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Implications of Genetically Modified Seeds on Chinese Farmers' Right to Food

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Abstract

Genetically modified (GM) agriculture's restriction on farmers' access to seeds has a direct impact on the full realization of farmers' right to adequate food as set out in the United Nations human rights regime. This paper discusses the implications of GM seeds on Chinese farmers' rights to food by reviewing the development of genetically modified crops in China. In order to minimize the negative implications of GM seeds on Chinese farmers, we believe the promotion of viable, ecologically sound livelihoods by placing the control of the resources for agricultural production in the hands of the producers, through the protection of farmers' rights as owners, breeders and conservators of seed and plant genetic resources is crucial to secure their human right to adequate food.

Keywords: genetically modified seeds, agriculture, human rights to food, Chinese farmers

1. Introduction

Since the introduction of the controversial one-child policy, China has made strenuous efforts to keep its population growth at a lower rate. At the same time, China has made remarkable progress in alleviating its rural poverty by applying innovative agricultural technologies to improve agricultural output and poor farmers' access to adequate clothing and food. Despite these impressive achievements, population growth coupled with soil degradation and land erosion has exerted substantial pressure on food production and posed great threat to farmer's human right to adequate food.

Preoccupied with persistent food insecurity, genetically modified (GM) crops' promise of increased yields, more reliable harvests and reduced chemical inputs has been taken more seriously in China than almost anywhere else in the developing world. From the 1980s onwards, China has been an enthusiastic promoter of GM crops and became the world's first country to grow a GM crop on a commercial scale (Falkner, 2007, p. 174). Recent years have witnessed great progress in China's GM agriculture. According to the International Service for the Acquisition of Agri-biotech Applications (ISAAA), a nongovernmental organization that monitors the use of GM crops, the total planting area of GM crops in China ranks the 6th largest in the world in 2009 with a total planting area of 3.7 million hectares only next to the United States, Argentina, Brazil, Canada and India (ISAAA, 2010). Due to a lack of comprehensive evaluation of the GM crops' economic impact on China's food supply, it is too early to tell if this mere 3.7 million hectares GM crops can have any significant contribution to China's great food demand. However, the sure thing is that China's spearheaded promotion of GM crops has generated widespread concerns over the implications of GM crops on Chinese farmers' human rights to adequate food. From time to time, people tend to ask: is GM crops helpful or harmful to Chinese farmers' enjoyment of human rights to adequate food?

Since seeds are the most important purchase a farmer makes each year and seeds play an important role in agriculture production, this paper argues that farmers' access to GM seeds will directly affects farmers' right to food in the era of GM agriculture. This argument will be unfolded in the following way. First, I will illustrate the close relation between farmers' access to seed and their right to adequate food by examining relevant UN human rights documents. Then I will attempt to find out what are the possible impacts of GM seeds on Chinese farmers' access to seed. Finally, I will explore who should be hold responsible for Chinese farmers' access to GM seeds within the framework of UN human rights regime followed by a brief concluding remark.

2. Farmers' right to adequate food and farmers' access to seeds

Farmers' human right to adequate food, inseparable from everyone else's human right to adequate food, is recognized in several legal instruments under United Nations human rights regime. Article 25 of the Universal Declaration of Human Rights (UDHR) (United Nations 1948) explicitly states, "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing,

housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control."

The International Covenant on Economic, Social and Cultural Rights (ICESCR) (United Nations 1966) illustrates the right to food more concretely than the UDHR. Article 11 "recognizes the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions." Article 2 calls on "state parties to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures (United Nations 1966)."

The connection between farmers' access to seeds and full realization of farmers' right to adequate food is emphasized by further efforts to clarify the content of the human right to adequate food. According to General Comment 12 (GC 12) of the United Nations Committee on Economic, Social and Cultural Rights (CESCR), the body overseeing implementation of the ICESCR, "the right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement. GC 12 expressly demonstrates that access to the means of production and seed in particular is intrinsically linked to right to adequate food of poor farmers. Therefore, farmers' "physical and economic access at all times to adequate food or means for its procurement" cannot be fully realized unless they have access to seeds to produce food.

Although China's transformation from a traditional agricultural society to a modern industrial society has been greatly accelerated by its impressive economic developments in the past two decades, the majority of its population is farmers living in rural areas and they have to depend on agricultural production to sustain their livelihood and food security. Poor farmers in China require access seeds to produce food to meet their own food needs, earn income to buy food and other necessities, and cope with difficult environments. Any restrictions on the rights of farmers to freely conserve, develop, use, share, exchange their seeds will undermine their human right to food recognised in article 25 of the Universal Declaration on Human Rights, and article 11 in the International Covenant on Economic, Social and Cultural Rights.

