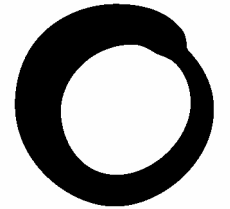


Briefing Note



**Friends of
the Earth**

GM Crops and food security

Can they really 'feed the world'?

Those in favour of genetically modified (GM) crops often claim that they have the potential to 'feed the world'. Anyone opposing GM is therefore holding up research that will end world hunger by increasing agricultural yields and improving nutrition. However, this approach oversimplifies a complex issue. Many people, not least those who live in countries where hunger persists, believe that a technological fix will at best address the symptoms of hunger and malnutrition, but not the causes. Many fear that corporate control over the food chain through patents and the ownership of seeds may even exacerbate the problem. Focusing attention on GM detracts from more accessible and sustainable methods of food production.

The underlying causes of hunger

Claims that GM crops will end hunger through increased production perpetuate the myth that hunger is caused by scarcity of food. More than enough food is already produced to feed everyone in the world a basic nutritious diet, but people still go hungryⁱ. People don't have food in sufficient quantity or quality because they lack money to buy food or they are deprived of the means to produce it themselves.

Hunger is inextricably linked with poverty. Of the world's six billion people, 2.8 billion live on less than \$2 a day. Poverty and hunger result from trade and economic policy decisions that lead to increasing inequalities in distribution of income and food. Hunger persists because there is a lack of political will to address these problems.

Sustainability success in Nepal

A rural development project promoting sustainable food production shows how a community based approach can build on the skills and knowledge of local people. Increased use of green cover, inter-cropping and composting, and increased diversification such as incorporating fruit trees, bees, cotton, sheep and rabbits into the farm systems has resulted in 40 per cent of households becoming food self-sufficientⁱⁱ.

Will GM crops benefit developing countries?

Far from focusing on the needs of the poor in developing countries, GM crop development is driven by the commercial interests of US and European companies. The major GM crops currently grown – soya, oilseed rape, cotton and maize – are designed to support the food and textile industries of the developed world. There is currently little GM research and development by private companies on staple food crops vital to developing countries.

Terminator technology or 'suicide seeds'

'Terminator' seeds are modified to produce sterile seeds. This prevents farmers from saving seeds to plant the following season. 1.4 billion people, mainly poor farmers in developing countries,

depend on saved seed. Farmers are then forced to buy new seeds every year from the biotech companies. Despite universal condemnation from farmers' movements all over the world, the technology is still being developedⁱⁱⁱ.

Double dung beds curb hunger in Kenya

A sustainable agriculture technique called 'near nil investment' is practised in Kenya. The principle is that poor families do not have the financial resources to invest in farm improvements and need cheap ways to boost productivity. 'Double dung' beds – seven by two metre patches of field - are turned over intensively and combined with composting, green and animal manures producing beds with increased water holding capacity that sustain vegetable growth through the dry season. Of the 5,000 families involved, 75 per cent of households were entirely free from hunger during the year.^{iv}

Pro-vitamin A 'golden rice'

Lack of essential vitamins and minerals causes as many problems as lack of protein or calories. The biotech industry promises solutions to these problems with crops modified to contain vitamins and minerals.

The most highly publicised of these GM crops is 'golden rice'. As the 'acceptable face' of GM, it is used to persuade consumers of the benefits GM can bring, even though it is still only at the research stage. Thousands of children die every year of vitamin A deficiency. Scientists have engineered genetic material into rice to make it rich in beta-carotene, which is converted in the body to vitamin A. However, to reach the recommended intake of vitamin from this GM rice, 9Kg of cooked rice would have to be eaten every day!^v.

Developments such as 'golden rice' fail to address real poverty issues such as the lack of a varied diet which contributes to malnutrition. They also distract from more accessible and affordable approaches advocated by the World Health Organisation such as promoting breastfeeding, food fortification, and eating more fruit and vegetables.

Is there an alternative to GM?

In developing countries, traditional and sustainable systems of production are becoming increasingly sophisticated. In many cases they are becoming as productive as high chemical input systems, while at the same time bringing environmental and economic benefits to the communities most in need. Development of such systems relies on the experience and knowledge of farmers. By avoiding dependency on multinational companies for expensive seeds and chemicals, communities maintain control over the resources required to feed themselves. Such an approach ensures that those most in need benefit.

ⁱ Conway, G, 1997. *Work of the Jajarkot Permaculture Programme*, in *The Doubly Green Revolution: Food for all in the 21st Century*. Penguin, London.

ⁱⁱ Pretty, J, 2000. *Feeding the World: Sustainable agriculture and genetic modification*. ActionAid, London.

ⁱⁱⁱ ETC Group, 5 April 2002. *Ban Terminator before it's too late*. www.etcgroup.org

^{iv} Pretty, J, 2000. *Work of the Association for Better Land Husbandry, Kenya*. *Op cit*

^v Brown, P, 10 Feb 2001. *GM rice promoters – 'have gone too far'*. The Guardian.

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