

Searching For the Role of Agricultural Biotechnology In Sustainable Agricultural Development of the Region¹

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Asia has greatly benefited from science and technology innovations that accompanied the green revolution. Yet, the sad fact is that it remains home to the highest number of the world's poor. It continues to face the difficult and continuing challenge of providing adequate food for its growing populations amidst shrinking land resources, declining water supply, deteriorating environmental resources, and yield plateaus.

There is an increasing consensus not only in the scientific community, but in government and private sectors as well, that green revolution technologies need to be augmented with "gene revolution" technologies or modern biotechnologies to effectively improve agricultural productivity and address the problem of feeding six billion people, 60 percent of whom are in Asia. These new technologies have already produced commercial products, including transgenic or genetically modified crops, with enhanced agronomic traits resulting in higher yield and better quality produce. In the past three years, we have seen a tremendous increase in hectareage planted to these genetically modified or GM crops from 1.7 million hectares (ha) in 1996 to 11 million ha in 1997, 27.8 million ha in 1998, and 39.9 million hectares in 1999. The figure is expected to increase in the year 2000. Eighteen percent of the total hectareage in 1999 was in developing countries, up from 4.4 percent in 1997 and 16 percent in 1998. In 1999, China had 300,000 ha planted to GM crops, In contrast, only limited field trials of GM crops had been conducted in Indonesia, Thailand, Malaysia, India, Japan, and the Philippines. In fact, in the Philippines, we just completed the first 500 sq m field trial of the Bt corn.

However, there are also growing concerns about the risks of this new technology. In Europe, there is a lively, and at times, heated debates as to the benefits of the application of biotechnology in food and agriculture. I attended very recently a memorial lecture in honor of Dr. Chandler at Cornell. Even at Cornell, there are many active groups against the proliferation or the planting of the GM crops. Consumers are demanding food labeling, so they will have information as to the kind of food that they take, further fueling the speculation that biotechnology-derived foods may unexpectedly cause allergens and other ill-effects to unsuspecting food consumers.

As much as we would like to explore and maximize the benefits that can be derived from agri-biotech, we also have to listen to the valid concerns being raised against biotechnology. While we would do everything we could to increase our agricultural productivity and efficiency, we would not do this without being assured of the safety of the technologies and their sustainability to protect and conserve our rich agricultural and natural resource-base in the region.

The needed balancing between the promises and concerns regarding GM products is the very reason for the gathering of minds that we are having within the next

¹ Opening Remarks, Regional Conference on Agricultural Biotechnology

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two days. SEAMEO SEARCA, as the lead regional and international governmental institution for academic education and research, has the mission to enhance sustainable agriculture in the region through quality research and education in all areas relevant to agriculture, from science and technology to policy and institutional concerns. One of the 14 regional centers under SEAMEO is SEARCA and earlier my director explained to you the mechanics by which we operate. With the co-sponsorship of the Food and Agriculture Organization of the United Nations (FAO) and the Asia-Pacific Seed Association (APSA), we convened this conference workshop focusing on crop biotechnology. We hope that at the end of our meeting, we can come up with some answers to questions such as:

- 1) How can biotechnology have an impact on food production of developing countries?
- 2) Is biotechnology compatible with sustainable agriculture?
- 3) What is the enabling environment for the effective development and application of agricultural biotechnology in the region?

By the way, I consider this joint activity a rekindling of our relationship with FAO. This is the first activity during my term as SEARCA Director and during the term of R.B. Singh as the Assistant Director General of FAO to work together on this very important activity. And this is my second joint activity with APSA. Sometime in May, we had an excellent activity on Project LINK, which we co-sponsored also with the Asia Vegetable Research and Development Center office here in Bangkok. In this meeting, we have with us top level practitioners, administrators, policymakers and leading experts in various aspects of agricultural biotechnology from all over the world. Together we will discuss global and regional trends in agri-biotech R&D, biosafety and food safety, intellectual property rights, risk assessment and communication, public information and education, and the socioeconomic aspects of agricultural biotechnology. Let me close these remarks with a quotation from Dr. Norman Borlaug, 1970 Nobel Prize Laureate, and Father of the Green Revolution, who said in 1997:

“I am now convinced that what began as a biotechnology bandwagon some 15 years ago has developed some invaluable new scientific methodologies and products which need active financial and organizational support to bring them to fruition in food and fiber production systems.”

We recognize that a lot more need to be done to successfully bring these new technologies to the farmers and consumers of the developing countries especially in this region, apply them, and reap benefits from them. We truly hope this conference will be able to significantly contribute toward this end.