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The Green Revolution and the Gene Revolution

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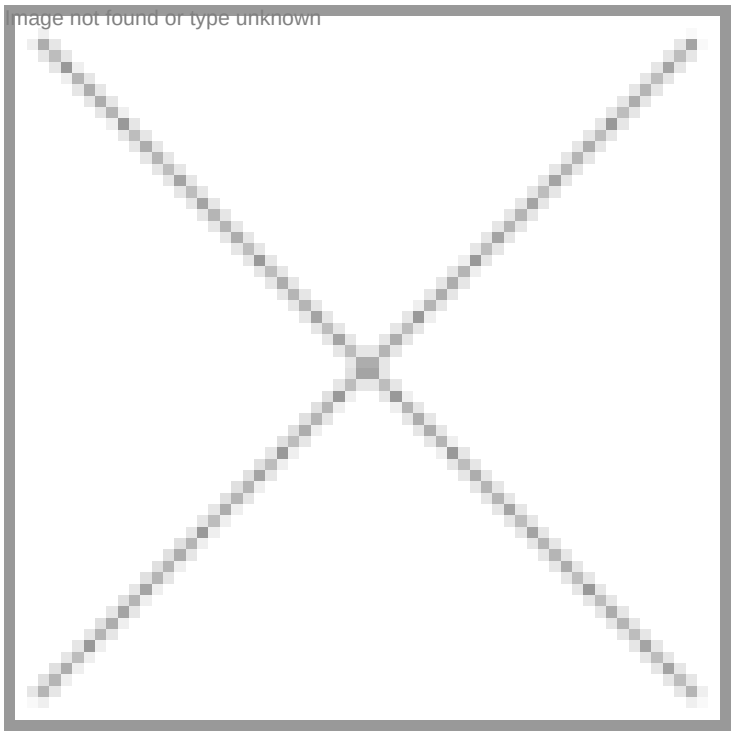
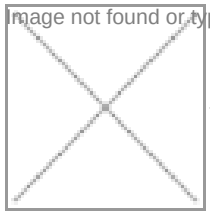


There should be a well thought out national policy on agricultural biotechnology after widespread consultations with a range of stakeholders.



Agbiotechnology is presented in many forms. The most common being that it will solve world hunger. To reinforce this claim, there is an interesting word play at work. Agbiotechnology is referred to as the "Evergreen Revolution" or the "Gene Revolution". Both these terms are an attempt to link agbiotech with the Green Revolution. In the view of most political leaders, policy makers, farmers and citizens, the Green Revolution was a positive happening that brought benefits. It did in fact increase food production, principally cereal production. It made India independent of food exports and firmed up its political spine. It ensured surplus grain that could be stored in buffer stocks to be rushed where need arose and it tried to ensure that famines were not a feature of the Indian reality.

These gains were so visible that the downside, the unequal distribution of the benefits of land and water degradation, the accompanying loss of genetic diversity and the persisting endemic hunger and poverty, could not take the shine off the Green Revolution. Because of this positive image, the promoters of agbiotech draw semantic parallels, invoking the earlier agricultural revolution. The subliminal message is if the Green Revolution brought so many benefits, the Evergreen Revolution would bring all those in perpetuity. The word play has actually been quite successful. Political leaders and policy makers carry over the positive association with the Green Revolution to the Evergreen one. If the earlier version brought such benefits, the newer one (more precise, with greater possibilities, as the industry says) would surely bring even greater benefits to the farmers and the poor. Conveniently left out of this portrayal are the essential and crucial differences between

the two "Revolutions".

The Green Revolution was a publicly owned technology, belonging to the people. The research was conducted with public money to fulfil a public need, inadequate food production, and it created public goods to which everyone had access. There were no Intellectual Property Rights (IPR), no patents vested in multinational companies, no proprietary technologies or products. If there was ownership of the Green Revolution, it was vested in the farmer. Once the seed reached the farmers, it was theirs; they moved it where they wanted. Therefore despite its faults, the Green Revolution addressed farmers needs and India's food production showed an upward curve.

The Evergreen Revolution is almost the exact opposite. It is a privately owned technology. Six corporations (Monsanto, Syngenta, Bayer CropScience, DuPont , Dow and BASF Plant Science) control practically the entire research and output in the field of transgenic plants, processes and products, including research methodologies are shackled in patents and the farmer has no say, let alone any control. The technology creates only private goods that can be accessed only at significant cost (a bag of Mahyco-Monsanto's Bt cotton seeds in India costs Rs 1,600 as compared to Rs 300-400 for superior varieties produced locally).

The seed belongs to the company, which strictly controls its movement. With the development of the popularly termed "terminator" or sterile seed technology, the farmer is reduced to a helpless consumer, not a partner as in the case of the Green Revolution. The Evergreen Revolution has in its 20 years, not yet produced a crop variety that has any direct connection to hunger and nutritional needs. The most prevalent crops remain corn, soya, cotton and canola and the dominant traits are herbicide tolerance and insect resistance. Despite its other faults, the Green Revolution was able to put out a number of crop varieties in a short span of time that enabled direct yield increases, which brought immediate benefits to farmers. That in short is the contrast between the two revolutions, so assiduously camouflaged by the agbiotech spinmeisters.

India had participated enthusiastically in the Green Revolution and is on its way to equally enthusiastically embrace the Gene revolution or Agbiotechnology. Yet there is little debate in the country on whether any lessons have been learnt from the Green Revolution. There is even less debate between policy makers and other stakeholders about the path that agbiotechnology should take in India. There is no consultation with the public like in many other countries, for example in Europe or any sharing of information, as is done in almost all countries that are implementing GM technology. The Department of Biotechnology has promoted research projects randomly in universities and research institutions, without any assessment of farmers' needs and the best way to fulfil them; civil society has been uneasy with the lack of transparency and the lack of competence in regulatory bodies; the media is largely uninformed and political leaders remain unaware of the direction this new and controversial technology was taking in India and have no say in determining what it should or should not do.

It is time that the country gave itself a well thought out national policy on agricultural biotechnology. The policy should be framed after widespread consultations with a range of stakeholders. The process of consultations should be inclusive and transparent, allowing a range of expertise and insights to be brought into the decision making process. The greater the ownership of the outcome of the consultative process, the better will be the acceptance of the policy that is framed.

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