CHAPTER - 8
CONCLUSIONS AND SUGGESTIONS

It is emphasized, "if you are late in doing one thing in agriculture, you are late in all things". ¹ This warning is bound to become a reality unless earnest efforts are made to lift the Indian agriculture up from the abysmal depths it has plumbed. In the wake of the Liberalisation, Privatisation and Globalisation (L.P.G.) policy and its aftermath, it is an open secret that the economies of the Third World countries are being pushed to a corner. Indian agricultural sector is a worst victim of this policy, and it is on the verge.

Being an agrarian economy, all policies in India ought to have been orientated towards strengthening of this primeval paramount sector. However, it is trite learning that our policies are taking agriculture for a ride. Needless to say, the W.T.O. is at the helm of all these developments. These endeavours on the part of W.T.O., in fact directed by MNCs, are basically aimed at imposing agricultural biotechnology complemented by its dreaded IPRs regime. Ironically, the WTO is doing this under the ruse of promoting and improving Indian agriculture.

Though the performance of agricultural sector in India is steady over the years, it is besieged by several problems – some natural, some man-made. These problems have outweighed its performance, and reduced its ability to deliver the goods. Hence, it is true that Indian agriculture is in need

of a revolution. But, the question is: should it be Gene Revolution? The more frightful issue is: do we require an IPRs - protected Gene Revolution?

As a matter of fact, these questions assume significance due to the inherent contradictions underlying the respective concepts of agriculture which is ‘Indian’ in letter and spirit and IPRs. While the Indian farmer treats agriculture as a means to serve the society and a heritage to be passed on to generations, the defenders of IPRs regard it as a business involving several rights to be protected. While the former is concerned about the well-being of agriculture and through it the well-being of the society, the latter are concerned with the wealth being generated by agbiotechnology. Hence, they demand that their innovations in the field of agriculture be richly rewarded and secured. Thus, there is no gainsaying that these two are mutually exclusive with the former having ‘service’ as his motto, and the latter, ‘profit’ as their motto. The average Indian farmer is feeding the nation through sustainable agricultural practices protecting the environment, health and the society in the process, animated by a desire to pass on the same in their pristine form to posterity. But, the defenders of biotechnology are eyeing the agriculture to fill their coffer through unsustainable agriculture undermining the safety of environment and the mankind in the process.

Of course, it is not just the monetary angle that is threatening as Biotechnology or Genetic Engineering is accused of causing catastrophic harm to environment, human, plant and animal health, and society in general. It is reported, “the risks in biotechnology are undeniable, and they stem from
the unknowable in science and commerce. It is prudent to recognise and address those risks, not compound them by overly optimistic or foolhardy behaviour". Hence, it is claimed that genetically modified crops have been introduced to Indian seed industry without understanding and assimilating the inherent adverse impacts of such crops at a time when the science of genetic modification of plants is in its infancy and lot of genuine research needs to be undertaken before it is deemed fit for commercialisation. Thus, it is crystal clear that agbiotechnology will not usher in prosperity and food security it promises; on the contrary, it is deemed to be India's nightmare.

Nevertheless, and in spite of the fact that Indian agriculture and economy have suffered the scourge of Green Revolution, our policy-makers introduced Gene Revolution in a hasty, unconstitutional and unjustifiable manner.

Evidently, then, IPRs have occupied the centre-stage dominating all walks of life. Insofar as agriculture is concerned, they have indeed stirred a hornet's nest. Their impact on agriculture is deemed to be akin to Gordian knot, and is decried the world-over. There is a strong public opinion against WTO since it worships IPRs even though they trample and crush environment, health and safety – in one word, human rights – concerns.

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WTO is castigated for its role in facilitating the plunder of bio-rich South by resource-starved North.

All of this explains the rationale behind the big hue and cry over this technology and its products in domestic as well as global levels. Not surprisingly, the movement against MNCs had gathered momentum even before the formation of WTO.No wonder that it has assumed concrete form today, and India is reeling under its ripples day in and day out.

The controversy surrounding agricultural patents assumed such serious proportions that the apex Court had to intervene on more occasions than one to discipline the erratic manner of trials of GM crops.

The ill-effects of agricultural patents are reported form across the world, and India has also suffered the pangs inflicted by this poisonous snake after the bitter harvest of Bt-cotton. Despite this, the government is going ahead with the Bt-Brinjal and many more are waiting in the wings.

