



GENETICALLY MODIFIED ORGANISM (GMOs) AND POTENTIAL RISK TO ENVIRONMENT AND HUMAN HEALTH

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ABSTRACT:

Greenpeace activists say that GM Crops harmful to the environment and have a potential to risk human health. But those favoring it say that no negative health impact from their consumption has been reported so far. Recently 109 Nobel prize winners, mostly scientists came forward to support the biotech industry and asserted that to meet the ever growing food and nutrition demand of a growing global population, the GMO is the befitting answer which is as safe as normally produced food.

Index terms: *GMOs, GECs, GMCs Golden Rice, Greenpeace, Environment, Human Health.*

1. INTRODUCTION:

Many, studies have revealed that GM crops are harmful to the human health. There has been therefore a conflict of opinion between the biotech industry and the environmentalists on the very necessity of such crops. While Biotech industry is asserting that they are healthy and affordable & no negative health impact from the use of the food developed through this technology has been reported so far.

They have recently got the support of 109 Nobel Prize winners, mostly scientists, who appealed the environmentalists to stop their negative campaign. They have emphasized that to meet the ever growing demand of food and nutrition worldwide, the answer is GMO which is affordable and healthy.

But the Environmentalists, especially the Greenpeace organizations are campaigning against it saying that they have a potential to risk human health.

2. REVIEW OF LITERATURE

a) Greenpeace Campaigner's Stand: Environmentalists have pressed their demand of banning GE crops saying that these crops represent everything that is wrong with our agriculture. They perpetuate the destruction of our biodiversity and the increasing control of corporations over our food and farming. They are bent upon to ensure that government of India does not allow their commercialization. Their efforts have shown results and the government has not given its approval to the growing of 1st GM crop i.e. "Bt.Brinjal" in India. Apart from this there are more than 50 other GM crops have been lined up for government's approval. The stand of environmentalist, is loud and clear that if these crops are allowed, the India would become a big experimental field for multinational seed companies, thereby destroying the environment, because GM seeds are associated with too much use of chemicals in the farms. They are therefore fighting it tooth and nail to stop their very beginning in India.

Paritish Mulay (2016): According to the Author, Monsanto sponsored open-field trial of genetically modified corn was seen to have not only breached its contamination area, but even its seeds found in the local market, with the trials and research yet to be concluded.

A subject of serious concern keeping in mind the grave consequences of environmental contamination, G.M. Free India Coalition stepped up its ante to bring attention towards this gross mismanagement by the University and officials. Finally being assured by the college authorities of strictly following the protocol of field-trial, we considered it a battle won waged in a just war against corporate greed and domination of Indian agricultural sector.

Before disbursing, we met once more, each organization represented by a delegate present there, to decide the future of this movement and the steps to be taken. Keeping that in mind, we parted our ways, strongly resolved to continue with this movement. Hard-working scientists, selfless activists and dedicated farmers toil tirelessly to renounce the farming conditions present today and go back to sustainable farming.

The least we could do is to take cognizance of their efforts and support them to pursue it further. The road ahead is turbulent. Going against influential multi-national company was never expected a cakewalk. Yet we remain determined to continue with this march towards Progress.

b) **Biotech Industry's Views**

Vishwa Mohan (2016): 109 Nobel laureates, mostly scientists, have come forward to support the biotech industry and urged governments around the world, through their letter, to reject their campaigns. Urging the Greenpeace, known for its anti-GM crops stand that led many organizations oppose to modern plant breeding, they further asserted that no negative health outcome from their consumption has been reported so far. "Their environmental impacts have been shown repeatedly to be less damaging to the environment, and a boon to global biodiversity." The letter further says that "the opposition based on emotion and dogma contradicted by data must be stopped" when the world has to meet the food and nutrition demand of a growing global population.

3. FINDINGS:

The conflict between the environmentalists and the biotech fraternity is evident from the above statements from both the sides. One side are the people advocating for GM Crops say that no case reported so far which shows that GM food has caused any fatal disease in human being or animals. They further add that these foods are, if not more, than at least as nutritious as the food produced by conventional methods. Other side, are the environmentalists who have claimed that, the real motive behind pushing GMOs is the huge profits, power and control associated with it. They further add that GM crops are harmful not only for our environment, but also for the people and farm animals.

The potential risks and concerns expressed by the environmentalists against the benefits of GMOs, as advocated by the biotech industry are as under:-

a) **Uncontrolled use of chemicals**: Growing of GMO crops means more and more use of associated chemicals in the farming. GM seed are designed to resist certain chemicals (used for killing of weeds) in the farms.

These chemicals not only stay in the same farm but also spread in the neighboring farms

endangering the life of farmers and the farm-workers. The ill effects of the chemical do not stop here. Over a period of time the insects and weeds get adapted to a particular chemical used against them. The biotech companies therefore resort to using harsher chemicals which results in a vicious circle and ultimately very harmful to the people and environment.

b) GMOs and claims of high yield and nutritious food: Environmentalists assert that these crops not necessarily assures of high yield and improved quality of food. Studies have proven no improvement either in the quality or the quantities through these GM Crops. Those advocating GMCs have claimed that their Golden Rice will cure vitamin A related diseases around the world.

Environmentalists have argued that conventional food like carrots and sweet potatoes are equally rich in vitamin A, hence, there is no need to take a risk by producing food through these technologies. Non-browning GMO apples are again going to help MNCs who sell cut-fruits through fast food chains.

c) Harmful to the nearby organic crops: It has been noticed that GMO does not remain confined to the same farm where they are grown.

When the pollen from these farms travel to other plants through the winds, it contaminate farms located even miles away. It is really matter of great concern for those doing organic farming and not allowed to grow GMO.

d) The research is to favor the biotech companies: The environmentalists claim that cash rich biotech industry has been conducting, funding or influencing the researches, hence, the outcome cannot be unbiased.

There have been the numerous researches, impartial too, but from these unbiased reports also the biotech industry is picking and choosing only those points favoring them.

e) Driven by the corporate control of Agro-industry: Another argument of the environmentalists is that a customer does not even know that a dozens of brands in a shopping mall are mostly controlled by a handful parent company themselves or enjoy a sort of monopoly through a cartel.

4. CONCLUSION:

On the once hand there are the Environmentalists, especially the Greenpeace which is opposing the GM Crops saying that growing such crops would is definitely harmful to the environment and also have a potential to risk human health.

Biotech scientists say that the mass production through these technologies will be able to save people from starving to death for want of sufficient and nutritious food. But keeping in mind the counter-claims of both the sides, there seems to be some truth lies in their respective claims. There, is therefore, a need not to jump onto any conclusion in a hurry.

There must be a few more independent and unbiased long-term researches and on field-trials of such crops. There is also a need to study the impact of these crops on our environment and public health before accepting or rejecting the mass production of food under this technology.

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