties, uniformity i.e. display of the same essential characteristics in every plant and stability i.e. the retention of the essential characteristics on reproduction. Such protection encourages breeding efforts in the private sector. Historically, in developing countries, such efforts have emanated from the public sector or from international research institutions. It is only in recent years that developing countries have begun to institute such protection.

Marks used in commerce can be applied to both agricultural and industrial products and services. For instance, trademarks are used to market seeds or spraying services. The essential purpose of a trademark is to distinguish the goods and services of one enterprise from another, thus preventing deception of the consumer. Such protection prevents the wrongful use of commercial marks and is not limited in time, although registration may have to be renewed from time to time. Almost all countries in the world protect trademarks.

One category of commercial marks more often used in agriculture than industry are geographical indications, including appellations of origin. These are marks associated with products originating from a country, region or locality where the quality, reputation or other characteristics of the product are essentially attributable to its geographical origin. Most geographical indications relate to agricultural products or those derived from them, as in the case of wines and spirits. Protection of such marks prevents third parties from passing off their products as those originating in the given region. Famous examples are

'Champagne' for sparkling wine and 'Roquefort' for cheese from areas of these names in France or 'Darjeeling' for tea from this district in India. It is not necessary for these indications to be geographical names as in the case of 'Feta' for cheese from Greece or 'Basmati' for rice from India and Pakistan as there are no places, localities or regions with these names. Plant varieties developed with traditional knowledge and associated with a particular region can also be protected as geographical indications. The advantage in such protection is that it is not time-limited, unlike the case of plant patents or plant breeders' rights. However, needless to say, commercial benefits can be derived from the protection of geographical indications only when the name becomes reasonably famous.

Trade secret protection can be used by the agricultural sector to protect, for instance, hybrid plant varieties. Thus, even in countries that do not recognize plant breeders' rights, the use of hybrids gives a certain degree of appropriability as long as it can be kept secret. Trade secrets can be protected against third party misappropriation through laws relating to unfair competition or to restrictive trade practices or to contract law. In the United States there are separate trade secret laws at the State level. Protection of trade secrets is not limited in time but, unlike patents, the disadvantage of this type of protection is that it is lost the moment it is discovered independently by a third party⁴. The advantage, at least to the proprietor, is that, unlike patents, there is no obligation to disclose the inventive or creative ideas to society.

Some developed countries protect test data submitted for obtaining marketing approval of agricultural chemicals from use by third parties for a limited period of time, generally 5 or 10 years. Such protection gives exclusive marketing rights to the originators as an incentive to recover the investment made in testing such agricultural chemicals. Although developing countries also require the submission of such test data, no exclusivity is conferred on the originator for any period of time.

⁴ At the ICRIER Seminar, several participants felt that since there was no separate legislation on the subject, the parent lines of the hybrids were not legally protected in India. However, the protection provided for trade secrets or confidential information under common law and jurisprudence can be used against the unfair misappropriation of confidential information, although this would not, unlike plant breeders' rights, protect against independent discovery.

III. INTERNATIONAL INTELLECTUAL PROPERTY LAW:

Until recently the multilateral and plurilateral treaties administered by the World Intellectual Property Organization (WIPO) constituted the bulk of the international law on intellectual property. The relevant treaties for IPRs related to agriculture are the Paris Convention on the Protection of Industrial Property, 1883 as revised up to 1967, and related plurilateral treaties which deal with areas such as patents, trademarks, appellations of origin or unfair competition. The Paris Convention established certain minimum agreed standards and procedures for the treatment of industrial property, the most important of which were national treatment i.e. the same treatment for nationals and foreigners and the right of priority or the according of a grace period in the filing of industrial property applications in member states. However, it still left considerable freedom to individual members to tailor their laws according to their developmental and technological requirements.

The Union Internationale pour la Protections des Obtentions Vegetables (UPOV) or the International Union for the Protection of New Varieties of Plants has a multilateral treaty for the protection of new plant varieties which it administers in cooperation with the WIPO. The UPOV Convention facilitates a uniform formulation of the extent and scope of plant breeders' rights. The UPOV Convention was signed in 1961, came into force in 1968 and was revised in 1972, 1978, and 1991. The 1978 version was in force till April 1998, when the 1991 version entered into force. There are at present 38 members of UPOV. The 1991 version substantially enlarges the scope of breeders' rights and restricts farmers' and researchers' exemptions, provides for a longer term of protection for the universe of species/genera of plants, although this can be introduced in a phased way. Very few developing countries have instituted plant variety protection and fewer are members of UPOV⁵.

Much of the freedom given under the Paris Convention was taken away by the Agreement on Trade Related aspects of Intellectual Property Rights (TRIPS) of the newly formed World Trade Organization (WTO). There are presently 132 members of WTO, with 30 more, including China and Russia, seeking accession. While TRIPS obliges the adherence to the substantive provisions of the Paris Convention, it goes further in limiting the freedom of countries on several aspects

⁵ Developing country members of UPOV are Argentina, Chile, Colombia, Ecuador, Mexico, Paraguay, South Africa and Uruguay (Source: *Diversity* Vol. 13, No. 2 and 3, 1997, p.3).

of their intellectual property laws. This agreement is a part of the single package of the results of the Uruguay Round that are binding on all members of the WTO and is intrinsically linked to the most important advantage of the multilateral trading system, namely, the most-favoured-nation (m.f.n.) treatment. TRIPS obliges non-discriminatory treatment in terms of national treatment between nationals and others as well as m.f.n. treatment among nationals of all WTO members. TRIPS also lays down stringent standards for the protection and enforcement of intellectual property. The TRIPS Agreement of the WTO obliges members to either provide protection for plant varieties either through patents or through an effective *sui generis* law or through any combination of the two. While TRIPS calls for the institution of an effective *sui generis* system of plant variety protection, there is no reference to UPOV or a call to adhere to any version of it, making it the only exceptional case in TRIPS where the current international treaty on the subject is not referred to.

