

Session 3: Food Security and Sustainable Crop Production

Food Security under Globalized Economy – Roles of Science and Technology Cooperation –

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1. Food markets in the globalized economy

The violent fluctuation of food prices in 2007-2008 provided many valuable lessons to learn. First of all, it revealed that international food markets were so deeply linked to each other that only coordinated global efforts could effectively tackle with the problem of instability. Moreover, it was envisaged that food markets were subject to the fluctuation of gigantic financial and energy markets. This is partly because various new mechanisms, such as financial products based on commodity price indexes and non-conventional biofuels production derived from food materials, emerged and tightened the connection between food markets and various kinds of global markets. It was also observed that the economic or monetary value of relatively short-term prospects gained importance in the increasingly widespread free market and became of supreme importance to be pursued also in agricultural activities, where various natural, social and cultural values of relatively long-term perspectives had traditionally been respected.

The food price hike in 2007-2008 was preceded by a long-lasting robust market situation which started in 2001-2002. Persistent food demand by middle income people in developing countries supports the floor of market prices. Thus, it is foreseen that this relatively tight situation may continue for some period. There is also a fear that food price fluctuation would become severer due to the economic and climatic turmoil on a global scale.

2. Implications of the globalization for food security

Food security is often discussed in relation to individual or family problems. However, it was also a national issue during the food crisis in the early 1970s when the concept was first generated. The global food crisis in 2007-2008 reminded many political leaders that stable food supply has to be one of the most prioritized policy targets they should achieve. Most of the food-importing countries, particularly low income countries, suffered from food shortages and extremely high food prices. In Japan, the high food prices amplified the consumers' anxiety about food supply in the future. As a result, the availability aspect of food security attracted people's attention again, whereas food accessibility, another aspect of food security, still continues to be crucial. The chronic undernourished populations in the world have sharply increased due to both the price hikes and the global economic recession.

However, one of the most important lessons learnt from the food crisis was that measures taken by some exporting countries to protect their domestic consumers, such as export restrictions or embargoes, were recognized as inevitable and sometimes acceptable policy options at various international fora. This special feature of the food market is noteworthy in the current trend of the globalizing economy.

3. Competition and coexistence in world agriculture

What sort of policy environment needs to be created to achieve food security for all? Competitive mechanisms based on the free market principle would promote technological innovation which is indispensable for food productivity increase. The free market principle probably encourages economically efficient resource allocation which is also a key component of increased productivity. Likewise, international trade will increase options for food supply not only in terms of quantity but also in food variety. However, it is obvious that the globalized market system is not perfect. Any sudden economic turmoil often destroys weak economies if they are not competitive enough or sufficiently protected. Monetary markets are structured such that they cannot input the values of sustainability and diversity. Therefore, cooperative mechanisms based on a community-based principle are also essential to complement the shortcomings of the market. World agriculture is diverse. It has deep roots in different natural, social and historical backgrounds. Thus, it is hardly possible to prepare a level playing field. Agriculture in each country has diverse values to maintain, just like its unique historical culture.

4. Roles of science and technology cooperation

What can promote balance between competition and coexistence? One of the solutions is the provision of global agricultural public goods which are equally beneficial to the poor and the weak. An institutional environment which regulates food markets as fairly as possible must be put in place. Among others, science and technology development is a key area for stable food supply. Returns from science and technology investments are very high according to many studies. In addition, agricultural development itself has been recognized as one of the most effective measures to alleviate poverty which jeopardizes food security. To protect the values of sustainability and diversity of world agriculture, appropriate technologies must be prepared and applied. Fine-tuned technologies can be generated from a close collaboration between modern sciences and traditional knowledge. Being the largest net food-importing country, Japan must play a key role to promote international agricultural science and technology cooperation, which enables food security for all as well as the coexistence of diverse agriculture in the world.



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