3. The possible impacts of GM seeds on Chinese farmers' access to seeds

Since GM seeds were first commercialized in 1996, few subjects have generated as heated a debate as GM seeds and GM crops. Proponents of GM seeds claim that the transgenic traits embodied in GM seeds offer many benefits to farmers. GM crops are more pest resistance, herbicide tolerance, disease resistance, cold tolerance, drought tolerance and salinity tolerance than conventional crops. GM crops can lower pesticide usage and bring higher yields and profitability to many farmers, especially poor farmers in developing countries (Pray & Huang, 2003, pp. 223-242). Despite these promised benefits, global negative reaction to GM crops ranges from mild unease to strong opposition. Opponents to GM crops claim that they are unsafe for human consumption and GM seeds and crops can weaken or destroy other seeds and crops (Whitman, 2000). Nevertheless, amidst this intense global controversy over GM crops, GM seeds-for cotton, maize, soybean and rice, among others-have steadily found their way into the agriculture of 25 countries, including the United States, Canada, India, China, South Africa, Brazil and Argentina to name a few. In 2009, there are more than 14 million farmers producing 134 million hectares of GM crops worldwide, representing an 8% increase year on year (ISAAA, 2010).

There are a number of concerns people have over the impacts of GM seeds on farmers' access to seeds. Here we will discuss the three most frequently talked about ones.

First, the high price of GM seeds may restrict farmers' access to seeds. The development and sale of GM seeds are controlled by a few multinational seed corporations and their licensees. Monsanto, DuPont, Syngenta are the top three players in the global GM seed industry. Since the creation of GM seed is a lengthy and capital-intensive process, the multinational seeds corporations definitely wish to ensure a profitable return on their investment. These multinational seed giants patented GM seeds in their names in order to make their sales grow and make them more profitable. It has been widely agreed that access to seeds is the need for some seeds to be easily available at affordable prices or no cost to all stakeholders (Cohen & Ramanna, 2008, p. 161). Therefore, there have been widespread worries that patented new GM seeds varieties will raise the price of seeds so high that small farmers in developing countries will not be able to afford seeds for GM crops, thus worsening farmers' human rights to adequate food. Keith Mudd, Organization for Competitive Markets, following Monsanto's decision to raise some GM maize seed prices by 35% commented that the lack of competition and

innovation in the marketplace has reduced farmers' choices and enabled seed giant like Monsanto to raise prices unencumbered (GM Watch, 2009).

In order to maintain its food self-sufficiency and narrow the technical gap with west industrial countries, China has committed substantial support to develop its own GM seeds research capacity and many scientists and considerable investment have been concentrated on adapting the new GM technology to domestic needs. The GM cotton grown by some 7.5 million small farmers represents the most successful case so far in terms of Chinese farmers' access to GM seeds. Much of this success rests on China's highly developed public agricultural research system, which has independently produced a large number of locally adapted GM cotton varieties competing directly with Monsanto's GM cotton varieties. As a result, GM cotton seed prices are much lower in China than elsewhere and cotton farmers reap substantially higher returns (Terri Raney, 2006).

However, the whole picture of China's GM seed research is not optimistic. It has been argued that China's research are better at adopting international GM developments to local conditions than engaging in the kind of basic research that has allowed multinational seed corporations to dominate the field (Falkner, 2007, pp. 176-177). Most of the standard methods, technology and genes in Chinese GM seeds are related to the patents owned by foreign multinational seed corporations.

Today, the GM seed market accounts for a staggering share of the world's commercial seed supply. The multinational seed corporation's domination of GM patents and seeds and China's weak capacity to develop its own GM seeds varieties may force farmers rely heavily on multinational seed companies for GM seeds and technical support. Farmers living in the poor rural areas are the most vulnerable groups in China. The ability of poor farmers to access to and control of seeds is crucial to combat hunger and food insecurity. This excessive dependence on multinational seed corporations' high price GM seeds will threat farmers' access to seed and in the long run, will threat their right to food.

Second, GM seeds may have negative impact on the traditional way farmers save seeds for the next season. Multinational seed corporations often take technical measures and legal measures to restrict farmers to save or use seeds from the plants they grow. This means that farmers have to keep buying seed instead of being able to save it, potentially giving multinational seed corporations control over farmers' access to seeds.

Third, the evolution of GM industry clearly indicates that GM crops favor the expansion of large-scale, chemical and capital-intensive, labor-replacing, corporately-controlled and export-oriented agriculture. Unlike their western counterparts, the majority of Chinese farmers are small scale growers exclusively live on their small lands to meet their food demands. The industrialized agriculture model not only may restrict Chinese farmers' access to seeds but also may force them loses their lands to large growers. This scenario will push the already marginalized Chinese farmers to an even more miserable situation and ultimately endanger their fundamental human right to adequate food.