Amidst these fears and nightmarish prospects, the above study was undertaken to assess the impact of biotechnology on Indian agriculture. On the basis of the said study, certain conclusions are drawn which indicate that the GE process as currently pursued is unsafe; there is no foolproof evidence that it is not detrimental to health, environment etc.; biotechnology as a science is highly unpredictable; there is absolutely no proven scientific study to vouch for its credentials and the worst effect of biotechnology is that its impact is irreversible and contamination caused by it cannot be contained.
On the basis of what has been discussed, it is appropriate to draw the following conclusions:

8.1 Conclusions

(i) The new IPRs regime perpetrated by the WTO has enabled anything under the sky to be patented. This has led to a situation wherein plants produced by tinkering with gene construct are also patented. Consequently, agricultural inputs like seeds have turned out to be marketable commodities. As such, the very meaning and contours of patents have undergone a sea-change.

(ii) In order to incorporate the diktats of WTO, India had to amend its IPR laws. As a result, it has, *inter alia*, passed the PPVFR Act, 2001, and prepared a draft Seeds Bill, 2004. Barring few exceptional clauses, these two contain provisions that have turned the Indian IPRs regime, as well as its agricultural sector upside down.

(iii) By virtue of the above technology, giant multinationals have entered the agricultural fray lured by the big fortunes involved. This development has converted the hitherto traditional integrated subsistence farming operations in India into a corporate activity. Agriculture has become a business.

(iv) These developments have paved the way for the few MNCs in the fray to become monopolists. Agricultural patents have fanned the monopolistic designs of these MNCs and encouraged them to impose their menacing presence right from the seeds to harvesting of the
produce. It is these MNCs which decide what, when, how much, where, kind of seeds, etc, to sow, quantity, quality, periodic intervals etc. of fertilisers and pesticides to be used. Not only that, they dictate the methodology of raising the crops, and not to mention, the price.

(v) As a corollary, farmers have lost their time-immemorial, sacrosanct and inalienable rights. They have surrendered their sovereign rights over seeds, agricultural operations, organic agriculture, freedom to save and exchange seeds, and lost the freedom to buy them at affordable prices.

(vi) Admittedly, the PPVFR Act, 2001 provides for Farmers' Rights. But, this statute falls way short of expectations. It has treated a farmer on a par with a breeder. Consequently, a farmer is not in a position to enjoy all those rights which a breeder enjoys.

(vii) The benefit-sharing provision in the said Act is an illusion since it requires the illiterate farmers to claim benefits from breeders who use their genetic material who may not even know that such a usage has taken place.

(viii) The Act requires all farmers to make individual claims for registration of farmers' varieties. Since this is practically impossible, many of the farmers' varieties may be easily gobbled up by MNCs.

(ix) The Act has also prescribed stringent penalties for infringement. Given the draconian nature of these measures, it is only apt to say that the Act has not safeguarded the Farmers' Rights as a whole.
While the PPVFR Act, 2001 at least mentions Farmers’ Rights, the Seeds Bill, 2004 does not acknowledge these rights at all. In a sense, it will clearly override the minimum benefits conferred by the PPVFR Act, 2001.

The said Bill, by stipulating compulsory registration of seeds of any kind or variety, will actually stop the farmers from growing their own seeds and enslave them to seed companies.

The said Bill also is a mechanism to empower the seed companies to fix their own prices that could be grossly criminal.

The most damaging aspect of the Bill is that it provides for fast-track entry of GM crops and allows the seed companies to withdraw them if they fail to perform. This will lead to absolute chaos in the field.

The Bill also does not obligate the parties to disclose the source of material, parental lines and passport data of the seed at the time of registration. This will encourage the monopolistic ambitions of seed companies and tend to give them exclusive marketing rights.

Biotechnological crops and seeds damage environment by producing more weeds, contaminating non-GM crops and beneficial insects through herbicides, creating herbicide-tolerant super-bugs, etc. The Bt-cotton cultivation in India is witness to some of these impacts.

GM foods can produce toxins, create new human allergies, harm the immune system, etc. In some cases, they are reportedly fatal to human life.
GMOs destroy biodiversity and cause food scarcity and food insecurity. As biotechnology harps on monoculture of cash crops and requires more pesticides and herbicides, it leads to destruction of crop diversity and consequent creation of food crisis. Biotechnology also is not meant to produce more yields.

Being costly and involving huge economic stakes on the one hand and a failure in the ultimate analysis, biotechnology has led to suicides of farmers in India.

Designed for large tracts of land and monocultures of cash crops, biotechnology will lead to large-scale displacement of small and marginal farmers. India could suffer from this in the long-run.

The Indian biotechnology regulatory system is in tatter. It is professionally incompetent and lacking in transparency. The GEAC's dealing of illegal Bt-cotton seeds in Gujarat is a pointer in this direction.

