

The Harmful Truth of Bt Cotton¹ Farming: Promoting Awareness Schemes

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Context

The cotton sector in India is a source of income to a significant majority of smallholder farmers. The implications of this fact are therefore that these small-scale farmers depend on cotton farming as their way of making a living. In the past few years, Indian farmers have been forced to go into debt due to their susceptibility to global price fluctuations. As a result, India has seen an enormous rise in farmer suicides: between 1995 and 2013 alone 300,000 Indian farmers took their lives due to indebtedness. Thus, many farmers have begun to think that resorting to Genetically Modified (GM) crops such as Bt cotton (*Bacillus thuringiensis*) is a better option to protect their yield. However, the effects of Bt cotton on human health are

underestimated by lay people who are unaware of the health risks of GM crops.

Conventional farming not necessarily a more sustainable alternative to GMOs

Conventional farming uses chemical pesticides and insecticides to kill off any rodents and insects, therefore it is not necessarily eco- and human-friendlier. In addition, conventional cotton farming has long processing miles and thus an extensive supply chain. This means that conventional cotton farmers are more at risk of being exploited by the intermediaries involved in the supply chain, hence reducing their chances of receiving a fair price for their produce.

¹ Bt cotton (*Bacillus thuringiensis*) is a form of genetically modified organism (GMO) cotton.

An example of organic cotton farming in India

Tula, a textile business based in India, works with small farmers from whom they source their organic cotton. The smallholder farmers who work with Tula are guaranteed a fair pay for farming organic cotton.

One of Tula's goals is to increase supply-chain efficiency by shortening chains. Tula completes the production of garments in the region from which they have sourced their cotton. If they obtained their cotton in Gujarat, for example, the cotton would also have been spun, woven and made into a garment in Gujarat to reduce processing miles.

Another of Tula's aims is to share their profit with all the stakeholders in an ethical manner, which is something big corporations often ignore but is of utmost importance to ensure that people are not being exploited. This initiative encourages Tula farmers to pursue organic practices since they know they will be given a fair price for their produce. Unfortunately, the

claim that organic farming produces fewer yields discourages many farmers from entering the organic arena. A study of organic farming in the Indian Himalayas showed that when organic farming is employed, yields either stay the same or increase slightly. Evidently, it is possible to produce organic garments without exploiting any of the stakeholders involved.

Bt cotton farming and related farmer deaths

One question that needs to be raised when it comes to Bt cotton farming is its relationship with farmer suicides. In 1995, the import of small quantity Bt cotton seeds was introduced in India. This is also the year in which cotton farmer suicides began to rise. It can therefore be implied that Bt cotton instead of improving the lives of smallholder cotton farmers resulted in the opposite effect.

As mentioned above, many farmers committed suicide due to indebtedness and many more died due to having health issues caused by GM crops. It must be

considered that many of those farmers had written letters to the Indian government pleading to change existing policies on farming. Therefore, there is a clear message that farming policies in India require drastic changes.

Regardless of restrictions and bans from various governments on GM agriculture, Bt cotton has been on the market for almost two decades and its popularity seems to be increasing, presumably due to the false assumption that it is a more insect-resistant crop. This statement could not be more wrong. Lim Lee Ching, a presenter at the Organic World Congress India 2017, explained that more insects are becoming resistant to GM crops. This means that more insecticides must be sprayed to protect the crop from insects, which in turn affects biodiversity, and in the long run might mean that those farmers who use pesticides and insecticides will end up producing less yield. Therefore, organic farming is a way of reversing this cycle and ensuring that farmers can produce as much as is needed for them using natural and organic means that do not harm the ecosystem.

Recommendations

Having explored the enormous consequences of Bt cotton, it is evident that we must implement new policies. As Lim Lee Ching said, “the situation is very difficult for small farmers are in a lot of debt (because) they have to pay for very expensive proprietary seeds”. This sums up the situation of small farmers: they would rather resort to crops that give them a bigger yield and turn a blind eye to the crippling effects of adopting measures that harm the ecosystem than risk not being able to feed their families. The Indian government has introduced measures that help small farmers such as Participatory Guarantee Systems, which are a cheaper means of organic certification, but more must be done to encourage smallholder farmers to go organic and abandon Bt crops.

One recommendation is to provide interest-free loans to farmers who would like to go organic as a means of encouraging farmers. This would attract and support more farmers to consider

switching from either GM crops or conventional farming to organic farming.

Furthermore, education about organic farming must be spread more locally as well as globally. An example of this is of a female farmer in Sao Paulo Brazil, Ana Zilda Coutinho, who is also a school teacher and has incorporated her organic farming knowledge into her teaching profession by teaching her students about organic practices. This work, also reported at the congress, could be replicated in India and across the world. For example, farmers could visit local schools to educate students about organic practices and why they are better than conventional ones. As a means of compensation, the government could implement a programme whereby if a farmer visits a school they receive a bonus in the form of money to further improve their organic techniques.

The future of farming is open, but we know that policies must change, and new ones must be introduced to improve the lives of farmers and protect soil biodiversity. The use of harmful chemicals should be

banned, and organic measures adopted. Whether this will happen or not is very much in the hands of the government to ensure the right adoption of policies, as well as in the hands of the common people to spread the knowledge of organic farming.

Further reading

Das, Anup; Patel, D.P.; Kumar, Manoj; Ramkrushna, G.I.; Mukherjee, Atanu; Layek, Jayanta; Ngachan, S.V.; Buragohain, Juri. (2017). Impact of seven years of organic farming on soil and produce quality and crop yields in eastern Himalayas, India. *Agriculture, Ecosystems and Environment*, 236, 142-153.

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