# Impact of Post-TRIPS IP Regime on Indian Agriculture

In the "century of bio-technology", "As you sow, so will you reap!" is no longer the refrain in agriculture. Since time immemorial, the customary practice of farmers sowing seeds, harvesting the crops and saving part of the harvest for seeds is so much quintessentially typical of Indian agriculture that to envisage a different situation requires special explanation. Farmers' ingenuous methods of creating indigenous varieties of seeds over the centuries have enriched the bio-resources and ensured the food security and integrity of the country immeasurably. These incremental improvements over the centuries have consolidated into varieties with better yields. Thus, conservation and sustained development of bio-diversity (originally nurtured and maintained by the farmers) are necessary to humanity for its long-term survival. Better plant varieties are needed for ensuring food security to satisfy the hunger of the ever-growing population. Farmers have contributed immensely to the bio-diversity through informal innovation and conservation.

However, since the 1960s there has been a paradigm shift in the agricultural development and research from the erstwhile farmers' lands to the lab-based "top-to-down" model ushering in High Yielding Varieties (HYVs), chemical fertilisers, pesticides and other critical inputs. Thus, with the onset of the "Green Revolution", the MNCs made their debut into the manufacture of seeds, pesticides and fertilisers displacing traditional farmers as the prime contributors to the rich bio-diversity. And, fifty years later, the MNCs have now come to dominate the entire agricultural development and research with the production of "Genetically Modified Varieties" (GMVs) of crops. No wonder, the cost of research in the area of crop improvement has become astronomically expensive; hence, while the contribution of the pubic sector in plant breeding tends to decrease, private sector investments concomitantly have increased. Logically, the private sector seed industries and plant breeders tend to exact reasonably viable financial returns on their investment in plant breeding research. Thus, agriculture has come to pervade the multilateral trade agreements, (euphemistically promoting "free trade"!) culminating in a clutch of agreements signed at the time of the establishment of the WTO in 1994 mirroring the commercial concerns of the MNCs of the developed countries. The most notable of these is the Agreement on Trade-Related Aspects of Intellectual Property Rights (aka the TRIPS Agreement) which sets down minimum standards for most forms of intellectual property regulation within all member countries of the WTO.

Consequently, agriculture, which is the main source of livelihood of about 65% of the Indian population, has been subjected to radical changes in the post-TRIPS period. The recent legislative attempts – viz., the Patent Amendment Act, 2005, the Protection of Plant Varieties and Farmers' Rights (Denial?) Act, 2002, Geographical Indications of Goods (Registration & Protection) Act, 1999 and the Seed Act, 2004 - to become TRIPS-compliant by the Indian Government have, in fact, facilitated the corporatisation[1]

In the 21st century, the Gene Revolution has metamorphosed the agriculture sector with new plant varieties and terminator seed technology. The MNCs who fund the Research and Development in the biotech arena pressurise developed countries to frame trade agreements with other nations conducive to recouping profitable returns on investments. Thus, WTO and other agreements reflect the concerns of MNCs of developed countries. And India, through "international-trade-agreements-compliant" laws, has pledged our food sovereignty, farmers' needs, traditional knowledge, and ecological diversity by legalising bio-piracy and promoting corporatisation of agriculture at the altar of corporate greed.

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[1] Vide http://www.financialexpress.com/fe_full_story.php?content_id=111601.The last revision of GATT ----the General Agreement on Tariffs and Trade (the rules governing international trade) -- requires signatories to the Agreement to open up their markets to imports and to remove their subsidies to farmers if they do not want to face trade retaliation. The Agreement left intact, however, many of the subsidies given to US farmers. Thus, at latest Hong Kong plenary session of WTO Ministerial conference India has reiterated its stand that there would not be any agricultural agreement without special products and special safeguard mechanisms (SSM) which are sine qua non for ensuring livelihood and food security of the millions of Indian farmers.


of the Indian agriculture sector by permitting privatisation of valuable bio-resources through patents.

The two IPRs – Patents and Plant Variety Protection (PVP) – grant exclusive monopoly rights over the creation (e.g. new plant variety, GM seeds, etc.) for commercial exploitation. While patents granted to inventors provide exclusive monopoly rights over the product for twenty years – on the basis of novelty, usefulness, and non-obviousness – Plant Variety Protection available to plant breeders protect the genetic makeup of a specific plant variety if the "Novelty - Distinctiveness - Uniformity – Stability" (NDUS) criteria are satisfied. In this globalised world, access to genetic resources, which may generate critical inputs for pharma-crops and industrial crops, assume vital significance in view of the political, cultural and economic ramifications that it may have on the developing and Third World countries.