More importantly, TRIPS obliges the patenting of micro-organisms and microbiological and non-biological processes for the production of plants and animals. It, however, presently allows the exclusion from patents of plants and animals and essentially biological processes for their production. Considerable freedom is, however, given in interpreting the criteria for patentability viz. novelty, non-obviousness and industrial applicability. Narrow or narrowly interpreted patent claims can resolve some of the issues arising from broad, blocking patents.

It must be noted that TRIPS calls for "strong" process patents, strong in the sense that the rights of the patentee extend to the product made by the patented process and that there is a provision for the reversal of the burden of proof in any infringement proceedings. Such process patents are very similar in effect to product patents. It is yet unclear whether such an extension of rights would imply rights over the product, if where such products are explicitly excluded, as is the case of plants and animals. In other words, would a process patent for a genetically engineered animal extend to the animal itself? The provisions of Article 273 (b) of TRIPS concerning on biotechnological patents are to be reviewed by 1999 when it can be expected that pressure will build up to delete the exclusion for plants and animals.

The TRIPS Agreement also ensures a universal, minimum level of protection of commercial marks such as trademarks and geographical indications. Geographical indications used on wines and spirits are given an absolute level of

protection where use, even without the likelihood of deception of the consumers, is prohibited.

For the first time in international law, trade secrets have also been accorded the status of IPRs. The TRIPS Agreement goes beyond the provisions of the Paris Convention on unfair competition, explicitly introducing in Section 7, trade secret protection in international law and considerably strengthening it by extending the liability to third parties that induced breach of a trade secret. Under Section 7 protecting undisclosed information in the TRIPS Agreement, test data submitted for obtaining marketing approvals of new pharmaceutical and agricultural chemical products is protected against unfair commercial use. The provisions of this section lend themselves to various interpretations.⁶

Under the TRIPS Agreement, the protection granted for IPRs can be tempered by appropriate provisions in competition law, particularly relating to practices or conditions of licensing of IPRs which have an adverse effect on trade or transfer and dissemination of technology⁷.

In addition to international Intellectual property law, the Convention on Biological Diversity (CBD), concluded at 'Rio Earth Summit' in 1992, is an important landmark relevant to a discussion of IPRs and agriculture. The stated objectives of the CBD are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits. There are two provisions relating to IPRs in the CBD. Much is made of the provision on compulsory access to and transfer of technologies relevant to conservation under 'fair and most favourable terms' given in Article 16 of this treaty. However, with the proviso that such access and transfer shall be consistent with the adequate and effective protection of IPRs, there is no cause to imagine that this treaty will force transfer of technology on any terms other than those set commercially in the market. Even the provision to cooperate to ensure that IPRs are supportive of and do not run counter to the objectives of the CBD is subject to international law, which now includes the TRIPS Agreement. Unfortunately, the fair and equitable sharing of benefits from the commercial use of genetic/biological resources or traditional/indigenous knowledge would remain as a good intention

⁶ See Watal, Jayashree 'The TRIPS Agreement and Developing Countries'. Strong, Weak or Balanced Protection?, *Journal of World Intellectual Property*, Vol. 1 No.2, March 1998, pp. 281-304, for a detailed discussion on this provision of the TRIPS Agreement.

⁷ See *ibid* for a detailed discussion of these issues.

till there are internationally accepted legal instruments to implement these provisions. Material Transfer Agreements (MTAs) are in the nature of bilateral contracts which are to be voluntarily concluded and do not, by themselves ensure fairness.

There are also as yet no internationally accepted ways to reward what are sometimes called community IPRs or CIRs i.e. indigenous or traditional knowledge passed down, usually orally, over many generations. Many feel that traditional knowledge should be registered so that it is not incorporated into patents without the knowledge or consent of the concerned communities. Consent would be given only after ensuring fair and equitable sharing of benefits. Others view rural, contemporary innovations as important for progress in agriculture and advocate the institution of new kind of IPRs, like some kind of a global registration system to cover these⁸.

IV. INDIA'S INTERNATIONAL OBLIGATIONS ON IPRs:

India is not yet a Member of the Paris Convention or the UPOV. However, India is a founder member of the WTO and is therefore party to the TRIPS Agreement which came into force on 1.1.1995. Being a developing country, India is entitled to a transition period of five years up to 1.1.2000 for most provisions of TRIPS. An important exception is the introduction of product patents in areas of technology not covered so far, for which time is available up to 1.1.2005⁹. Nevertheless, the so-called process-by-product patents with the reversal of burden of proof would have to be in place by 1.1.2000.

At present the Patents Act, 1970 does not allow the patenting of plants or animals or micro-organisms. Although it does not contain any such specific exclusion, the definition of an invention seems to exclude these¹⁰. Even microbiological processes are excluded if they involve a method of agriculture or

⁸ See for instance the writings of Anil Gupta of the Indian Institute of Management, Ahmedabad, such as, 'Technologies, Institutions and Incentives for Conservation of Biodiversity in non-OECD Countries: Assessing Needs for Technical Cooperation' in OECD Proceedings of the Cairns Conference on Investing in Biodiversity, 25-28 March, 1996.

⁹ In the areas of pharmaceuticals and agricultural chemicals, product patent applications must be accepted from 1.1.1995 itself and exclusive marketing rights must be granted for a period of five years or till the product patent is granted or rejected, on the fulfillment of the required conditions.

¹⁰ See Section 2(j) of the Patents Act, 1970.

horticulture, as such methods are specifically excluded¹¹. However, such applications have sometimes been granted patents, at least since the mid-80's as is evidenced by the process patent granted to Agracetus, a US company, on genetically engineered cotton cells and lines. This patent was later revoked in public interest by the government of India¹².

