

Illegal Herbicide Tolerant Cotton in India

Presentation by:

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For the
Meeting of “Field Inspection & Scientific Evaluation Committee” of DBT,
30/11/2017

To begin with....

- **This problem would not have grown to this extent if regulatory bodies were prompt in taking up deterrent action – REGULATORS FAILED MISERABLY.**

FROM 2009 ONWARDS!

- We made GEAC take up the matter of illegal HT cotton, along with physical seed samples and video documentation from retailers in Gujarat, in its 98th meeting, .
- In 2011 again, in GEAC's 109th meeting
- In 2013, by formally lodging a complaint, from a fact finding report from Andhra Pradesh
- In 2016, in our presentations to GEAC ...
- **No action and often, no acknowledgement either..**
- What is GEAC doing?
- And now, a "FISEC" – what is the legal status of this body?
- Why have only some people been invited to this meeting, and on what basis?

Imperative to ACT

- **Illegal Introduction of three GM crops confirmed-** Bt cotton, HT cotton, HT soybean
- Two more are suspected: Bt Brinjal and GM papaya
- **As per EPA 1986, this is illegal.**
- **SPREAD OF HT COTTON MUST BE CONTROLLED WITH IMMEDIATE EFFECT**
- **Checking the spread is possible,** unless there is a lack of WILL of regulators.
- **Need to teach lessons to culprits.** Culprits MUST be punished in a way that they do not indulge in such activities henceforth and that this acts as a deterrent for others too.
- **Previous history of inaction helped the spread** of such illegal activities.
- **Regulators cannot afford to prove themselves ineffective ONCE AGAIN.**
- **Regulators MUST behave in a way that they re-establish confidence in people of India. This is an opportunity for regulators.**
- **Regulators must “Come Clear, Come Honest, Show Integrity towards the JOB ASSIGNED”**

Imperative to Stop HT Cotton spread

- **Cannot set a precedent yet again**, after Bt cotton 'regularisation' in 2002, after discovery of Navbharat Bt cotton in 2001, that biotech industry can adopt this "spread illegally first and get approval later" – regulation might as well stop, if this is the approach....
- **Serious health, environmental and socio-economic implications of HT GM crops, including from the herbicide (active ingredient + surfactant used) itself....**

Environmental Issues with HT Crops

- HT crops lead to increased use of pesticides / herbicides
- More rapid spread of Superweeds, leading to use of more toxic herbicides (farmers on herbicide treadmill)
- Herbicides – soil and water contamination; impact on beneficial soil organisms; threat to aquatic life; new soil-borne diseases
- Herbicides – impact on beneficial organisms, including pollinators like bees
- Spread of HT gene will give selective advantage to some species in the ecology

Health Issues with HT Crops/Herbicides

- Health Risks with HT Crops, Herbicides, Glyphosate and Surfactant- AMPA:
 - HT crops are GM crops, which may carry unwanted properties.
 - WHO declared Glyphosate, used concomitantly with the largest sown areas of HT crops, as Probable Human Carcinogen
 - Endocrine disrupting, neurotoxic, teratogenic
 - Herbicides leading to antibiotic resistance
 - Argentinian Experience: increase in child cancer and birth defects, 30,000 doctors' letter.
 - Glyphosate Restricted in Many countries
 - Risks to farm labourers - recent Maharashtra story

Socio-Economic Issues

- Weeds are useful, CLEAN cultivation is NOT advisable.
 - Fodder for animal;
 - Food for poor;
 - Habitats for beneficial insects-pollinators, parasites and predators; Biomass for mulch and compost; Protection of soil; Medicinal properties;
 - Employment to women in agriculture sector
- Herbicide Drift damage
- Organic farming threatened

HT Crops: What Executive, Legislative & Judicial Committees Said

Such areas of biotechnological applications which can reduce employment and impinge on the livelihood of rural families should be avoided.

