

Food security in times of climatic, economic and social change

Interview with Joachim von Braun, Director of the International Food Policy Research Institute (IFPRI)

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Future threats to global food security

InfoResources: What are the most important factors menacing future food security in developing countries?

Joachim von Braun: From a long-term point of view, climate change, with its impacts particularly on water management in developing countries, needs to be placed at the top of the list. Major parts of Asia face serious threats to irrigation agriculture, which is an extremely important source of food. Climate variability is increasing in African regions where, even in the past, droughts have frequently led to mass mortality. In my view these are the major and most challenging factors.

Aside from that, global food security is threatened by an increasing global demand for food. People earning medium and high incomes can afford to satisfy new needs, while the poor cannot compete. The growing demands are causing prices to rise, increasing the wealth of some people, but aggravating the need of many others.

As a third factor I should, perhaps, add that the markets for staple foods, particularly for new products, and the policies regulating these markets harbour many risks and uncertainties. One-third of the world market for beef, for example, has been virtually inaccessible during the past year due to political restrictions. The whole question of sanitary and phytosanitary issues leading to market restrictions and market disturbance has consequences for the food security of all those who participate in the food chain as producers, employees and consumers.

IR: In your presentation [see www.ifpri.org/pubs/confpapers/2007/jvbcrawford.pdf] you also mention biofuels. How significant is this factor for food security?

JvB: The rising energy prices affect the food system from two sides: On the one hand, they are leading to an increase in the costs of inputs and transportation of agricultural goods, thus making agricultural products more expensive. On the other hand, the trend towards bioenergy has introduced a new competitive component in the world food equation: biofuels. The risks arising from the increase in energy prices on both the supply and the demand sides of the food equation must be taken very seriously. The question of climate change, which I mentioned earlier, and the rise in energy prices are both part of one single context. This twofold risk poses a new long-term threat to agriculture around the globe.

However, your question referred more to the present short-term situation. The demand for biofuels has contributed far less to the rise in prices that we are currently – in mid 2007 – experiencing on the food markets, than the increase in consumption and the strong economic growth in developing countries have.

IR: We have spoken of the major factors threatening food security. With regard to natural resources you have pointed out the water situation. However, the Millennium Ecosystem Assessment has stated that as much as 60% of the world's ecosystem services are already in a state of more or less severe degradation. How do you assess the importance of other renewable resources, such as land, or biodiversity, for future food security?

JvB: Land quality is a highly complex topic. I do, indeed, see a considerable long-term risk in land overexploitation and the depletion of soil fertility, a phenomenon that we observe, above all, in many African regions. This challenge must urgently be met with a policy of fertilising and sustainable soil fertility management – and by no means with a simplified low-input strategy.

As for the long-term risks for biodiversity, I consider them to be relatively well regulated and, for the most part, given appropriate attention by the scientific community and NGOs around the world.

IR: Would it be correct to conclude that soil is the “forgotten resource”?

JvB: This could be said for soil fertility, but not for soil in general. However, the situation varies considerably from region to region. Soil fertility problems are, indeed, relevant for food security, but they are not a top-priority issue. I do see positive trends – there have been encouraging developments in Africa as a result of an increased focus on soil fertility, in efforts such as the Fertiliser Summit, initiatives in Ethiopia, Malawi and other countries, and the launching of fertilising programmes.

However, I would like to return to your initial question. When discussing risks menacing food security, we first need to clarify our usage of this term. Aside from shortages of staple foods – in other words, sources of calories – I see a dangerous scenario of deterioration in the quality of nutrition, as poor people are less and less able to afford healthy diets. There is not enough progress regarding the supply of micronutrients such as vitamin A, iron, or zinc. This health-threatening situation has, in fact, taken on the extent of a crisis. Satisfying the need for calories is not enough.

Small farmers: Need for development support

IR: Seen from a small farmer’s point of view, could the rising food prices not have a positive effect on small farmers’ livelihoods, in that they offer opportunities for higher income on farm products?