The modern IPR protection regime runs counter to the very basis of Indian agricultural ethos and is tantamount to formalising bio-piracy by commercialising traditional resources and indigenous knowledge of the native farming communities. India has already been rudely jolted from its deep slumber regarding these changes when two NRIs sought a patent for turmeric for its wound-healing properties, which is common knowledge of the entire Indian populace! Similar tremors shook the scientific community when basmati, neem and Nap-hal wheat were patented. It is sad commentary on the US law of patents that "prior existing knowledge" which debars grant of patent is narrowly drafted to denote publication in a journal or availability on a database[2] and does not extend to traditional knowledge handed over to generations through oral traditions.

Further, globalisation of agricultural trade poses a great challenge to the future world food security. The control of seeds and agricultural research in a handful of MNCs – Gene Giants – Monsanto, DuPont and Syngenta, not only renders the food security of the world vulnerable in the hands of these commercial enterprises but may also tend to affect the quality and well-being of everyone with food habits totally dictated by the MNCs to appease their "hunger for corporate wealth and power". The rich nations are adopting any and every type of means – fair or foul, to protect their farmers. Farmers in the LDCs, whose very economic survival depends on being able to save seeds from one year to the next, are ruined

[2] Vide 35 USC 102 Cf. Art. 54, Convention for the Grant of European Patent and similar is the legislative standard adopted in various other countries in Africa, Latin America and India.

by added input costs. Ironically, the community which helped MNCs develop the new varieties of crops are not only denied ownership rights but are also made to pay royalties for use of their own resources. Apart from the need to purchase seeds every year, they perforce have to use chemical herbicides and fertilisers. Uniformity in plant varieties and mono-cropping world over may also affect the gene pool, perhaps, irreversibly, besides rendering food security totally dependent upon the stability of the international seed supply industry. Above all, the social costs of GM crops and GM contamination have not been addressed effectively to cast the burden on the source of the issue – viz. the bio-tech industry.

Further, the terminator technology, which helps in the creation of sterile seeds from GM plants to prevent farmers from re-using the seed for future crops, perpetuates a system that allows the technology itself to do the self-policing, rather than using laws and legal barriers for prevention of misappropriation of the technology. The genetic seed sterilisation patents maximise seed industry profits by destroying the rights of farmers to save their seeds and breed their own crops. The policy decisions benefit the bio-tech industry and compound the problems of the farmers and consumers by the transfer of the costs and burdens of the new technology onto them. Thus, corporate greed has vacuumed away public interest concerns of the world as a whole.

## International Agreements affecting Biological Diversity

These mind-boggling developments have the sanction of law in those countries that are signatory to WTO and other multilateral trade agreements. A short appraisal of the various international instruments having impact on bio-diversity and India's legislative reaction would help in the appreciation of the import of the international developments.

**UN Convention on Biological Diversity (CBD), 1992:** The first comprehensive instrument on plant genetic resources was drafted with the objective of ensuring "that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes". Some of the salient features of this Convention are:

1. Imposition of legal liability on the member-states to ensure the "fair and equitable sharing of benefits" arising from "the use of traditional knowledge, innovations and practices"; and,
2. Recognition of the "indigenous and local communities that embody traditional lifestyles" as the guardians of biological diversity and its sustainable management, and acknowledgement of its vital significance in "meeting the food, health and other needs of the growing world population".

**Cartagena Protocol on BioSafety, UN Convention on Biological Diversity, 2000:** The Cartagena Protocol on BioSafety, supplementary agreement to the CBD in 2000, is a legally binding instrument that governs transfer of living modified organisms from one nation to another. The Protocol has the important "precautionary principle" which enables the importing countries to ban the imports where there is lack of conclusive proof of the LMOs transferred being safe for the bio-diversity of the State and consumers. The procedure for "Advanced Informed Agreement" (AIA) covers seeds for planting live fish for release, micro-organisms for bio-remediation and other LMOs intentionally introduced into the environment; …to enable information-flow to countries to make informed decisions before agreeing to the import of such organisms into their country and the establishment of the BioSafety Clearing House "to facilitate the exchange of information on living modified organisms and to assist countries in the implementation of the Protocol".