Report of the Task Force on Application of Agricultural Biotechnology, chaired by Dr MS Swaminathan, MoA, GoI 2004

“8.123. Even a miniscule degree of insensitivity on this matter (ethical dimensions of transgenics in the extant socio-cultural milieu in India) can lead to avoidable discontent which apart from causing societal tensions would also have grave socio economic repercussions....

“Cultivation of Genetically Modified Food Crops – Prospects and Effects”, 37th Report of (Parl. Standing) Committee on Agriculture, Fifteenth Lok Sabha, August 2012

....Supreme Court's Technical Expert Committee Report

The TEC has examined the issues in relation to HT, particularly with regard to sustainability and the likely socioeconomic impact on major sections of rural society. On both these counts, based on the reasons presented in the section on Herbicide Tolerance, the conclusion of the TEC is that HT crops would most likely exert a highly adverse impact on sustainable agriculture, rural livelihoods, and environment. The TEC finds them completely unsuitable in the Indian context and **RECOMMENDS THAT FIELD TRIALS AND RELEASE OF HT CROPS NOT BE ALLOWED IN INDIA.**

(Page 71, Report of the majority 5 Independent Biosafety Experts of TEC, July 2013, along with the Corrigendum)

HT Crops: What Executive, Legislative & Judicial Committees Said

- Para 58. The Committee notes the issues highlighted by the representatives of Civil Society regarding contamination and cross pollination with non-GM and creation of super weed. The Committee feels that these issues are of vital importance from the perspective of long term impact of GM crops on our environment since cross pollination and contamination of non-GM crop have the potential of destroying our traditional crops as well as organic farming. It is noteworthy that the Department of Agricultural Research & Education, Ministry of Agriculture and Farmers Welfare has accepted that an herbicide tolerant gene may escape through pollen into nearby farms and fields, to another GM or non-GM cultivars or to a wild and weedy relative. The Committee is therefore, of the view that if GM crops are allowed in the midst of other indigenous farming, there is no way contamination can be stopped. India, being endowed with various types of naturally available organic form of nutrients in different parts of the country, has a competitive advantage in the global market due to low production cost and diverse climates to grow a large number of crops all through the year. The Committee, accordingly, recommends that the Ministry of Environment, Forest and Climate Change, in consultation with the Department of Agricultural Research & Education, Ministry of Agriculture and Farmers Welfare, should study the matter threadbare scientifically and take the desired measures in the matter.

HT Crops: What Executive, Legislative & Judicial Committees Said

- **Para 68. The Committee takes note of all the submissions of the Ministries/Departments referred to in the preceding paragraphs, which make us believe that the environmental impact of GM crops is not a matter of serious concern at all and all these agencies have no doubt that there would be any negative impact of these crops on our environment, bio-diversity, ecology, etc. In view of the concerns raised by the Committee in the earlier paras in the report, the Committee is of the opinion that either all these agencies have turned a blind eye to the negative impact of GM crops on our environment or are indifferent to the threat to our environment due to these GM crops.**

Report No.301: "GENETICALLY MODIFIED CROPS AND ITS IMPACT ON ENVIRONMENT" DEPARTMENT RELATED PARLIAMENTARY STANDING COMMITTEE ON SCIENCE & TECHNOLOGY, ENVIRONMENT & FORESTS , submitted in August, 2017

HT Crops: What Executive, Legislative & Judicial Committees Said

- **The Committee has been given to understand that GM mustard being a herbicide tolerant GMO, there is clear evidence on the adverse impacts of such GMOs from elsewhere in the world. In the case of GM mustard, from what one can gather from different quarters, there are serious unanswered questions. The Committee has also come to know that many State Governments in the country are opposed to its entry even in the form of field trials, leave alone commercial cultivation. The Committee strongly believes that unless the bio-safety and socio-economic desirability, taking into consideration long run effects, is evaluated by a participatory, independent and transparent process and a retrieval and accountability regime is put in place, no GM crop should be introduced in the country.**

