

# COMMENTS AND DISCUSSION

*Chaired by Shuhei Shimada\**

## **Comment by Takashi Kurosaki<sup>†</sup>:**

I would like to mainly raise the priority areas for making sustainable development of agriculture pro-poor. By pro-poor, I mean that agricultural growth could be effective in poverty reduction.

Let me describe some general observations from my field work in Asia. I have seen two characteristics of rural poverty in Asia, especially in South Asia and Myanmar where I did my field work. First, most of the farmers in rural villages in Asia are poor, but the landless laborer households are much poorer and belong to the poorest segment of the population. Second, there are pockets of concentrated poverty even within generally prosperous regions.

Given this background, the first priority area of my research is the marginal areas in each country. Research on marginal areas has already been mentioned by some speakers, and instead I will mention the interesting practice of area targeting or geographical targeting. This practice is a kind of fashion today. It seems to me a promising area for future research to combine that kind of approach with the agricultural research on marginal areas. I am afraid that the geographical sites of targeted poverty seem to be much smaller than those targeted by the marginal area approach in agricultural research. Even so, here is a huge potential.

The second area is the research on agricultural marketing, processing, and financing. It seems to me that this type of research not only increases the income of farmers but also has quite huge indirect impacts on landless laborer households. This research will create direct employment and also reduce food prices for this very poor segment of the population.

The third area is the research on whole household economy or village economy. Let me introduce my experience in Pakistan villages. Extension workers recommended the use of high-yielding dwarf varieties of sorghum, but the farmers never adopted their recommendation. The farmers considered sorghum a kind of green fodder crop and grain crop for emergencies, hence they did not favor the new varieties characterized by high-grain yields but low-vegetative yields.

Therefore, it is very important to understand the feasibility of technology and effectiveness through research on risk management at the household level, interaction between crop sectors, livestock and non-farm activities, and the importance of diversification. Whole household economy surveys and village surveys are necessary to understand the roles of these issues. From this aspect, I praise the recent initiative at ICRISAT to resume the very famous village-level studies in the last few years. In this project, the ICRISAT people are now resurveying the villages that were surveyed in the late 70s and 80s. Multidisciplinary approaches and participatory research are important in their research.

## **Comment by Katsumi Hirano<sup>‡</sup>:**

Let me talk about the global setup on the basis of the very wonderful presentations on regions. The world has experienced a very considerable transformation in food cereal production for the last 20 years. Cereal production increased in the developed world in the 1980s, and it wasn't until later that the yields increased in the developing world, as well. During this period, cereal production increased by approximately

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400 million metric tons, of which 100 millions came from China and the same number came from India. Sixty percent of the world's cereal production is now grown in the developing world, and this makes the developing world quite important in the global food demand and supply system. In China, almost 100% of the increase came from improved productivity, as the planting area is actually starting to decrease in the country.

Let me point out another thing about the developing world. For the last 20 years, the area devoted to food cereal crop production has decreased by almost 20 million hectares in China. At the same time, the area in Sub-Saharan Africa has increased by 40 million hectares. This means that the food cereal production has shifted from highly productive China to less-productive Sub-Saharan Africa. In fact, the import of cereal grain is rapidly increasing at the rate of more than 50 million tons per year. This volume is much larger than the volumes imported by China and Korea, but less than that imported by Japan.

The food deficit in Sub-Saharan Africa now has risen from 20% to 30%. At the same time, 60% of the total workforce in Africa is engaged in the agricultural sector, but almost 60% of the food deficit comes from 30% of the remaining workforce, that is, non agricultural sectors. I believe that this is the main cause of the geo-paradigm in the world food supply and demand and situation in the last and the present centuries.

Production of food cereal is increasing, but per capita production is stagnating and decreasing. This mainly comes from the shift from the very productive area in China to the less-productive area in Africa. With all this transformation, we can say that the new frontier for the sustainability of the world food production is situated in Sub-Saharan Africa.