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**International Treaty on Plant Genetic Resources, FAO, 2001:** Originally a non-binding undertaking in 1983, based on the well-established principle that genetic plant resources, as a common heritage of mankind, are to be freely available, in 2001, it had to be galvanised as a legally binding treaty to be in conformity with the CBD. The Treaty is the first of its kind to provide a legal framework for balancing the need for conservation and sustainable use of plant genetic resources with a procedure for access and benefit-sharing, and providing direct and indirect links to IPR instruments. It envisions the grant of a multilateral system of "facilitated access" to seeds and other germ-plasm of 64 of the most important food and forage crops, basic to food security, between member states for research, breeding and crop development. The significant provisions of this treaty are the "Access & Benefit Sharing" (ABS) provision for those who commercialise a product developed from the multilateral system (MLS) to pay an equitable share of the benefits

arising from the commercialisation of that product and the involvement of farmers, their communities and countries in relevant policy discussions and decision-making and further, to participate fully in the benefits derived from improper use of PGRs, including plant breeding. However, the Treaty has failed to make international provisions for farmers' rights by squarely placing the onus on national governments to do so.

International Union for Protection of New Varieties of Plants (UPOV Convention), 1961: The UPOV Convention was first negotiated and ratified mostly by developed countries. The UPOV, an important instrument concerning the management of biological resources, provides a legal mechanism for the protection of plant varieties developed by commercial plant breeders through the introduction of "plant breeders' rights". Plant breeders' rights are a hybrid form of intellectual property rights, which give the seed industry similar incentives to those offered by patents, without establishing a complete monopoly. The glaring flaw is its failure to address the consequent effect of the IPR regime that it advocates on the environment.

The UPOV underwent some revisions in 1972 and 1978. As indicated in the preamble to the 1961 and 1978 Acts of the Convention, it was originally conceived as a mechanism for the development of agriculture in addition to providing IP protection to breeders. In 1991, substantial revisions were effected to the UPOV Act, 1978, to take cognisance of the technological developments and to accordingly strengthen the protection offered to the breeders in a more specific manner apart from the need to clarify certain provisions in the light of the experiences of the member-states. Hence, any country wishing to join UPOV can only do so under the Convention of 1991. Thus the 1991 Act:

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1. Extends breeders' rights to all production and reproduction of their varieties and to species as well as general and specific plant varieties and also includes so-called 'essentially derived varieties';
2. Grants breeders exclusive rights to harvested materials;
3. Eliminates the distinction between discovery and development of varieties;
4. Renders the right to save seed as the farmer's privilege and has been made optional;
5. Limits exceptions to acts done privately and for non-commercial purposes, experiments, and for the breeding and exploitation of other varieties;
6. Extends the minimum period of protection from 15 to 20 years: for trees and vines, the minimum is of 25 years;
7. Grants double protection to PBR.

In the post-TRIPS scenario, more developing countries have progressively joined the Convention mainly because the UPOV regime is generally held to fulfil the conditions of a sui generis system as required under Article 27.3b of the TRIPS Agreement.

## WTO Agreements on International Trade in GMOs

Against the background of the above treaties, the role played by the WTO and the various agreements forming part of GATT in shaping domestic policies for biodiversity management it becomes easy to comprehend. It covers different fields of intellectual property among which patent rights are the most important from the perspective of the management of biological resources.

**General Agreement on Tariffs & Trade, 1994:** General Agreement on Tariffs and Trade was created by the Breton Woods meetings that took place in Breton Woods, New Hampshire in 1944, as an economic recovery plan post-WW II in 1947". In 1994, GATT was again updated with new obligations upon its signatories. One of the most significant changes made in "GATT 1994" was the creation of the World Trade Organisation (WTO). As many as 75 of the GATT members and the European Communities are the founding members of WTO as on 1.1.1995. The GATT, as a multilateral agreement, is based on the "unconditional most favoured nation principle."[3] The two crucial points worthy of noting are the non-discrimination between domestic and imported goods and the provision for importing countries to legislate for protection of human, animal or plant life and for the conservation of exhaustible resources, provided discrimination and arbitrariness are excluded.

**Agreement on Applications of Sanitary and Phytosanitary Measures (SPS Agreement), 1994:** On 15 April 1994, 125 States signed the "Final Act embodying the results of the Uruguay Round of multilateral trade negotiations", concluded under the

[3] i.e., the conditions applicable to the most favoured trading nation (i.e. the one with the least restrictions) are to apply to all member-states.

aegis of the General Agreement on Tariffs and Trade (GATT). This Final Act contains an "Agreement on the Application of Sanitary and Phytosanitary Measures". The aim of the SPS Agreement is to minimise the negative effects of health restrictions on international trade. To achieve this aim, the animal health measures established by countries to ensure the protection of human and animal life and health should be based on international standards, guidelines and recommendations, primarily those developed by the Office International des Epizooties (OIE). The SPS Agreement also emphasises the need for transparency in the import health measures which States need to enforce on the assessment of the risks to human, animal or plant life or health carried out by other countries or by international organisations and may seek additional information from other member countries or from the industry. Lastly, the general provisions relating to dispute settlement contained in the Final Act will be applicable to disputes arising in the health sector. If scientific or technical questions are raised, the WTO panel responsible for settling the dispute will be able to consult the OIE.