Immediate Action to be taken

- **Wide spread campaigns on ill effects and illegality of HT crops** through TV, cyber media and print media in vernacular languages (Risks associated; Illegality, how and why it is illegal; Details of punitive actions and provisions)
- **Encourage farmers to deposit HT cotton seeds at specially opened government counters** - Cost of seed purchase to be borne by Govt – destroy the collected material
- **Cotton processing units** - Ginning factories (a key place to collect the seeds), **textile mills and oil mills to be warned.** Punitive actions against them to be declared immediately, as deterrent. **As per EPA, they should not be processing this illegal material. As per FSSAI, it is illegal for oil mills to process and sell cotton seed oil:**

TAKE ACTION NOW BY INITIATING PROSECUTION!

Immediate Action to be taken

- Be extra **vigilant and develop an Informers' network** with the help of Agriculture Departments in the states, to catch illegal seed sales networks – this has to be done between February and June 2018 –Special punishments to the seed suppliers: Withdrawal of license permanently, EPA 1986 penalty clauses to be invoked.
- Lint to be sold with label “illegal produced HT cotton lint”. This will create due awareness in the society.
- **BAN GLYPHOSATE IMMEDIATELY, WHICH IS ALSO BEING USED ILLEGALLY ALONG WITH ILLEGAL HT COTTON SEEDS – this is the only effective action that will resolve both illegalities**

Medium Term Action: **Stopping** seed production

- **Special vigilance over seed production plots** which are easy enough to trace during Kharif 2018 - Thousands of acres are sown as hybrid seed production plots to produce seed for next season. Illegal HT cotton seed production should be destroyed through special squads set up.
- HT cotton seeds are produced in India mainly by **local seed companies** through illegal contract with ignorant farmers. They should **be black listed permanently and their license should be withdrawn with immediate effects**. Punitive actions be declared and exercised/implemented properly.

Medium Term Action: Stopping seed production

- Farmers, who **voluntarily disclose should be exempted**. Otherwise they should also face the punishment.
- **All loss to the farmers be compensated by seed companies.**
- **Tightening of monitoring through special teams** set up in each state, with proper training & ToR - Testing (Elisa) made easily accessible and free to citizens- consumers, farmers and processors.

Actions for Long Term Problem Resolution

- **No HT crop field trials to be permitted in India**
- **Significant Improvements to be made in quarantine regulation and proper implementation.** The first entry point of illegal GM seeds are land, sea and air routes, where quarantine regulations are failing. Customs officials need to be trained. Special drive to initiate punitive action on those bringing in seeds illegally so that it is a deterrent for others.
- **State level monitoring systems to be set up with reporting of the situation made mandatory** – special squads and monitoring teams to be created.
- **Citizens in general and farmers in particular should be made aware of the Acts, Rules and penal clauses** through strong campaigns before sowing season. Enroll the assistance of farmer organisations also.
- **A liability regime to be evolved wherein the technology developer will be made liable** for any leakage of seeds and their illegal spread.

Actions for Long Term Problem Resolution

- **Training of concerned department officials** around legal provisions as well as technical matters. Testing facilities to be improved and made accessible to all.
- **Special orientation on 'How to handle the illegal cultivation'**, given to state level teams.
- **Improvement in seed regulation** and proper implementation.
- **NARS to evolve sustainable weed management solutions within an agro-ecological framework**
- **Gol to evolve some policy solutions around supporting labour costs**, appropriate implements for weed control, supporting labour banks like the Green Army in Kerala etc.

There is a way, IF there is a will

- **Glyphosate to be banned immediately – work with the pesticides regulators and Agri Ministry on this**
- **Immediate stern deterrent action needed on cotton processing units at this point of time**
- **Illegal seed sale networks to be cracked down upon between Feb. to Jul. 2018**
- **Illegal HT cotton hybrid seed production plots to be identified and destroyed in Kharif 2018**
- **State level monitoring teams and squads, well-trained and equipped with testing kits, to be put to work, with mandatory reporting of status**
- **Several long term mechanisms to be put into place as suggested.**