Is the notion of higher productivity by genetic modification being promoted to benefit corporate interests?

BY MOHAMMAD TARIQUR RAHMAN AND ABU S. M. SHIHABUDDIN

Waste Not Want Not

The current increase in food prices has been attributed to higher demand accompanied by lower productivity. Increased productivity has been identified as a priority strategic solution to the predicted coming food crisis. UN Secretary General Ban Ki-moon said: "We must not address only the immediate symptoms of the problem—that of soaring food prices. We must focus on the underlying causes of the problem: years of neglect of the agricultural sector around the world, and the lack of investment in increasing productivity." The Islamic Development Bank (IDB) has pledged $1.5 billion for the agricultural sectors in the poorest countries; some of this money will focus on how to improve yields.

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Genetic modification (GM) of grain-producing crops is seen as a possible solution, for gene(tic) technology produces crops and animals that have a higher level of productivity and quality, as well as a longer shelf life. GM foods include rice that can tolerate salt, flood, drought, and is enriched with vitamin A ("golden rice") and ferritin and resistant to pests, herbicides, and parasites; slow-ripening tomatoes; and cows that produce more milk or milk with added proteins and vitamins. Despite potential hazards (e.g., a GM-induced environmental imbalance, potential threats to human health, and ethical concerns when confronted with a devastating crisis), GM food and food products are apparently approved to save humanity, which, supposedly, will starve during the anticipated food crisis if they are unavailable.

The UN has predicted that the global population will stabilize at around 9 billion by 2300, if fertility levels continue to fall at the current rate. This will create an estimated 50 percent increased demand for food, which GM crops and animals are expected to meet. However, the current status of GM crop cultivation and the demand, usage, and waste of food might reflect a different scenario.

According to "ISAAA Brief" no. 34 (2005), in 2005 8.5 million farmers in twenty-one countries planted GM crops (a.k.a. "transgenic crops") with an estimated global market value of $5.25 billion. Nevertheless, about one-fourth of all food produced for human consumption in America in 1997, worth approximately $31 billion, was wasted; it could have fed 49 million people for a year (USDA 1997). By 2004, this waste had more than doubled: "Americans are tossing out at least $75 billion in food each year, according to an extensive study that follows foods from farms through retailers and into the mouths and waste bins of consumers," reported Larry O'Hanlon ("Discovery News" 24 Nov. 2004). "This month it emerged that in the UK, a staggering £8 billion worth of food goes to waste, which equates to 6.7 million tonnes" wrote Mark James in Apr. 2008 (www.organizeit.co.uk).

A complete analysis of global food waste might reveal that, in reality, the amount of total global food waste and consumption are equal. Given that the global market for GM plants ($5.25 billion in 2005) is far less than the waste of food and food products, most of the food waste produced in America and the United Kingdom comes from natural food products. Notably, food waste has been increasing in urban society. On a global scale, it will increase by 44 percent from 2005 to 2025 ("Waste Management Research": 2006).

Questions. These figures belie the claim that the posited food crisis will result from the increased demand for or the lower productivity of natural food. Indeed, the additional productivity achieved by GM food products has not helped farmers meet the global demand. Blaming natural food for the shortage, therefore, is incor-

DOOMSDAY VAULT: An outside view of the Svalbard Global Seed Vault located on the Norwegian island of Spitsbergen near the town of Svalbard. The facility was established to preserve a wide variety of plant seeds from locations worldwide in an underground cavern as insurance against ecological catastrophe; (below) Seed boxes on the shelves inside Global Seed Vault

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rect. If the population stabilizes, as envisaged by the UN, food shortages can better be managed—minimized or even solved—by reducing waste rather than by becoming dependent upon GM products.

Scientific evidence and theory have proven that additional qualities gained through specific gene manipulation can harm human health and the environment. It is perhaps not too early to say that some scientists and their industrial counterparts have claimed those qualities for GM foods to create an ultimate dependency upon it. This suspicion gains momentum when one considers the strange and unbroken silence of the policymakers at the UN, the Food and Agriculture Organization (FAO), and even the IDB on the massive waste of food and its possible remedies. If this silence were broken, policies for proper food distribution and usage could be prioritized.