India is thus, obliged to either introduce patents for new plant varieties or have an effective *sui generis* law to protect them by 1.1.2000. In addition India must make available strong patents on microbiological and non-biological processes for the production of plants and animals by 1.1.2000. However, India has time up to 1.1.2005 to introduce product patents on micro-organisms.

India must also bring the protection of trademarks, geographical indications and trade secrets up to TRIPS standards also by 1.1.2000. The current law on trademarks, the Trade and Merchandise Marks Act, 1958 and the current jurisprudence, particularly under the common law tort of passing-off, is, by and large, in line with TRIPS. However, marginal amendments are required, as in the case of the registration of service marks and the recognition of well-known marks.

In the case of geographical indications, the Trade and Merchandise Marks Act, 1958, allows for the registration of certification marks, certifying quality or origin of a product. Such certification marks can be registered by any body not producing the particular product, as, for instance, any association of producers or traders. In addition, geographical indications are protected under the common law tort of passing-off. Marks such as 'Champagne' for sparkling wine from France and 'Scotch' for whisky from Scotland have been successfully protected under this. However, India would need to legislate in order to give the higher level of absolute protection to wines and spirits required under TRIPS. In doing so, other Indian products or those of interest to India's trading partners can also be given this higher level of protection, perhaps on the basis of reciprocity¹³.

Although trade secret protection is available under common law and also laws on restrictive trade practices, India may have to introduce the legal basis to extend

¹¹ See Section 3(h) of the Patents Act, 1970.

¹² See Rao, Niranjan, C., 'Plant Variety Protection and Plant Biotechnology Patents: Options for India', Policy Paper no. 29, for UNDP funded Project LARGE, UNDP New Delhi, 1997, pp. 36-37 for a discussion on this patent.

¹³ This suggestion is developed further in the last section of this paper.

such protection to cover third parties who directly or indirectly induce the breach of trade secrets. India would also have to legislate to protect undisclosed test data submitted for obtaining marketing approvals for new agricultural chemicals.

India also proposes to introduce national legislation to implement the CBD through the Biodiversity Act, under which the terms of access to *in situ* genetic and biological resources would be governed¹⁴.

V. THE PUBLIC DEBATE IN INDIA ON LEGISLATIVE CHANGES ON IPRs:

Given the importance of agriculture in the Indian economy, there has been extensive public debate of an intensely political nature, on certain legislative changes required to implement TRIPS as related to the agricultural sector. These relate to the institution of plant breeders' rights, patents for biotechnological inventions and geographical indications. In addition, the implementation of the CBD to establish the so-called 'farmers' rights'¹⁵ and the fair and equitable sharing of benefits on commercialization of biological/genetic resources and traditional knowledge and practices originating from India, has also been controversial. This public debate has been characterized by some degree of confusion in intermingling these various issues. Guided by NGO activists, political parties or at least some leading political personalities, cutting across political affiliations ranging from the left to the right, have taken entrenched positions, forcing policy makers to consult such activists while finalising the legislation on IPRs.

It has been well recognized that the initiatives for introducing plant breeders' rights were made by the private seed companies in India in the late '80's after the adoption of the New Seed Policy in 1988. With this policy the government of India liberalized the import of seed for joint ventures, including hybrid seeds, for a number of important crops. Empirical studies have shown that such

¹⁴ See *Business Standard* of 5 March 1998, 'Elections Cast a Shadow on biodiversity law'.

¹⁵ Throughout this paper the expression 'farmers' rights' has been used in the sense given in the FAO undertaking of May 1989 as "rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources". This is distinguished from the term 'farmers' privilege' which is used to denote the freedom of farmers to save seed as planting material or for limited commercial exchanges i.e. the so-called 'across-the-fence' sales.

liberalization, including the development of hybrids, does have a positive impact on private research and development in this sector¹⁶. However, others forecast that the increasingly proprietary nature of plant biotechnologies and the decreasing role of International Agricultural Research Centres (IARCs) and national research centres will adversely affect the diffusion of such technologies¹⁷. The two aspects of incentives for generation of and for the diffusion of IPRs are not irreconcilable¹⁸.

In some circles in India the new policies were seen as a victory for multinational enterprises (MNEs) in spite of the fact that there were certain conditions regarding the transfer of the parent lines and critical breeding materials to the Indian partner of the joint venture¹⁹. In particular, the TRIPS negotiations of the Uruguay Round of Multilateral Trade Negotiations where US, Europe and Japan were demanding stronger Intellectual property protection, especially in the area of biotechnology, was seen as an attempt by Northern MNEs to privatize the genetic diversity of the South²⁰. There were vociferous protests by some NGO activists against India's manner of conducting trade negotiations.²¹ The TRIPS proposals were seen as patenting of life itself, raising ethical as well as socio-economic questions²².

¹⁶ See Pray, Carl and Tim Kelley, 'Impact of Liberalization and Deregulation on Technology Supply by the Indian Seed Industry', draft of a World Bank financed project, dated 27 October, 1997 (available on file with author). At the ICRIER Seminar, the representative of Monsanto categorically stated that despite policies to encourage private sector investment in the seed sector since 1989, such investment was forthcoming only in hybrids and not in self-pollinated crops. IPR protection was required not so much to protect against theft by farmers but against misuse by other private sector seed companies.

¹⁷ See Buttel FH, M Kenney and J Kloppenberg Jr. 'From Green Revolution to Biorevolution: Some Observations on the Changing Technological Basis of Economic Transformation in the Third World', *Economic Development and Cultural Change*, 1985, pp. 31-55.

¹⁸ Discussed in the last section of this paper.

¹⁹ See Bhattacharjee, Abhijit, 'New Seed Policy: Whose Interest Would It Serve?', *Economic and Political Weekly*, October 8, 1988, pp. 2089-2090.