Mr. Kessery mentioned the NERICA production based on an international consortium. This must have very important impetus to pick up this kind of difficulty not only for Africa but also for the other part of the world food production system. I strongly hope that the world community, especially our Ministry of Agriculture understands this kind of difficulty.

**Shimada:**

I myself am studying Africa. Since this morning, the same big question has repeatedly been raised: What is happening in Africa? Why Africa? In the last comment, Dr. Hirano told us that the future is in Africa. I want to take two questions or comments on this topic. Why Africa?

**Oh:**

I would like to ask ways to transfer resources from the North to Africa. What vehicle can we use to transport our resources from North to Africa?

**Bantilan:**

It is the challenge to transform agriculture in Africa by using the lessons in Asia, and there is a lot to say about the avenues by which we will be transforming. First of all, we need a good understanding of what we succeeded here in Asia through the Green Revolution, and we need to ask whether the same technology-driven transformation is applicable directly or indirectly to Africa. There are many differences between Asia and Africa. It is obvious that the governance, stability, infrastructure, and markets are present in Asia and poorly present in Africa. Those elements are the enablers by which technology actually succeeds. We have to recognize the reasons why it succeeded in the countries of South Asia, Japan, and Southeast Asia. It is generally recognized that those countries have had the enabling environment in terms of infrastructure, markets, roads, and policies.

However, this does not necessarily mean that we should not start because those things are not present in Africa. The way to start is to see what elements and avenues can strengthen the existing enabling mechanisms in Africa. One of these enabling mechanisms is strengthening a national program, a mechanism which is already in place. The Japan initiative of investing in national programs for human capital

development in Africa serves as a good example. They share their knowledge base, their scientists, and their students to understand what is happening in Africa, and by sharing what they have learned in Japan, Southeast Asia, and South Asia, that knowledge can be transmitted as a starting foundation. The rest will follow.

Because we have a strengthened national program, you will have a national program that will be empowered and be able to bid for more resources. Agricultural research in Africa is not yet given priority. Among the many things, perhaps it is defense and conflict that has been given priority rather than agricultural research.

**Oladele Idowu (JIRCAS Fellow):**

We have listened to experiences from China, Thailand, ICRISAT, as well as Guinea. I want to ask which form of collaboration you would suggest between the developed and developing world. Secondly, I want to ask the presenter from ICRISAT if she thinks that the essentially donor-responsive nature of agricultural projects in Africa puts Africa lower on the list of priorities.

**Kessery:**

In my presentation, I spoke three types of collaboration in Africa.

The first one is the collaboration between CGIAR Centers and African institutes. NERICA resulted from the research by WARDA. Right now, NERICA varieties go to all African countries starting from West Africa. We can improve our food security through that kind of collaboration and partnership.

The second one is overseas experts. In developed countries, there are many qualified people. For example, African people are still dependant on fuel wood from forests. With the help of solar energy experts from the US, we are now able to protect our environment.

The last one is technology itself. We, African people, already have standard technologies to plant rice with fish. The farmers can now catch fish and also plant rice. We are going to test that technology in our conditions. Through this kind of collaboration I think we can help Africa.

**Bantilan:**

It is good to have a state in which donors and advanced research institutes are striving to find what African needs. So we mix the two. I would rather say that African national programs and those in charge of agricultural research in countries in Africa should not respond to what donors say, but be empowered by it and indicate the needs so that the result that will be funded are driven by the needs of each country.

This raises the comment that the national programs should have a voice. NERICA is one example. There is a mutual interest in rice and in technologies that have emanated from the Green Revolution, and the plant materials that came from Asia are useful and also needed to feed the hungry in Africa. But there are other issues, other areas of research, and other overriding concerns such as water. Perhaps you would call for priorities on water use, as well as efficiently harvesting water and enhancing the natural resource base.

During my talk I presented regional data that showed where the staple food remains coarse grains. As in Southern Africa and Western Central Africa, it is far above the existing area in production. So we ask several questions. On what do the people in Africa subsist? What do they consume? And where can their satisfaction for food security be achieved?