**Technical Barriers to Trade Agreement (TBT Agreement), 1994:** Technical barriers to trade (TBTs) constitute an effective multi-pronged strategy for countries to not only regulate markets, protect their consumers, and preserve natural resources, but also to provide preferential treatment for domestic products as against imported goods. Most TBTs in agriculture are sanitary and phytosanitary (SPS) measures designed to protect humans, animals, and plants from contaminants, diseases, and pests. TBTs assume considerable significance for agricultural exporters in the light of trade agreements focusing on reduction of tariffs, import quotas, and other trade barriers. Hence, the TBT Agreement provides for:

1. Labelling and documentation requirements related to food, nutrition claims and concerns, quality and packaging regulations required;
2. Regulations imposed for the prevention of deceptive practice, and for the protection of human, plant health or environment, etc. should pass the proportionality test of international trade restrictions;
3. Measures not to discriminate between imported products and "like" products of domestic or foreign origin.

**Agreement on Trade – Related Intellectual Property Rights (TRIPs), 1994:** The TRIPS Agreement, which was one of the WTO group of treaties, was the result of intense lobbying by the United States, EU, Japan and other developed countries.[4] As GATT was replaced by the WTO, ratification of TRIPs became mandatory for WTO membership. Hence, it was imperative for any country seeking easy access to international markets via the WTO either to provide a strict intellectual property regime as mandated by TRIPs or face the wrath of the WTO's dispute settlement mechanism in the form of trade sanctions against non-compliant countries. The relevant provisions of concern to agriculture prescribe that though countries are not required to grant patents for plants and animals they should provide protection of plant varieties through patents or an effective sui generis system or both.

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**Agreement on Agriculture (AOA), 1994:** Despite the Preamble of the AoA mentioning food security, the legal framework does not lend any credence to it. In fact AOA seems structured on the quicksand of quixotic belief that 'fewer the trade barriers, the easier the access to food'. Thus, the AOA proposes to "establish a pure market-based agricultural system" through reduction of subsidies for domestic agriculture[5] as well as export oriented agriculture while at the same time provides for a compulsory minimum import of at least three per cent of the total consumption at the level of a very low tariff. Consequently, will not the farmers be at the mercy of international markets dominated by a few trans-national corporations?

## Position in India

The stringent requirements of TRIPs had the propensity to cause a deleterious impact on Indian agriculture and bio-resources. The failure of India to comply with the 1995 deadline led to the declaration by the Dispute Settlement Body of the WTO that India was in violation of TRIPs on the complaints of the US and EU. This stricture compelled the hasty enactment of amendments and new intellectual property laws to comply with the TRIPS requirements. Two amendments to the Patent

[4] The US strategy of linking trade policy to intellectual property standards was prompted by the pressure of US corporations to make maximising intellectual property privileges the single-most priority of US trade policy. And, infringement by the developing world of IPRs in agricultural products was never considered a major problem!

[5] Developed nations, which extend huge subsidy to the farmers in their countries at an average 1 billion dollar per day and make agricultural products cheaper to sell all over the world, are pressurising developing countries to either withdraw or reduce drastically subsidy extended to the farmers in the developing countries. Indian farmers with only a subsidy of .03% and declining public Investment in agricultural economy have been forced to resort to suicide in some states.

Act, 1970, both promulgated in response to Article 27.3b of TRIPS, have raised serious controversies and heated debates both nationally and at the international level.

**Geographical Indications Act, 1999:** Though some international treaties – the Paris Convention, the Madrid Agreement and the Lisbon Agreement – dealt with "indications of source" and "appellations of origin", for the first time international protection was accorded to Geographical Indications (GIs) by prescribing the "minimum standards" in TRIPs.