²⁰ See, for instance, Menon, Usha, 'Intellectual Property Rights and Agricultural Development', *Economic and Political Weekly*, July 6-13, 1991, pp. 1660-1667 and Shiva, Vandana, 'Biotechnology Development and Conservation of Biodiversity', *Economic and Political Weekly*, November 30, 1991, pp. 2740-2746.

²¹ It was felt in the ICRIER Seminar that such negotiating teams should have included experts in agriculture and biotechnology. However as the author is aware, such experts were consulted in government in formulating position for the negotiations in WTO, although the adequacy of such consultations can be the subject of debate. Another aspect raised was the continuity of trade negotiators to ensure continuity in negotiating strategies, a problem not unique to India alone.

²² See Sahai, Suman: 'Patenting of Life Forms: What It Implies', *Economic and Political Weekly*, April 25, 1992, pp. 878-

An association of farmers in the Southern Indian state of Karnataka attacked the US multinational seed company, Cargill Seeds, in early 1993, protesting the entry of multinationals in the domestic seed industry. It was feared that the prices of seed would skyrocket and threaten the food security of the country. This incident and the subsequent farmers' rally on March 3 1993 at Delhi marked the height of the protest against the plant variety clauses of the TRIPS Agreement (the so-called Dunkel Draft). The Bharatiya Kisan Union (an all-India farmers' organization) even drew a parallel between these clauses and the take over of the country historically by the British East India Company²³. The case of the patent on products derived from the 'neem' plant was used to demonstrate the theft of traditional knowledge by multinationals and the consequent disastrous consequences for Indian farmers who would not be able to use 'neem' seeds. It is only much later that some of the myths on the neem based patents of W.R. Grace were adequately clarified²⁴.

The attempts made by the Ministry of Commerce to clarify that India did not have to accept the patenting of plants and that the *sui generis* system could be devised to take care of national interests²⁵ did not convince the NGOs and activists as they suspected that the term 'effective' would be strictly interpreted to ensure patent-like protection²⁶. Even an article written by the then Director General of GATT, Mr. Peter Sutherland, clarifying that standards contained in UPOV, 1978, which allowed both the farmers' and the breeders' privilege, could reasonably be said to constitute effective *sui generis* protection, failed to assuage these fears²⁷.

879. At the ICRIER Seminar Dr. Sahai opined that the provisions of Article 27.2 of TRIPs could be used to exclude patenting of life forms. However, it was pointed out that in such a case there could be no commercial exploitation either of such inventions.

23 Evidence given by Mahender Singh Tikait, President Bharatiya Kisan Union on 15.9.1993 before the Parliamentary Standing Committee on Commerce, 1993-94, Third Report on Draft of Dunkel Proposals, Evidence, Rajya Sabha Secretariat, New Delhi, December, 1993.

24 See essays by Prof. Anil Gupta and Dr. Thomas W. MacAllister in the *Biotechnology Law Report*, No. 1, January-February, 1996.

25 See evidence of the officials of the Ministry of Commerce, particularly that of Shri Anwarul Hoda, now DDG, WTO, before the Parliamentary Standing Committee on Commerce (1993-94) as cited above.

26 See Shiva, Vandana, 'Farmers' Rights, Biodiversity and International Treaties', *Economic and Political Weekly*, April 3, 1993, pp. 555-560.

27 See Sutherland, Peter, "Seeds of Doubt: Assurance on 'Farmers' Privilege'", *Times of India*, 15 March 1994.

Nevertheless, not all stakeholders were in agreement as agricultural scientists and some farmer activists were expressing different ideas on this subject. They opined that India was capable of turning the TRIPS proposals to its advantage due to the huge skilled manpower, variety in agro-climatic zones and facilities in agricultural research and that the farmers had nothing to fear and may only benefit from the implementation of these proposals²⁸.

The M.S. Swaminathan Research Foundation, Madras, and the Research Foundation for Science, Technology and Natural Resource Policy, New Delhi (later changed to RFSTE, for Research Foundation for Science, Technology and Ecology) were consulted on the 1993 draft legislation on the protection of plant varieties by the Ministry of Agriculture²⁹. The Swaminathan Foundation prepared an alternative draft legislation relating to plant breeders' and farmers' rights which was discussed at a workshop conducted by that organization in late 1993 and sent to the government of India after some modification. This draft attempted to reconcile the TRIPS Agreement with the CBD and the FAO's International Undertaking on Plant Genetic Resources, 1989. It called for the setting up of a National Community Gene Fund as a mechanism for rewarding farmers. It recognized that it was difficult to deal nationally with the issue of farmers' rights and that it was necessary to evolve an international consensus on this issue. India must show the way by attempting to include this concept in national law first and then later attempt to do so in UPOV³⁰. The Research Foundation for Science, Technology and Ecology went further and suggested that farmers' rights should set the limits to the IPRs generated by the seed industry.

Given the public outcry on plant variety protection, the government of India decided to make the draft legislation open for debate in early 1994. This draft was bitterly criticized for following UPOV, 1978, even when TRIPs did not require this and its attempt to balance this aspect with the inclusion of provisions on

²⁸ See, for instance, the evidence of ICAR and IARI scientists, including Dr. M.S. Swaminathan, ex-Director, ICAR, and that of Sharad Joshi, farmer activist, before the Parliamentary Standing Committee on Commerce (1993-94) cited *Supra* note 21.

²⁹ See Shiva, Vandana, 'Agricultural Biodiversity, Intellectual Property Rights and Farmers' Rights', *Economic and Political Weekly*, June 22, 1996, pp. 1621-1631.

³⁰ See M.S. Swaminathan Research Foundation, 'Methodologies for Recognizing the Role Informal Innovation in the Conservation and Utilization of Plant Genetic Resources: An Interdisciplinary Dialogue', Madras, 1994.

community rights and farmers' rights and extensive provisions on compulsory licenses failed to assuage the fears raised³¹.