Many people argue that farmers have the choice of using conventional seeds or GM seed. Yes, farmers do have choices. However, it is self-evident that without education and awareness programmes to balance the incentive packages and marketing propaganda of multinational seed corporations, farmers' choices may be poorly informed.

4. Who should be held accountable for farmers' access to seeds?

Apparently, there are two types of actors who could be held responsible for farmers' access to seeds. One type of actor is nation-states. GC 12 stresses that states must not take any measures that impede existing access to food and must also ensure that individuals or corporations do not deprive individuals of their access to food. In addition, states parties must identify vulnerable groups and frame policies to help them. GC 12 interprets states' obligation to fulfill (facilitate) this right as requiring them to "pro-actively engage in activities intended to strengthen people's access to and utilization of resources and means to ensure their livelihoods, including food security (United Nations, 1999)." States cannot meet these obligations unless they take measures to ensure that individuals or entities do not deny access to seeds to those who require it, particularly small and marginalized farmers who may have limited or no access to formal seed markets.

The CESCR also comments on potential conflicts between multinational seed corporations to benefit from the protection of the GM seeds and farmers' unrestricted access to GM seeds. The committee considers that states parties' efforts to realize the intellectual property rights must "constitute no impediment to their ability to comply with their core obligations in relation to the right to food." Moreover, the CESCR stresses states parties' "duty to prevent unreasonably high costs for access to plant seeds or other means of food production (United

Nations, 2005).” In the Committee’s view, nation-states should have balanced policy in place to guarantee farmers’ access to seeds against the high GM seeds price. Moreover, the CESCR indicates that states parties have the obligation to protect the enjoyment of economic, social, and cultural rights. This includes protecting people from interference by third parties such as multinational seed corporations in the realization of their right to food (United Nations 1999).

The other type of actor is non-state actor, represented by multinational corporations. The CESCR states that “all members of society—individuals, families, local communities, non-governmental organizations, civil society organizations, as well as the private business sectors—have responsibilities in the realization of the right to adequate food (United Nations 1999). The CESCR does not go as far as stating that non-state actors have or should have direct, legally binding human rights obligations. Instead it states they had human rights responsibilities and that the “private business sector, whether national or transnational, should pursue its activities within the framework of a code of conduct conducive to respect of the right to adequate food, agreed upon jointly with the Government and civil society (United Nations 1999).”

In GM seeds industry, non-state actors, particularly some multinational seed corporations have come to hold power greater than that of many nation-states. Despite wielding greater power than ever before, multinational seed corporations avoid being held accountable with regard to human rights. A report of the UN secretary-general on the impact of the activities and working methods of transnational corporations stated “the global reach of TNCs is not matched by a coherent global system of accountability (United Nations, 1996).” Multinational corporations’ monopoly over GM seeds affects the control over and access to the resources that secure the right to food.

At present there are no mechanisms for holding multinational corporations accountable at the international level. Instead, much attention has been given to ways in which multinational corporations could hold themselves accountable through the development of voluntary instruments such as corporate social responsibility policies and codes of conduct. However, a strong and coherent system of accountability that fully outlines multinational seed corporations’ obligations has, until now, been missing at the international level.

The UN Commission on Human rights has requested all states and non-state actors to take fully into account the need to promote the effective realization of the right to food and to cooperate fully in the realization of this fundamental human right (United Nations, 2004).

5. Conclusion

Farmers’ unrestricted access to seeds is crucial to their enjoyment of human right to adequate food. This paper argues that GM crops and seeds restrict Chinese farmers’ access to seed. This restriction will, in turn, undermine Chinese farmers’ human right to adequate food.

In China, the growing population and their increasing demand for nutritious food have resulted in rising food consumption. Ensuring an adequate food supply for this booming population, particularly for those poor farmers living in remote rural areas, is going to be a major challenge for the Chinese government in the years to come.

As we have discussed before, not only can GM crops and GM seeds lead directly or indirectly to a denial of the access to seeds to Chinese farmers, but also can force China lose its control over seeds resources to multinational seed corporations. China is not immune to the negative implications GM crops and GM seeds may bring to its farmers while enjoying the benefits of this new biotech innovation. Since GM crops have been highly regarded as a workable solution to the food insecurity, the best strategy at our disposal to protect Chinese farmers’ human right to food is to maximize GM seeds’ benefits while minimize its negative implications.

In order to minimize GM seeds negative implications on Chinese farmers, we believe the promotion of viable, ecologically sound livelihoods by placing the control of the resources for agricultural production in the hands of the producers, through the protection of farmers’ rights as owners, breeders and conservators of seed and plant genetic resources is crucial to secure their human right to adequate food

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