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Second green revolution â€“ need of the hour

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One of the conclusions the Group actively endorsed was that more needed be done to increase the quantity and quality of agricultural production and enable all citizens to have economic and physical access to safe and nutritious food. The final G8 declaration also called for enhanced support including investments in agricultural science, research, technology, education, extension services, and innovation.

It is high time for the international community to look at the issue of securing global food supply. When prices for wheat, corn and other key agricultural commodities soared to record highs in spring 2008, the world noticed for the first time in years that we cannot take sufficient food supply for granted. But when raw materials prices dropped as a result of record harvests last year and the global banking crisis kicked in, the topic of world food security was quickly off the agenda again.

However, the real root cause of the food crisis remains in many developing countries. The food question therefore, willclearly need to receive high priority in the coming years. In this article, we are looking at the questions of how we can safeguard the supply of food in the long term and what role India as one of the largest producers of key agricultural commodities can play in this regard.

The discussion concerning the higher level of food prices firstly highlights one thing: the growing awareness that food does not just fall from heaven. To a certain extent, the Western industrialized nations have little understanding about how agricultural produce is made. The fact that the industrialized nations can purchase fruit and agricultural produce from around the world at reasonable prices regardless of the season has become too much a matter of course. This perception is fed by the fact that food prices have dropped by some 75 percent since the 1970s as a result of progress in productivity. In Europe

we have even promoted organic agriculture, which on average means that twice as much land has to come under the plow than in conventional agriculture.

The tables began to turn in 2005. In a three-year period, prices have risen by 75 percent. The rising food prices are first of all the straightforward result of a surplus in demand coupled with a limited supply: increasing numbers of people have to be fed from an area of land that is, at best, remaining constant. While the area of land that is suitable for agriculture cannot in principle be extended without intervening in protected nature reserves, the population is increasing annually by some 80 million people. By 2050, only one-third of the arable land that we had per person in the 1950s will be available to feed the world population.

Another crucial factor for raising food prices is the greatly increased energy costs in recent years. The constant increase in mineral oil prices has made farmers' production costs considerably more expensive. Since 2000, the crude oil price on the one hand and wheat, corn, rapeseed and soy on the other have increased largely in parallel.

Furthermore, in the past two years, other factors have also had an impact on pricing, including weather-related harvest losses, for example, the worst drought in the century in Australia.

While the prices of agricultural raw materials have come off the peaks in spring, the Organization for Economic Co-operation and Development (OECD) expects the level of food prices in the coming 10 years to remain significantly above the levels of the past decade. In the year 2008, food prices registered an increase in major food deficit countries. In general, food prices in many of the developing countries are significantly higher than they were two years ago. Food insecurity is clearly on the rise.

In this scenario, India as one of the largest producers of key agricultural commodities can play a very important role in expanding the supply of agricultural raw commodities and thereby mitigating the current high prices of food stuff.

Clearly, India has the potential to significantly contribute to the world food supply as one of the principal food grainproducers. This has to be coupled with a holistic approach that employs optimized crop rotation and watering techniques as well as the development of new crop protection solutions and seeds with greater yield potential.

About 50 percent of all crops are lost globally due to insects, weed pressure, plant diseases and post harvest losses. Considering the climate change, the total crop loss rate might deteriorate even further in future. Therefore, the targeted and responsible use of innovative crop protection method is a prerequisite to further expanding agricultural production.

At the same time, we need to take better advantage of the potential inherent in modern seed breeding. Since the 1960's, when the efforts of the green revolution helped to push crop yields above population growth, the yield increase of newly bred seed varieties has declined significantly. Today, traditionally bred seed varieties show comparatively low average yield increases per annum. This is why, against the background of an ever increasing world population and rising demand for agricultural produce, we must renew our efforts to stimulate crop yields. What we need is nothing less than a second green revolution, which will help us raise production yields and thereby secure healthy food for all – today and in 50 years from now.

Although there is still much opposition to the use of modern breeding methods in many countries around the world, India has made very positive experience with this technology for a number of years already. At the G8 summit, India can bring this experience to the table. For me, it is obvious: a thorough discussion of plant biotechnology should not be neglected if we look at the immense nutrition challenges the world is facing. Biotech breeding might be an important alternative if a breeder needs to increase yields further.

In the future, we will most likely to see a more widespread use of plant biotechnology in India and other regions of the world. According to estimates by the Council on Biotechnology Information, green biotech could further increase global yield potential by some 25 percent over the coming years.

These kinds of technologies offer viable solutions to enhance productivity and provide solutions to further boost agriculture. We must not continue to close our eyes to the opportunities inherent in innovative crop protection, modern plant breeding and genetic engineering. We need a second green revolution.

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