The Ministry of Environment and Forests (MOEF) in the government of India, which deals with the CBD, came under tremendous pressure from public action groups to institute implementing legislation for the CBD. It proposed legislation on biodiversity to regulate the access to *in situ* genetic and biological resources, on conditions of prior informed consent, on fair and equitable sharing of benefits and on transfer of technology on fair terms. Given the experience on the legislation for plant variety protection, it was decided to constitute a committee headed by Dr. M.S. Swaminathan and comprising of all the major stakeholders, including scientists, NGOs, environmentalists and other relevant government departments/ministries. Regional seminars are being held to discuss the various issues involved in the legislation although the draft bill itself has not been made public³². The issue of community rights is sought to be resolved now in the proposed Biodiversity Act and not in the legislation on plant variety protection, although there is still considerable confusion on this issue.³³ This is, however, being strongly opposed by NGOs that have been active in this debate, such as the RFSTE and the Gene Campaign. The process of consultation is still on in the MOEF.

A revised legislation on plant variety protection, removing the issue of farmers' rights, as drafted earlier but retaining clauses on farmers' privilege and breeders' exemption, was attempted in 1997. This revised draft has been criticized as being modelled on UPOV 1991 and as deleting the farmers' rights altogether³⁴. Either there seems to be little awareness that the draft biodiversity legislation intends to tackle this issue and thus, it is being concluded that India has given up the concept of farmers' rights or there is a conviction that farmers' rights have

³¹ See Srinivas, Ravi, K , 'Power Without Accountability: Draft Bill on Plant Breeders' Rights', *Economic and Political Weekly*, March 26, 1994, pp. 729-730 and Sahai, Suman 'Government Legislation on Plant Breeders' Rights', *Economic and Political Weekly*, June 25, 1994, pp. 1573-1574.

³² The author participated in the Policy Dialogue on Access to Biodiversity and Benefit Sharing: Incentives, Innovations and Institutions from April 10-12, 1998 at the Indian Institute of Ahmedabad.

³³ Evidence of such confusion was seen at the ICRIER Seminar where many were confusing farmers' rights with the farmers' privilege. While it is yet not clear whether the farmers' rights will form part of India's legislation on plant variety protection, the latter is clearly within its ambit. However, with the Monsanto Corporation's purchase of the terminator technology (reported on RAFI's website www.rafi.ca) the utility of the farmers' exemption clause is being questioned.

³⁴ See Dhar, Biswajit and Sachin Chaturvedi, 'Introducing Plant Breeders' Rights in India: A Critical Evaluation of the Proposed Legislation', *The Journal of World Intellectual Property*, Vol.1, No.2, March 1998, pp. 245-262.

to necessarily be juxtaposed against the IPRs granted to seed companies in the same legislation. It is as yet not clear how this issue is going to play out in India.

In the meanwhile, it has been reported that some major European plant breeders have threatened to deny access of new rose varieties to Indian floriculturists if there is no protection of breeders' rights. The concern expressed was not just on the royalties lost but on the effect on the quality of the flower if illegal propagation and multiplication of the variety was allowed³⁵.

Similar exercises to involve the stakeholders in the drafting of legislation on biotechnological inventions have not yet been initiated by the Department of Industrial Development charged with the task of amending the Patents Act, 1970 to bring it in line with TRIPS by 1.1.2000. The public debate on this subject has not so far dealt with the detail required to implement legislation in this area. This is also the case for the protection of undisclosed information, whether trade secrets or test data.

An area of IPRs related to the agriculture sector that has raised considerable controversy in India recently is geographical indications. This issue occupied the centre stage in the context of the patent granted in the US in September 1997 to Ricetec, a US company, on the claim of novel basmati rice lines and grains. In this case most Indians believe that India should have a strong law on the protection of geographical indications so that Indian names are not patented and misused for economic gain in India's export markets.

³⁵ Reported in *Economic Times* on 24 February, 1998, 'Protect Breeders' Rights Else No New Roses: MNCs'.

THE CASE OF THE PATENT ON BASMATI RICE:

The facts of this case are that in September, 1997, Ricetec was granted a patent for allegedly novel basmati lines and grains which were created from the crossing of the basmati germplasm (of Pakistani origin) taken from an *ex situ* gene bank in the US with American long grained variety of rice. Ricetec has claimed that the new varieties have the same or better aroma, grain length and other characteristics than the original basmati variety grown in India and Pakistan and can be grown successfully in specified geographical areas in North America. This came to the notice of the government of India in February 1998, and an Inter-Ministerial Committee was set up under the Secretary, Department of Industrial Development, to examine this issue. The Agricultural Export Development Agency (APEDA) of the Ministry of Commerce in the government of India has been entrusted with the task of representing the rice exporters in any re-examination of the patent in the US Patent and Trademarks Office (USPTO), if it is decided that there are sufficient grounds for the eventual revocation of the patent. The Council for Scientific and Industrial Research (CSIR) which successfully opposed and obtained the revocation of a patent on turmeric in 1997 in the USPTO is assisting in this exercise too. In 1996-97, India exported about 490,000 MTs of basmati rice valued at about \$ 358 million, constituting over 60 per cent of the value of India's total exports of rice.