"GI" in relation to goods, means an indication to identify such goods as agricultural, natural or manufactured goods as originating, or manufactured in the territory of a country, region or locality in that territory, where a given quality, reputation of other characteristic of such goods is essentially attributable to its geographical origin and regarding manufactured goods, one of the activities of either the production or of processing or preparation of goods concerned takes place in India[6]. By enacting the Geographical Indication of Goods (Registration & Protection) Act, 1999, unauthorised use of a Registered Geographical Indication by others is prohibited. Through a simple process of registration, the registered proprietor or authorised users have the exclusive use of geographical indication in relation to goods in respect of which they are registered for a period of ten years, renewable every ten years.

**By enacting the Geographical Indication of Goods (Registration & Protection) Act, 1999, unauthorised use of a Registered Geographical Indication by others is prohibited.**

**Patent (Second Amendment) Act, 2002:** This amendment deleted "plants" from the exemptions in the scope of patentability by allowing the bio-technological processes to develop unique plants to be covered under patents and thereby facilitated patenting of plants. Besides, extending the duration of patent term to 20 years after filing, the amendment expanded the grounds for revocation to include the non-disclosure or wrong disclosure of source or geographical origin of a biological material used in the invention.

**The Plant Variety Protection & Farmers' Rights Act, 2002:** Forced by trade-compulsions, India chose to join the UPOV despite strong protests of the farmers and civil societies. Caught between the devil and the deep sea, the successive governments at the Centre (during 1994-2001) attempted to adopt the sui generis option to balance the needs and demands of breeders/scientists and farming communities. For the first time in our legislative history, the PVPFR Act:

1. Recognises farmers as conservators, breeders and cultivators;
2. Constitutes Plant Varieties Protection Authority to register plant varieties developed by the farmers also;
3. Ensures equitable benefit-sharing with the farmers;
4. Allows farmers to retain their traditional right to sell (locally) seed of any variety (including protected varieties of breeders) that he grows;
5. Protects farmers against bad seeds to be provided by breeders;
6. Grants right to compensation for farmers.

Biological Diversities Act, 2002: India drafted the Biological Diversity Act 2002 as a follow-up to the CBD, for the conservation and sustainable use of bio-resources including habitat and species protection. The following are some of the main features of the Act:

1. Recognition of conservation of biodiversity, sustainable use of biological resources, and equitable sharing of benefits arising from such use;
2. Constitution of National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs) and Biodiversity Management Committees (BMCs) in local bodies;
3. Prior approval of NBA necessary for foreign nationals/organisations for obtaining biological resources and/or associated knowledge for any use;
4. Approval of NBA for Indian individuals/entities for transferring results of research with respect to any biological resources to foreign nationals/ organisations;
5. Levy of appropriate fees and royalties on such transfers and IPRs;
6. Sharing of benefits to all concerned parties;
7. Measures to conserve and sustainably use biological resources, including habitat and species protection, conservation in gene banks, EIA of all projects which could harm biodiversity, etc.;
8. Decision-making power to local communities regarding the use of resources and knowledge within their jurisdiction, and negotiations with parties who want to use these resources and knowledge;
9. Development of an appropriate legislation or administrative steps, including registration, to protect indigenous and community knowledge;
10. Governments to declare

[6] E.g. Basmati rice, Darjeeling tea, Alphonso mango, Nagpur orange, Hyderabad grapes, Kanchipuram /Pochampalli/ Mysore silk saree, etc.

Biodiversity Heritage Sites, as areas for special measures for conservation and sustainable use of biological resources, and notification of threatened species to control their collection and use; risks associated with biotechnology (including the use of GMOs), to be regulated or controlled through appropriate means;

11. Designation of repositories of biological resources at national and other levels;
12. Creation of Funds at local, state, and national levels, to be generated from fees, royalties, donations, etc.

However, the notification of the Biological Diversity Rules, 2004 under the Biological Diversity Act, 2002 has attracted vitriolic criticisms from the NGOs that the role of local communities in safeguarding biodiversity and traditional knowledge has become diminutive, and thus, the spirit and letter of the Act, has been totally watered down.

**Patent (Third Amendment) Act, 2005:** This amendment extends the product patent regime to agro-chemicals, food and biotechnology products, apart from drugs and pharmaceuticals. This recognition of product patents formally legalises patent monopoly on seeds as the new amendment has not categorically excluded seeds developed by novel means. Though India had earlier opted for the sui generis system for protection of plant varieties and had subsequently put in place, the PVPFR Act, ambiguity in the amended patent law raises the piquant issue of patenting of seeds developed by novel means, particularly the transgenic seeds. Some glaringly inadequate legislative provisions – the definition of "micro-organisms and micro-biological process" and the "emergency" clause – may well turn out to be "Pandora's box".