This apparent lack of concern could, perhaps, be due to the vested interests of a circle of scientists and industrialists who favor a GM product monopoly. Consider the nature of the funds designated for re-

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search and the fame for those researchers who, in the guise of "pursuing the truth," work to achieve this goal on global scale for these industrialists and proclaim that they are devising genuine and healthy solutions to food problems.

At the inception of using gene technology to produce modified plants or animals, biotechnologist Nicholas Wade remarked that "scientists would remain as a community of autonomous, independent researchers, untrammeled by excessive commercial tics, free to give objective advice to whoever wants it, and interested only in the disinterested pursuit of truth" ("Biotechnology and Its Public," *Technology in Society*, [1984]). In a 1998 article in "The Telegraph," Prince Charles, a dedicated GM opponent, accused genetic engineers of taking us into "realms that belong to God and God alone." Along with fifteen of the world's largest companies, as well as environmental and economic experts, he has set up his own rain forest project with this goal in mind. In an interview with "The Telegraph" (12 Aug. 2008), he stated that GM crops risk causing the biggest-ever environmental disaster, adding that multinational companies were conducting an experiment with nature that had gone "seriously wrong."

In early 2008, British GM researchers lobbied that their crops be kept in high-security facilities or fields at secret locations across the country to prevent them from being attacked and destroyed. No less significant is the fact that creating GM crops requires levels of investment and technology that only a few rich and developed countries can afford.

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The Northern Ark. A recent initiative envisions storing all wild varieties of crops and plants in a colossal reservoir, after the pattern of the Biblical Noah's ark, in an arctic archipelago belonging to Norway (http://news.nationalgeographic.com/news/2008/02/080225-AP-norway-doom.html). In all likelihood, those who conceived such a grand undertaking foresee the gradual extinction of our planet's natural seeds. This initiative and the efforts to develop GM crops and animals, therefore, are palpably inseparable. Should not the pace of the GM movement be stopped first to prevent the threatened collapse of natural varieties? Ironically, instead of being removed, the root of the problem is kept intact (or even nourished) to justify the Northern Ark. Its real justification, however, resides in its tremendous potential of becoming the world's sole supplier of natural seed varieties.

The history of human civilization speaks of protecting natural seed varieties. Farmers and peasants have preserved seeds, their crucial capital, since the dawn of time. If they had not, humanity would have perished long ago. One great historical event has implications for preserving natural species and seeds: Prophet Joseph's (*'alayhi al-salaam*) dream of seven years of abundant har-

GENETICALLY MODIFIED CORN: In Kenya, corporate and public researchers partner to develop local transgenic (GM crops) corn varieties

"Traditionally, farmers procure their seeds from their current best harvest and preserve them for the next cropping. Genetically modified (GM) seeds contain a termination gene and thus cannot produce seeds. If that gene is absent, lower quality seeds are produced. Each season, the seeds' productivity will decline and farmers will eventually become totally dependent upon GM seeds."

vests followed by seven years of severe drought and famine. To deal with the coming crisis, he built large silos to store food crops and seeds and undertook other measures. By analogy, if the current Northern Ark corresponds to Joseph's silos, one must search for at least one other element: what is the reason for it? Perhaps only the boy in "The Emperor's New Clothes" would dare to say: "GM!"

Taken together, promoting GM crops to meet the projected increased demand and working on the Northern Ark are all but overt expressions of a well-planned effort to gain a business monopoly over the supply of GM crops and the source of natural seed varieties. Consider this fact: Traditionally, farmers procure their seeds from their current best harvest and preserve them for the next cropping. GM seeds, however, contain a termination gene and thus cannot produce seeds. If that gene is absent, lower quality seeds are produced. Each season, the seeds' productivity will decline, farmers will eventually become totally dependent upon GM seeds, and the desired monopoly will emerge.

To escape such a monopoly, a few countries may try to devise their own GM crop-related technology. Perhaps they will eventually join or support the GM promoters, thereby ignoring more reasonable solutions to reducing or managing food waste to combat a calculated food crisis. Every nation must protect its indigenous natural varieties of crops and animals by controlling the GM invasion and focusing on how to reduce individual waste to prevent both the planned business monopoly and the predicted food shortage. ■

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