Irrespective of what is decided in the USPTO on the revocation of the basmati patent, the question is can Ricetec or any other company use the name basmati to sell rice that does not originate from India or Pakistan? In other words, can basmati be protected as a geographical indication? There is no unequivocal answer as Ricetec has claimed that basmati is a generic name denoting a variety of rice. Moreover, if Ricetec or any other company sells rice similar to basmati and labels or advertises this as 'American made basmati type rice' or 'basmati style rice', with a clear indication that the product originates from the US, there is no deception of the public even while the reputation and goodwill attached to the name basmati is diluted. The TRIPS Agreement accords absolute protection against the use of geographical indications with the words 'type', 'style', 'kind' etc. only to wines and spirits and to no other commodity. In addition, if the Courts in the US finally rule that the name 'basmati' is already generic, as it is understood to denote a variety of rice not necessarily associated with any geographical region, there would be no protection available for it. This is not yet tested in the Courts in US, although APEDA is opposing the registration of the trademark 'Texmati' by Ricetec in the

UK on the grounds that it would deceive the consumers as rice originating from India and Pakistan. That the GAFTA of UK strictly enforces its labelling requirements where 'basmati' can only be used for rice originating from India and Pakistan should help India's case. As on date the case has not yet been finally decided in the UK Trademarks Registry.

Some have opined that taking a patent derived from the basmati germplasm amounts to biopiracy by Ricetec. However, it must be noted that the germplasm was taken from an *ex situ* collection in the US and that the CBD had skirted the issue of ownership of genetic resources in international collections. Thus, in the current international law there is no prohibition on the exchange or use of such germplasm even if this is for commercial purposes.

Source : Various reports in the media from February to April, 1998 and the TRIPs Agreement.

There is a widespread belief in India that unless there is a domestic *sui generis* legislation to protect geographical indications, these marks cannot be protected in other countries. TRIPS does allow WTO Members to deny protection to geographical indications that are not protected in the country of origin. This, however, has to be translated into domestic law, unless the Agreement is directly applicable in that country. It is not widely recognised that India already permits the protection of such marks through certification marks as well as under the common law tort of passing off, provided it can be proved that the consumer would be deceived. The problem is that the certification mark system or even any *sui generis* legislation requires the definition of the particular product. For instance, what are the agreed characteristics of 'basmati' rice? Today, the delay in according domestic recognition to the mark 'basmati' probably is more because the rice producers of India are unable to come to an agreement on the definition of the mark 'basmati', than because the government has not passed a *sui generis* legislation on this subject. In any event the government has under its consideration a draft legislation to protect geographical indications in order to meet its TRIPS obligations. The relevant provisions of TRIPS on geographical indications need to be implemented by 1.1.2000.

VI. CONCLUSIONS AND POLICY PRESCRIPTIONS:

The classical IPRs relevant to agriculture are patents, particularly on biotechnological inventions, plant breeders' rights, trademarks and geographical indications. Trade secrets and the protection of undisclosed test data are also considered to be part of IPRs now and these are relevant to the agricultural sector also. Farmers' rights and community IPRs are the forms of intellectual property at the stage of initial conceptualisation at the international or national level. India is not a member of the Paris Convention or UPOV but is a member of the WTO and is therefore, obliged to implement the TRIPS Agreement within the time limits set out therein. Most of the TRIPS obligations on these relevant IPRs, including strong process patents for biotechnological inventions, have to be in place by 1.1.2000, and it is only for product patents on micro-organisms that India has time up to 1.1.2005.

Although legislative exercises on a *sui generis* system of plant variety protection began almost five years back, in 1993, the draft legislation is yet to be finalized. More recently, India has proposed the enactment of a biodiversity law to implement the CBD and this is in the process of being debated and finalized. An important question is whether the farmers' rights and community rights need to be included in the plant variety protection law or in the biodiversity law or both.

Since the government of India wants to encourage investment by private seed companies, as evidenced from its policies since the mid-'80'S, plant breeders' rights would help in giving incentives for private research. The issue of whether public sector research institutions should be allowed proprietary rights over their research is still controversial, although having such rights and yet disseminating these technologies at reasonable prices are not necessarily contradictory³⁶. More importantly, steps would have to be taken to ensure the diffusion of the results of this research such that reasonable compensation is allowed to plant breeders. The deployment of skillfully drafted provisions on compulsory licensing and government use and the recognition of the mutual interdependence between public sector and private sector research efforts, may resolve the dilemma of incentives for generation and the subsequent diffusion of such technologies.

³⁶ At the recent ICRIER seminar many participants agreed that such proprietary rights would enable public sector research institutions to pre-empt private sector seed companies from not sharing commercial benefits on varieties derived from them and also maintain advantages in cross-licensing the results of their research.

The Consultative Group on International Agricultural Research (CGIAR) and the International Agricultural Research Centres (IARCs) can play a constructive role in the two-way transfer of technologies between the (National Agricultural Research Systems (NARs) and private sector seed companies. Several modalities have already been envisaged such as Material Transfer Agreements, licensing or cross-licensing, joint ventures or private funding of basic research in the public sector.³⁷

On the issue of patents being taken out on the basis of traditional knowledge without acknowledging that this was already known before, there seems to be no other way but to document all such knowledge. The National Bureau of Plant Genetic Resources has set up a base collection of 1.60 lakh samples of germ plasm of various crop species in a National Gene Bank, aimed at being one of the largest ex-situ collections in the world³⁸. The state government of Karnataka, in collaboration with the Indian Institute of Science, Bangalore, has also launched a plan to map the biodiversity and traditional knowledge in its jurisdiction. In addition, the CSIR in India has already begun with a programme to systematically document at least 400 species of plants whose therapeutic, agricultural and other uses³⁹. However, much more needs to be done as this is a stupendous task.

India has suggested in the WTO Committee on Trade and Environment that under TRIPS, there should be an obligation on patent applicants of biotechnological inventions based on genetic/biological resources or on traditional/indigenous knowledge, to disclose the country of origin and to reveal whether the applicant has prior informed consent⁴⁰. This suggestion was also made in the European Parliament for inclusion in the proposed Biotechnology Directive but was rejected by the European Commission as going beyond its international obligations⁴¹. Such a solution is necessary in international

³⁷ See Lesser, W.H., Gesa Harskotte-Wesseler, Uma Lele and Derek Byerlee, 'An Issues Paper : Possible Future Roles for the World Bank in Agriculturally-Related Intellectual Property Rights : Assisting Borrowers and Member Countries', Draft, World Bank, June 1998.

