

The Reinforcement of External Seed Dependency

- Will the agricultural biotechnology feed the hungry? -

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The industrialization of agriculture, represented by the Green Revolution and the Gene Revolution, has been introduced in the 20th century throughout most parts of the world to increase food production and in consequence, to end hunger. With the growing population, environmental destruction, and natural disasters, it was thought that the advancement in biotechnology to increase food production was the panacea for solving hunger and food issue for the future.

However, the fundamental problem of the hunger is not the productivity. The root causes for the problem of starvation is the inequality of food distribution and the fundamental principles of the market mechanism which makes poor people poorer and rich people richer. There is enough evidence that the world is producing enough food to feed twice its population. Yet, there are about 842 million people in the world suffering from malnutrition, 797 million of them living in the developing countries. One person per second is dying from hunger. Food is in the state of satiation in the developed countries and the upper classes of developing countries whereas the poor people of the developing countries do not have access to food because of poverty or conflicts or some other reason and are suffering from hunger.

What is happening under the industrialization of agriculture is not the miracle increase in food production, but dependence on external input, destruction of biodiversity by monoculture, depletion of natural resources, indebtedness in the developing countries, and the polarization of the rich and the poor. With the invention of Norman Borlaug's hybrid seed in the 1940's, the Green Revolution spread from Mexico to Asia, and to Africa in the 1970's, with the initiative of the United States and the international agencies in the name of food aid. Though the Green Revolution was mainly conducted by the public sector, which aims to reduce poverty and hunger (cf. private sector's objective is the profit of their own firm), it was not successful in addressing the problems of the poor. With the back up of the nature of hybrid seed and regulations that protect intellectual property rights over plant varieties, the role of seed companies changed significantly in 1970's and 1980's, starting a Gene Revolution. Huge conglomerates emerged in the developed countries, with few companies dominating research and development, distribution, and marketing of seeds over the

world. Beginning in the 1990's and until now, the major controversy on biotechnology is the genetic engineering. There is still strong opposition to the introduction of genetically engineered food, especially in Europe and Africa. However, the US is forcing GM food aid to the African countries to expand the market for GM food of the US companies.

In the paper, I will observe how the biotechnological revolutions have created and solidified the structure of dependency of the farmers on the commercial seed industry. Without the conversion of agribusiness structure, increasing food production may lead to increased number of hungry people. The spread of new technology to the world by the developed countries in the name of aid may only be damage to the developing countries. I will conclude the paper addressing the problems to be solved regarding this seed issue.

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