8.2 Suggestions

It has been observed that the virulent combination of agbiotechnology and IPRs regime has a nerve-rattling effect on the Indian agricultural sector. The sugar-coated science coupled with the imperialistic IPRs regime is the kernel of the issues involved. Hence, to mitigate the evil effects of IPR regime, it is proposed to make some suggestions so that everyone in general and agricultural sector in particular will be benefited. These suggestions are as follows:
(i) Product patents in the area of agriculture are highly undesirable since they unsettle the humane face of the patents law. Besides, what is new in this area is the process, not the product. Hence, only process patents should be allowed in this area.

(ii) Corporatisation of agriculture is not a solution to the woes of Indian agriculture. Hence, in order to strengthen the Indian farmers, and reduce the growing importance of private seed companies, public sector seed industry should be encouraged with generous funds and competent hands able to harness the potentials of organic agriculture.

(iii) The definition of farmer in the PPVFR Act, 2001 should be suitably amended so that Indian farmers can form a class of their own. Equating a farmer with a professional breeder will defeat the purpose. After all, equality can be between equals.

(iv) It should be made obligatory for every breeder to share his profits with farmers. The provisions in PPVFR Act, 2001 should be suitably amended to impose the burden on such breeders to share the benefit rather than farmers claming it.

(v) Farmers' varieties, whether they make claims for registration or not, should be registered by the government to avoid their being plundered by the MNCs.

(vi) Stringent penalties prescribed under the said Act should be scrapped. Besides prescribing lighter penalties, a sort of moratorium
on imposition of penalties should be provided for in case of first infringement at least.

(vii) Again, the seed companies are provided with vast powers—civil as well as criminal—to harass farmers. If farmers’ rights were to become a reality, such draconian measures should be done away with.

(viii) The farmers’ right in the form of protection against infringement is highly clumsily worded. As for instance, what amounts to infringement is not clear. Unequivocal and unambiguous explanations must be incorporated to strengthen the farmers’ rights.

(ix) Since the Seeds Bill, 2004 undermines the farmers’ seed sovereignty, it should be scrapped in toto. It has all the trappings of seeds of destruction for the farmers. It seeks to undo whatever little is sought to be done by the PPVFR Act, 2001. After all, since the Seeds Act, 1966 serves the farmers well, there is no need for a new legislation.

(x) Since the WTO and TRIPs are politically irreversible and cannot be wished away, structural adjustments should be made in our IPRs framework to accommodate them in harmony with farmers’ interests. Most importantly, patentability of seeds should be restricted to process patents only. Seeds are, after all, no one’s property.
(xi) A seed Directorate should be established to monitor the functioning of private seed companies. The moment a new seed is genetically modified; this Directorate should step in and ensure that the private seed industry shares entire information with the public seed corporations.

(xii) The whole nation should be divided into regions and sub-regions, and farmers of each of these should be made conceptual parties of all private companies involved in seed business. In other words, all registered farmers should be made members of these companies with a ceiling on the investment to be made.

(xiii) It is imperative that the Right to Information Act, 2005 should be suitably amended to bring the private seed companies within its purview so that farmers and the public alike will be in a position to obtain necessary information about GM seeds and crops.

(xiv) Provisions must be made to put a cap on the price to be fixed by the private seed companies, and, if necessary, to vary it from region to region.

(xv) Since the biosafety regulatory framework resembles the yesteryears’ Star Chambers wherein the complainant, the prosecutor and the Judge happened to be one person only, a total overhaul of the same should be undertaken. The GEAC should be permitted only to approve the GE crops. But, their monitoring must be entrusted to an independent agency consisting of subject experts
alone. Further, the final assessment must be entrusted to yet another high-powered Commission.

(xvi) It is time that the GEAC and other relevant Committees be filled with highly qualified, competent, experienced and, above all, honest members than the present day bureaucrats.

(xvii) Since the environment, health, life and sovereignty of the people are at stake, no GM product should be approved unless it is cleared by a high powered Commission and seconded by another such Commission. Each project should be scrapped or deferred the instant a small shred of doubt is encountered. Unless a thorough investigation is done and the clearance given, no trial or cultivation of GM crops or foods should be undertaken.

(xviii) As a matter of fact, dissemination of information to farmers regarding the GE technology is the need of the hour. Hence, efforts must be made to enlist the services of civil society organisations to educate the farmers.

(xix) Organic agriculture must be encouraged and groomed as an alternative to GE technology so that our farmers, and We, the People, have a choice about what we eat and use.

(xx) It is highly desirable that Farmers’ Rights, amended on the above lines, should be made an integral part of Part III of our Constitution. It is suggested that these suggestions could be helpful in salvaging the Indian agriculture of its GE curse.