³⁸ See policy paper on 'Conservation, Management and use of Agro-biodiversity, National Academy of Agricultural Sciences, India, April, 1998.

³⁹ See "IICSIR goes into documenting drive after turmeric patent triumph", *Indian Express* of 28 August, 1997.

⁴⁰ See Report (1996) of the Committee on Trade and Environment, document no. WT/CTE/W/40 dated 7 November 1996, available on the WTO web site, www.wto.org.

⁴¹ Information taken from the web site of the European Commission.

intellectual property law if developing countries are to be notified and fairly and equitably compensated for resources and knowledge taken from them for commercial benefit. There is an urgent need to build international consensus on this issue.

The legislative exercises on amending the Patents Act, 1970, particularly on the patenting of biotechnological inventions should be made more transparent, with the involvement of all stakeholders such as agricultural and other scientists, farmer groups, private sector seed companies, lawyers, experts and NGO activists. Similar exercises are required to implement the TRIPs provisions on undisclosed information. This would not only require the conduct of workshops and the setting up of drafting committees but also the building up of mutual trust and respect, without which these would remain empty exercises.

Recently, there has been a vocal demand made by sections of the media to introduce *sui generis* legislation for the domestic protection of geographical indications such as basmati rice. However, the important issue here is seeking protection for Indian marks in the markets of India's major trading partners, a possibility which is open under the laws of these countries, In addition a conscious effort needs to be made to invest in and build up the brand equity of Indian markets in order to ensure that such marks do not become generic. In addition, India should seek to conclude bilateral agreements with interested WTO members within the framework of the TRIPs Agreement, to give higher protection to products of mutual interest on a reciprocal basis. As long as this is done for specific geographical indications and as long as India is willing to conclude such agreements with other WTO members too, there appears to be no inconsistency with the m.f.n. clause of TRIPs.

The CSIR has begun laudable efforts to improve patent literacy amongst its scientists. These efforts are being made by the ICAR too as there is a crying need to increase IPR literacy, not only in terms of laws, rules and procedures but also in terms of increasing the awareness on the long term benefits for the country, particularly from increased domestic R&D and productivity.

While a full discussion and debate on legislation on IPRs relevant to agriculture is necessary both in the media and in civil society, TRIPs-compatible laws will mostly have to be in place within the next one year and a half or so. It is clearly time to enact the required legislation and the implementing rules and regulations, incorporating all the flexibility allowed under TRIPs, before time runs out. At the

same time this exercise should be done with as much transparency as possible to allay the fears raised so far in the public debate.

This paper does not make any claim to a complete or exhaustive list of all that needs to be done for IPRs in agriculture in India. It merely emphasises the immensity of the tasks that remain to be done in the light of the sharp differences of opinion amongst the stakeholders and underlines the fact that both national and international organizations have to gear up to contribute to this exercise in an urgent and meaningful way.

REFERENCES

Bhattacharjee, Abhijit, (1988), 'New Seed Policy: Whose Interest Would It Serve?', *Economic and Political Weekly*, October 8, pp. 2089-2090.

Buttel FH, M Kenney and J Kloppenberg Jr., (1985), 'From Green Revolution to Biorevolution: Some Observations on the Changing Technological Basis of Economic Transformation in the Third World', *Economic Development and Cultural Change*, pp. 31-55.

Gupta, Anil, (1996), 'Technologies, Institutions and Incentives for Conservation of Biodiversity in non-OECD Countries: Assessing Needs for Technical Cooperation' in OECD Proceedings of the Cairns Conference on Investing in Biodiversity, March 25-28.

Lesser, W.H., Gesa Harskotte-Wesseler, Uma Lele and Derek Byerlee, (1998), 'An Issues Paper : Possible Future Roles for the World Bank in Agriculturally-Related Intellectual Property Rights : Assisting Borrowers and Member Countries', Draft, World Bank, June.

Menon, Usha, (1991), 'Intellectual Property Rights and Agricultural Development', *Economic and Political Weekly*, July 6-13, pp. 1660-1667.

M.S. Swaminathan Research Foundation, (1994) 'Methodologies for Recognizing the Role Informal Innovation in the Conservation and Utilization of Plant Genetic Resources: An Interdisciplinary Dialogue'.

National Academy of Agricultural Sciences, (1998), Policy paper on 'Conservation, Management and use of Agro-biodiversity', National Academy of Agricultural Sciences, India, April.

Parliamentary Standing Committee on Commerce, (1993), Third Report on Draft of Dunkel Proposals, Evidence, Rajya Sabha Secretariat, New Delhi December.

Pray, Carl and Tim Kelley, (1997), 'Impact of Liberalization and Deregulation on Technology Supply by the Indian Seed Industry', draft of a World Bank financed project, October 27.

Rao, Niranjana, C., (1997), 'Plant Variety Protection and Plant Biotechnology Patents: Options for India', Policy Paper no. 29, for UNDP funded Project LARGE, UNDP New Delhi.

Sahai, Suman, (1992), 'Patenting of Life Forms: What It Implies', *Economic and Political Weekly*, April 25, pp. 878-879.

Sahai, Suman, (1994), 'Government Legislation on Plant Breeders' Rights', *Economic and Political Weekly*, June 25, pp. 1573-1574.

Shiva, Vandana, (1991), 'Biotechnology Development and Conservation of Biodiversity'. *Economic and Political Weekly*, November 30, pp. 2740-2746.

_____, (1993), 'Farmers' Rights, Biodiversity and International Treaties', *Economic and Political Weekly*, April 3, pp. 555-560.

