



***“Can genetically modified plants help developing countries to fight hunger and poverty?”***

*Remarks By*

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**“Genetic Engineering in Agriculture – a predictable catastrophe?**  
**Who benefits from genetic engineering in crops?”**

## ***Can genetically modified plants help developing countries to fight hunger and poverty?***

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We can probably agree that society faces many challenges. We may differ on how best to ensure these challenges do not become catastrophes.

20 percent of the world's population live in absolute poverty and over 800 million people are malnourished. They need jobs not rhetoric: income not charity.

Current food prices are at an all time low. A tribute to the productivity of research and skill of the farmers of the world and the systems and technologies they use.

We face the growing challenges of meeting the needs of 8 billion consumers, global interdependence, trade reform, strife, mega-cities, the scourge of HIV/AIDS, climate change, water scarcity, increasing energy demands, tectonic shifts and the loss of biodiversity and natural habitats. Each of these is predictable and could cause catastrophes: together they are a huge challenge.

FAO and the International Food Policy Research Institute (IFPRI) say we must double production of food, fibre, oils and other goods and services, within the next generation. We shall have to deliver more, for more people, using fewer resources and causing less damage.

### ***Can transgenic crops help?***

The short answer is, yes! They are doing so already and could do more if they are allowed to do so. However transgenic technologies, like any technology, cannot solve the challenges of policy failures, insufficient capacity, poor infrastructure and distorted markets.

The International Service for the Acquisition of Agri-biotechnology Applications (ISAAA) report that in 2004 about 8.25 million farmers planted transgenic crops in 17 countries; an increase of 20 percent, mainly in developing countries. The total global area was over 80million hectares or 5 percent of global cultivable cropland. The area is predicted to grow; it is the world's most rapidly expanding agricultural technology.

No one should underestimate or ignore the genuine and justifiable **concerns of society** and the power they can have on perceptions, markets and legislators.

The debate is polarised. There are two basic philosophies – the **'precautionary principle'** – (if in doubt, don't use them) – and **substantial equivalence** – (if the products look and behave the same, they are the same, what every the production system used)!

### ***Are they safe? What is the evidence?***

There have been several reviews by eminent bodies.

After nearly ten years of production on millions of hectares and having been consumed by possibly billions of consumers, there is no evidence that transgenic crops cause harm to **human health** of those who produce or eat them. In fact there are benefits in terms of lower prices, nutritional quality, reduced allergenic risks, lower pesticide usage and lower levels of carcinogenic mycotoxins.

The impacts on the **environment** are more complex and more location and system specific. Detecting an impact is no proof of lasting damage. Localised changes need to be assessed in the context of whole landscapes or ecosystems. While it is possible to detect impacts there is no evidence of any irreversible changes.

There is agreement that while continuing vigilance and regulation is necessary, the assessments and the systems to manage impacts should be evidence based, proportionate to the scale of the risk and applied on a case-by-case basis.

### ***Who benefits?***

Increasing numbers of farmers choose to grow transgenic crops. Dow Jones reports that in 2005, 50 percent of cotton farmers will use transgenic varieties and that the majority of these are small farmers in developing countries. Consumers have also benefited through greater availability, lower prices and lower pesticide residues. The companies supplying the products also benefit through greater sales of their products. This is a win-win-win situation, which accounts for their rapid adoption.

However the range of transgenic products available is still limited to a few traits in a few crops – cotton, maize, soya and canola/rape seed.

### ***Who could and should benefit and why are there not more products for poor farmers to use?***

Vitamin A deficiency (VAD) causes the deaths of 6,000 people every day -a tsunami every two months - and for the blindness of about 500,000 children every year. The solution lies in enhancing beta-carotene content in the diets of the vulnerable. Golden rice, which has been engineered to have beta-carotene in its endosperm, could play a significant role in reducing suffering and death. The developers currently have to navigate the complexities of bioregulation, campaigns of misinformation and strident criticism of activists,

who seem desperate to block and discredit this invention, before it has had a chance to prove its worth.