JvB: In this regard, small farmers need to be divided into three groups. The first consists of small farmers who do, actually, produce for the market, at least for the regional market, and perhaps, indirectly, even for international markets. These are small farmers who produce a surplus and who are integrated in the market. Their group is not very large, but it is nonetheless relevant with regard to the transformation of rural agriculture in developing countries. These farmers spend a major share of their money locally, thereby indirectly fostering local trade and the service sector. They contribute to the creation of new jobs, which is very important.

The second group consists of semi-subsistence farmers who buy the main bulk of their food off-farm. While their agricultural businesses are relatively poorly integrated in the market, they themselves are active on the job market. However, the fact that these small farmers do not market the agricultural and horticultural products they grow on their farms – which are often no larger than ½ to 1 hectare – does not mean that they are not integrated in the market, at all. They participate in the market as consumers, and price fluctuations therefore do have an impact on their agricultural production.

The third group consists of a considerable number of full-time subsistence farmers who participate only in local market and bartering transactions. Many of them engage quite substantially in livestock breeding, which means that they are at least seasonally integrated in the agricultural markets. However, this does not concern their cereal, root and tuber production.

The strongest impact of the current increase in prices and market risks on the global agricultural market is felt in the second group, which is also the largest in number.

IR: Was it not due to the low market prices that small farmers refrained from engaging in more intensive forms of agriculture?

JvB: Small farmers who are now intent on reacting to the price increase – and there will be many who are – need time and are not in a position to adapt production on their own. Let us put ourselves in the place of a small farmer who owns 2 hectares of land. He grows fruit, vegetables and grain, and perhaps keeps a cow. What options does he have if he finds that grain prices have suddenly doubled and he would like to intensify production? He will want to have better seed, because it pays off, and he

will be prepared to buy fertiliser, even though fertilisers have become notably more expensive. But where will he get the money to do so? Access to credit is hard to come by in many regions of the developing world, making it impossible for most small farmers to invest in intensification. Moreover, fertiliser and high-quality seed are often unavailable. Unless governments act now and provide official support for investments in the small farming sector, efforts to intensify production will fail for the simple lack of funding. This said, let us think a little further. Rural infrastructure has been neglected for many years, particularly road construction. As a result, transaction costs are extremely high. In addition, markets are not functioning very well. Many price signals show an effect only for a short period of time and are then overridden by the high transportation and transaction costs or strong seasonal fluctuations. Finally, small farmers need sound advice on how to intensify production sustainably, without depleting soil nutrients, and on which products will be particularly demanded in future. Intensification based on staple foods alone is risky – who knows how long the prices will stay at the current high level. In East Africa agricultural extension services have disappeared, despite the existing need. Often enough, this has, tragically, been due to HIV/AIDS. As a result, small farmers find themselves alone in the current situation – a situation they must try and make the best out of, by rapidly adapting production based on price incentives. A last issue is the fact that for many regions there is a lack of research and knowledge. Local products, including seed as well as knowledge of appropriate fertiliser doses, are often unavailable. In brief, demand calls for an expansion of supplies, but agriculture in developing countries remains dominated by small farmers. 85% of the world's farms run on less than 2 hectares.

IR: In an IFPRI Discussion Paper on “The Future of Small Farms for Poverty Reduction and Growth” [<http://www.ifpri.org/2020/dp/vp42.asp>] the suggestion is made that farms should merge and cooperate in order to gain market access. This strategy is incompatible with other land reform efforts, particularly in Latin America. How do you interpret these contradictory signals?

JvB: I am absolutely convinced that in today's market environment, characterised more and more by supermarkets and growing, increasingly concentrated demand patterns, small farmers will only have a chance if they join forces. This means engaging either in cooperatives or in contract farming. Without securities and without a strong negotiating position – the two main advantages of contracting and cooperation – small farmers will not do very well in the world's changing food system.

IR: Are small farmers strong enough to withstand the enormous pressure from the supermarkets?