_____, (1996) 'Agricultural Biodiversity, Intellectual Property Rights and Farmers' Rights', *Economic and Political Weekly*, June 22, pp. 1621-1631.

Srinivas, Ravi, K., (1994), 'Power Without Accountability: Draft Bill on Plant Breeders' Rights', *Economic and Political Weekly*, March 26, pp. 729-730.

Sutherland, Peter, (1994) "Seeds of Doubt: Assurance on 'Farmers' Privilege'", *Times of India*, March 15.

Watal, Jayashree, (1998), 'The TRIPS Agreement and Developing Countries'. Strong, Weak or Balanced Protection?, *Journal of World Intellectual Property*, Vol. 1 No.2, March, pp. 281-304.

WTO, (1996), 'Report of the Committee on Trade and Environment', (document no. WT/CTE/W/40), November 7, available on the WTO web site, www.wto.org.

Annex - 1

SUMMARY OF THE PROCEEDINGS OF SEMINAR AT ICRIER ON "INTELLECTUAL PROPERTY RIGHTS IN INDIAN AGRICULTURE" HELD ON JULY 9, 1998

ICRIER held a seminar on "Intellectual Property Rights in Indian Agriculture" on July 9, 1998 where a first draft of the paper by Ms. Jayashree Watal was presented. The principal points raised in the discussion at the seminar are summarised below.

I. General

The political economy context of the debate regarding intellectual property rights in Indian agriculture as against such rights in industry, has to be incorporated. While analyzing the public debate we have to discuss, how and why these issues originated, who mobilized them and what was their impact on policy.

II. PVP/UPOV/Biodiversity Legislation

A point was raised whether utility patents which originally applied to industrial products can be relevant for biological materials. Similarly, there was discussion on whether the UPOV model of *sui generis* protection is suitable one or whether India should define its own *sui generis* system. It was felt that the evolution of UPOV system was based on developed countries in a different context, with their greater reliance on the private sector in plant breeding and with their larger size of farms. This is very different from the situation in developing countries, where there is a large public sector presence in plant breeding and small land holding patterns.

There was much discussion on what constitutes farmers' privilege, farmers' rights and community rights. One participant expressed the view that farmers' privileges gives the impression that it is optional and hence the term farmers' rights should be used. It was observed by some that it is not entirely correct to say that farmers' rights are being excluded from the Plant Variety Protection (PVP) legislation to be dealt only in Biodiversity legislation. To substantiate this point, it was stated that the title itself was 'Plant Variety Protection and Farmers' Rights'. However, in further discussion it was clear that this legislation dealt with farmers' privileges. While some expressed the view that farmers' rights should

be included in the biodiversity law others said that it should be included in PVP. Yet others felt that there should be only a single legislation to deal with farmers' rights and community rights. Those arguing that farmers rights should be dealt with in the biodiversity law were of the opinion that as plant variety protection and biological diversity are two separate issues they should be dealt with in separate legislations.

As far as farmers rights are concerned they should be rewarded at the national level rather than at community level, the experience of communities entering into agreements with corporate entities not having been satisfactory. The modalities of benefit sharing between corporations and communities should be worked out carefully.

The point was raised that the Community Gene Fund by imposing a levy on sale of seeds will increase the cost of seeds to farmers, as seed coporations were likely to pass on these costs in the final prices to farmers.

Since the opening up of the seed sector for private sector participation in 1989, research in self-pollinated varieties has not picked up because of lack of PVP. The seed companies are concentrating on research on hybrid varieties. These companies are much less bothered about farmers' privilege than about the copying of technology by rival seed companies.

While some were of the opinion that the TRIPs Agreement gives enough flexibility to incorporate issues of public interest, others ruled it out completely.

Indian seed companies going in for collaboration with seed MNEs, would have to contend with the fact that the research agenda would be set by these MNEs and not by Indian companies.

III. Trade Secrets

It was felt that it was inaccurate to state that trade secrets protected hybrids as there was no seperate legislation on this subject in India. It was clarified that the common law and jurisprudence governing trade secrets and confidential information could be used by seed companies to protect hybrids in India, although this would not protect against independent discovery of the parent lines.

IV. Geographical Indications

Having a separate law on geographical indications would not be detrimental to India's interests. GAFTA, UK has codified rules on international labelling, which should be used to India's advantage. In spite of India not having a law on geographical indications, it has a strong case in protecting basmati rice. Under geographical indications it was felt that a better alternative would be to have multilateral agreements rather than bilateral agreements. It was clarified that the suggestion was to negotiate bilateral agreements within the framework of the TRIPs Agreement and these would be compatible with it.

V. Role of the Public Sector and the CGIAR System

The public sector in India has been playing a predominant role in plant breeding efforts. While some felt that the public sector should be mainly oriented towards rendering service to the small farmers and should not be motivated by profit, others felt IPRs should be taken by such institutions to reward individual scientists' efforts. Some felt that IPRs would help in public sector research institutions staking their claim on their research and preventing the private sector seed companies from appropriating such research.

On the suggestion of the technology rights bank, it was felt that CGIAR system is facing a resource crunch and hence does not have a role to play. Further the CGIAR dominates the weak National Agricultural Research Systems and hence it was better for change to come from within the countries rather than through the CGIAR.

On the other hand, others expressed the opinion that the CGIAR has a role to play because of its vast holdings of germplasm collections. The understanding between CGIAR and FAO will end in October 1998 and India should work towards modifications to this agreement.

**PARTICIPANTS AT THE SEMINAR ON
INTELLECTUAL PROPERTY RIGHTS IN INDIAN AGRICULTURE**

JULY 9, 1998

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 2. Dr. Suman Sahai
Convener
Gene Campaign
New Delhi - Principal Discussant
 3. Dr. Isher Judge Ahluwalia
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