**Seeds Act, 2004:** This Act is criticised for the anti-farmer provisions and the open-invite to the "foreign bio-pirates" to pillage on our traditional knowledge and rich bio-diversity. There is also the apprehension about the misuse of the powers vested in the agricultural bureaucracy (constituted under this enactment) to harass the farmers. The important provisions that raise concerns are:

1. Only producers registered with the government can grow or organise the production of seed;
2. Prohibition of all others from growing, producing, drying, threshing, shelling, ginning, cleaning, grading or treating of seeds and planting materials;
3. Registration in the National Register of Seeds of all kinds and varieties of seeds necessary for sale for the purpose of sowing or planting by any person;
4. Prohibition of the farmer from saving, using, exchanging, sharing, or selling his farm seeds and planting materials;
5. Conformity of the seed or planting material to the prescribed minimum limit of germination, physical purity, genetic purity;
6. Registration by any producer in his name of any traditional seeds (used by the peasantry) with even monopoly rights in perpetuity for producing that seed;
7. National Register of Seeds to be maintained by the Registration Sub-Committee of the Central Seed Committee as a register of all kinds and varieties of seeds;

**Only producers registered with the government can grow or organise the production of seed.**

8. Grounds for cancellation of registration that are in violation of the terms and conditions of grant of certificate by the certificate holder, misrepresentation or concealment of material facts by the applicant, non-performance of the seed, prevention of commercial exploitation on the grounds of public interest to protect public order or public morality or to protect human beings, animals and plant life and health or to avoid serious prejudice to the environment;
9. Grounds for exclusion of registration of certain kinds or varieties of seeds include protection of public order or public morality, life and health of human, animal and plants or to avoid serious prejudice to the environment, or contains a technology which would be harmful or potentially harmful;
10. Non-exclusion of seeds traditionally used by peasants from compulsory registration and absence of provisions for filing, objections before the registration and applications for cancellation after registration enabling seed companies to obtain surreptitiously registration rights on traditionally used seeds;
11. Withdrawal of the State from seed certification and vesting this power with private organisations, individuals or seed producing organisations to carry out self-certification;
12. Wide powers to seed inspectors to break open any container or door of any premises where any kind or variety of seed is kept;
13. Compensation may be claimed from the producer,

dealer, distributor or vendor under the Consumer Protection Act, 1986;

14. Weak and inadequate punishment of suppliers of spurious seeds;
15. Diminution of the rights of the states;
16. Division of the states into five geographical zones and representation in the Central Seed Committee for only five states with one each from three out of the five geographical zones of the country on a rotational basis.

## Conclusion

It is apparent from an analysis of the provisions of the "Post-TRIPs laws" that in India, allowing patents on life forms has a direct and substantial impact on many other previously unrelated areas and that new legislations have been developed to address these issues. It has to be realised, recognised and appreciated that biotechnology, when armoured with IPRs, can become a lethal weapon in the hands of a "fistful" of agricultural companies to strip the independence and sustainability of rural farmers in India. Undeniably developed countries have had the upper hand in negotiations due to their economic power in contrast to the developing countries; competency, resources and candid greed to bargain with in the market and at the negotiating table are totally skewed in favour of the First World countries. To use the trade agreements to displace the canon of international law, which recognises the world's bioresources as a common heritage of mankind and to impose inequitably the western hegemony of property rights jurisprudence as the universal law is a harsh assault on the developing and LDCs to either "adhere or perish"!

Hence, India should not have adopted the UPOV-compatible plant variety protection legislation, especially as these legislative initiatives, a priori, amount to TRIPs-plus, creating higher standards than required. The TRIPs Agreement clearly allows each country to have its own sui generis system of plant variety protection. It is but a small consolation that these two laws – PVPFR Act, 2002 and the Seeds Act, 2004 – have not yet been notified. It becomes imperative to harmonise the various legislative measures enacted as "international-agreements-compliant". However, it remains to be seen, despite the constitution of the National Commission of Farmers, if the Government of India would be able to effect a paradigm shift from "GE Revolution to Ever-Green Revolution" with "water harvesting, soil health improvement, dissemination of new technologies, infrastructure development and application of science and biotechnology"[7] and farmers welfare as the pivotal points triggering the new model. India's agriculture, the backbone of the economy, has to be robust for the nation as a whole to survive and prosper. ❐

[7] As envisaged by the PM in his inaugural address of the 93rd Indian Science Congress, Hyderabad. Vide, Business Line Jan. 4, 2006.