JvB: That depends very much on the situation. Our research on this topic is still ongoing, but so far results seem to indicate, in rough terms, that small farmers in Latin America are not sufficiently organised to participate in these new markets. They are implicitly excluded from good market opportunities. In some regions of southern Africa the situation is similar; however, the picture varies. In parts of Southeast Asia, finally, small farmers do seem well capable of competing. In Indonesia, for example, there is simply no alternative to small-scale agriculture, with small farmers supplying fruit and vegetables to the supermarkets. Moreover, negotiations and contracting seem more or less to function. In these times of rapid change in the food chain, governments and NGOs can play an important role by guiding the market towards small farmers.

Options for action: Promoting access to quality food and social security

IR: We have spoken about what needs to be done at the level of small-scale agriculture. Where else do you see options for counteracting the threats to food security that you mentioned earlier?

JvB: We need to call to mind, once again, the different components hunger has in today's world. On the one hand, poor people have limited access to food. In fact, for many poor people access to food has become a new risk due to drastic price rises. On the other hand, even people who take in enough calories are often suffering from “silent hunger” for micronutrients. This form of malnutrition must be counteracted by specific measures, above all by providing affordable diets. This, in turn, requires more than just an increase in productivity. Measures needed include so-called food fortification and

breeding of staple crops that are of high nutritional value and not merely highly productive. One example is the orange sweet potato, which has a high content in vitamin A. The aspect of staple foods being healthy and helpful to poor population groups must be more strongly emphasised. Finally, there is the specific problem of mass hunger and malnutrition among infants up to one year of age. The only viable approach to this issue is through targeted cooperation with mothers, combined with measures to improve infant nutrition, breastfeeding, and household hygiene. Nutrition, agriculture and health must work together.

IR: As a final theme we would like to discuss the issue of social security and its influence on food security. IFPRI is also doing research on the question of how insurance schemes could help improve the situation of the poor.

JvB: This issue is very important to me. I also discuss it in my recent annual report essay [*comment by IR: The essay is available at www.ifpri.org/pubs/books/ar2006/ar2006_essay01.asp*]. There is an urgent need for developing an insurance system tailored specifically to the needs of the poor. In my view, “micro-insurance” has a potential that is at least equal to that of “micro-finance”. I will quote three examples. First of all, there is a need for crop insurance for the poor, also throughout large areas. Where risks affect a great number of people, insurance against these risks must cover an extended region – a fact which, in turn, necessitates cooperation between the insurance economy and governments. Furthermore, we need health insurance in places where it does not yet exist, and preferably combined with community health centres. Interesting trials in this regard have been carried out in western and southern Africa. And, finally, there is an emerging need for mortality insurance, similar to certain existing micro-credit schemes – community funds for funeral expenses, as we have known them also in Europe. This need arises from the fact that the social networks of the poor are becoming increasingly smaller. Families are no longer as large as they used to be, and migration is on the increase. Care from the next generation is becoming less and less reliable. Therefore, poor people in developing countries must now begin to make provisions for old-age and potential disability to work, and they must be assisted in doing so. Social security is usually established much too late in the economic development process. In 1880 or 1890, when most European countries introduced social security systems, these countries were poorer than many a developing country today. This goes to show that it is feasible!

IR: How would you assess the importance of social insurance, compared to investments in rural infrastructure?

JvB: We cannot do everything at once, and needs vary from region to region. In Asia I would tend to give priority to social insurance – especially in China, where infrastructural problems are no longer so relevant. By contrast, in rural areas of India the situation points more towards infrastructure development. In Africa, priority must clearly be given to rural development. Jobs and income need to be generated, and we will be forced to keep dealing with relatively simple social security mechanisms for quite some time yet. I see a great potential in “conditional cash transfer” programmes as they have been tested in Mexico and later disseminated throughout Central America and examined by IFPRI. They are applied in a modified form also in Africa and in Asia. In these programmes, poor households are taken seriously as partners in contract, and I am of the opinion that this is a promising way to improve social security.

IR: Thank you very much for this inspiring conversation.