Bt maize could help thousands of farmers to reduce insect attack and associated mycotoxin problems. In Kenya stem borers reduce maize yields by between 5 and 15 percent with a value of about CHF 100million every year.

IFPRI have identified publicly funded research on transgenic crops in 15 developing countries and on 45 crops. The focus is on improving resistance to devastating pests and diseases. They face difficulties in moving from the laboratory to farmers' fields. They do not have the knowledge, capacity and funding to develop and comply with biosafety regulatory requirements. They fear strident criticism and loss of donor and rich country markets if they use of transgenic crops.

The heavy burdens of regulation are stifling progress and delaying the delivery of safe products to farmers and consumers.

Intellectual property rights empower an inventor to control the use of their discovery or invention. Patents safeguard and promote investment in scientific research, information sharing and the development of new technologies and products. They prevent commercial competitors from stealing inventions.

Most companies are happy to share their knowledge, IP and expertise to help poor countries and farmers to develop the technologies and products they want.

The mapping of genomes and knowledge of functional genomics are advancing rapidly. The discovery of 'synteny' (the presence of similar sequences on similar parts of the genome, which control the expression of particular traits) and use of genetic tags or markers provide new tools to speed up and make more precise, the processes of breeding and selection.

Transgenic approaches could help achieve improvements more quickly and more accurately.

With the exception of a few countries, such as China, India, Brazil, Argentina and South Africa, many of the poorest countries do not have the physical, human and financial resources or a business sector to convert transgenic crops into products for poor farmers

Donations of technologies by business sector seems an easy and logical option to help developing countries to fight poverty and hunger, provided we can solve some of risks, liabilities and disincentives for doing so.

### ***Small-scale farming is important.***

Agriculture provides employment for over 70 percent of the world's poorest people and food for us all. It is characterised by millions of privately owned and managed farms of varying sizes.

The spread of HIV/AIDS is placing a strain on many rural communities and labour intensive traditional production systems. The impacts are particularly severe on small family farms and in Africa.

Investment in agriculture is one of the most efficient ways of reducing poverty. While global trade and food security is still heavily dependent on larger scale commercial farming, small farms have and will continue to have an essential role to play in managing ecosystems, reducing poverty, supplying local and niche markets and acting as a social safety net.

Can they feed the mega-cities of the future and compete in global markets? They will need to become more productive. There must be continuing and increased public investment in research and delivery systems that improve farmer access to technologies and help them to adopt new management practices.

### ***Multinational Companies can help.***

Agri-business companies have made a huge contribution to global food security. They invest between 8 to 11 percent of their turnover in research and development. Their focus is inevitably on commercial agriculture.

A major proportion of their investment is on the costs of satisfying regulation. So products of potential benefit to small or non-profitable markets only, are not being developed. Field based civil society organisations have an excellent record in working with and in understanding the needs, concerns and priorities of small farmers, but they lack the resources to deliver goods and services on a larger scale.

Government, business and civil society have complementary skills, but working together is not easy. A recent study by IFPRI identified some keys to success - the importance of leadership, clear and shared objective, acceptance of cultural differences, means to assess progress, preparedness to take risks and the need to build trust and incentives.

There are some organisations, which appear to wish to block such collaboration.

### ***Cooperation or controversy– solutions or catastrophes!***

Disasters give dramatic headlines and which sell newspapers; unfortunately good news does not! Perpetuating controversy is a luxury that rich societies can afford – it kills people in poor societies. Prediction should be based on evidence and historical precedent, not on prejudice, guesswork or alarmism.

Transgenic technologies are being used increasingly, there have been no catastrophes and there are several studies that show coexistence is possible, but this may require zoning and trade-offs. Farmers are using transgenic

crops because they work. There is no evidence of harm and but we should continue to be vigilant. We have the tools to monitor impacts.

Many of the current debates and controversies are deliberately presented as opposites. Reality is more likely to be that we need both and integrated solutions.

So - can we agree to focus on facts, solutions and partnerships rather than controversy?

***Transgenic technologies can help, but only if they are allowed to!***

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