Maharashtra Civil Disobedience Movement - GM Crops

What it is the issue?

- Over 1,000 farmers recently participated in a 'civil disobedience' movement in Akoli Jahagir village in Akola district of Vidarbha region of Maharashtra.
- The defying of GM crops ban necessitates a quick and well-thought-out decision by the Central government on GM crops.

What was the move on?

- The carrying, storing, selling or sowing of banned GM crops invites a Rs. 1-lakh fine and 5 years' imprisonment.
- But farmers outrightly defied the ban to cultivate HTBT (herbicide tolerant Bt) cotton and Bt brinjal.
- They sowed genetically modified HTBT cotton on a 2-acre plot owned by a local farmer as a form of protest against the ban.
- The police were present on the occasion, but they did not take any action against the farmers.
- Farmers' body Shetkari Sanghatana has decided to take the movement across the State.
- They feel that the ban on GM crops was unfair on farmers who are reeling under poverty.
- They also say that so far, no transgenic crop has been found to do any environmental harm.
- They maintain that vested interests were opposing the use of Bt cotton and Bt brinjal.

What does this imply?

- Farmers' move has confirmed that the variety, which is unaffected by applications of the controversial *weedicide glyphosate*, is being grown in cotton-producing areas.
- In 2001 too, Hyderabad-based Navbharat Seeds distributed illegal Bt cotton seeds in Andhra Pradesh and Gujarat.
- It arguably put the Centre under pressure to legalise Bt cotton, produced by Mahyco-Monsanto.
- It has also come to light that Bt brinjal is being illegally cultivated in Haryana.

- All these indicate that farmers are largely willing to adopt technologies that offer promising and cost-effective solutions to pest attacks.

How has the issue evolved?

- A decision on Bt brinjal has been on hold for nearly a decade.
- The Genetic Engineering Appraisal Committee cleared Bt brinjal in 2009.
- But the Ministry of Environment held back its clearance, citing a lack of scientific consensus.
- In the meantime, Bt brinjal grown in Bangladesh in particular has found its way into the Indian market.
- Meanwhile, slow progress on approval in the government side has led to farmers undertaking illegal cultivation of GM crops.
- On the other hand, activists and academics in the anti-GM camp have pointed 'quasi-official' leaks of GM varieties.

What are the larger concerns?

- **Breach of law** - There is a scientific procedure to be followed for releasing new seeds for cultivation.
- Farmers had not only broken the law but also made the country breach international biosafety conventions such as the Cartagena Protocol.
- On the other hand, farmers resorted to such a drastic step as little is being done to save their crops from pests and pathogens.
- **Slow decision-Making** - The environmental and health debate on GM varieties has been going on without any resolution in sight.
- So, the Centre has avoided a decision on genetically modified varieties of brinjal, mustard and HTBT (herbicide tolerant Bt cotton).
- The slow decision-making process by the government is costing farmers very dearly.
- The prevailing uncertainty has affected both the producers and the consumers.

What is the way forward?

- There can be no dismissing the concerns worldwide over the health effects of glyphosate.
- However, in trying to curtail its use, farmers' issues of rising pest attacks, in the context of drought and climate change, too need to be addressed.
- Apparently, while Bt cotton strains have multiplied the yields, the benefits have declined with pests attack.
- In all, the Centre needs to decide fast.
- The Centre should adopt an open, consultative process so that producers'

and consumers' interests are well served.
- The issue of conserving traditional varieties as well as monitoring carcinogenic effects, if any, should be entrusted to public agencies.
- Income support could help subsidise the cost of manual labour in carrying out weeding operations.
- Meanwhile, public-funded R&D should take the lead in producing harmless alternatives.

Source: Business Line

Quick Facts

Glyphosate

- Glyphosate is an herbicide that is applied to the leaves of plants to kill both broadleaf plants and grasses.
- The sodium salt form of glyphosate is used to regulate plant growth and ripen specific crops.
- Glyphosate stops a specific enzyme pathway, the shikimic acid pathway that is necessary for plants and some microorganisms.
- Glyphosate is a non-selective herbicide, as it will kill most plants, preventing them from making certain proteins that are needed for plant growth.
- Humans can be exposed to glyphosate if they get it on skin, in eyes or breathe it in when using it.
- Humans might also swallow some glyphosate if they eat or smoke after applying it without washing hands.
- Exposure may also take place by touching plants that are still wet with spray as Glyphosate is not likely to vaporize after it is sprayed.
- Glyphosate is said to be carcinogenic, but this is highly debated.
- Glyphosate binds tightly to soil; it can persist in soil for up to 6 months depending on the climate and soil type. So it is not likely to get into groundwater.
- Glyphosate may affect fish and wildlife indirectly because killing the plants alters the animals' habitat.

HT Bt Cotton

- Herbicide Tolerant Bt cotton in an innovation in the Bt cotton.
- It offers the twin advantage of bollworm resistance and herbicide tolerance.
- In comparison, the approved Bt variety (Bollgard I and Bollgard II) is only bollworm-resistant.
- It takes care of the weeds problem at a much lower cost than the labour

farmers engaging for weeding.

GEAC

- The Genetic Engineering Appraisal Committee (GEAC) functions in the Ministry of Environment, Forest and Climate Change.
- It operates as per the Rules, 1989, under the Environment Protection Act, 1986.
- It is responsible for appraisal of proposals relating to release of genetically engineered (GE) organisms and products into the environment including experimental field trials.
- It applies to large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.