Fördergemeinschaft Nachhaltige Landwirtschaft e.V.

FNL Position Paper

World Food Supply and Sustainable Production Increases

2014

Preamble

“Everybody has the right to a standard of living which ensures health and well-being for himself and his family, including food, clothing, dwelling...” In the Universal Declaration of Human Rights, the United Nations declare the right to food a human right.

Nonetheless, one in eight humans is starving.

About two billion people do not have secure access to food, and 870 million (status 2012) of them are starving. Millions of small children are particularly affected by the consequences thereof.

FNL considers that an inacceptable situation, and is aware of its responsibility to contribute its own part to this ‘challenge for a generation’ to secure world food supply by promoting sustainable, resource-efficient agriculture. FNL is convinced that future food security can only be achieved with an innovative, sustainable agriculture.

Present Situation

According to estimates of the United Nations, more than nine billion people will live on this planet by 2050. Correspondingly, the social and economic dimensions of this demographic change are immense. Ensuring sufficient food supply for the world population will be the biggest challenge. At the same time, the supply situation is already tight today. The effect is aggravated due to highly volatile food prices which are by trend increasing. In addition, there is the scarcity of agricultural resources, as fertile land and water to be used for global food production both are limited. Estimates indicate that between the years 2000 and 2050, the agricultural area available per capita of the total world population will shrink from 0.3 to 0.2 hectares.

Against this background, agriculture is facing the task to considerably increase food production (in particular cereals) world-wide to secure the supply for the growing world population. The growing demand for agricultural raw materials will bring the need for bigger production capacities as well as new cropping systems and a global linking-up of trade currents. At the same time, cereals are one of the most important staple foods for human nutrition. World production which amounted to about 1,700 million tonnes in 2012 according to the World Food and Agriculture Organisation FAO and is estimated to reach 2,000 million tonnes in 2013 provides for roughly 20 percent of the caloric needs of the world population.

Whereas rather high yield levels have already been achieved in Western Europe and North America due to modern fertilisation methods, adapted varieties and professional cropping systems, there is still vast potential to increase agricultural production and thus yields in the emerging markets. At the same time, this will offer the opportunity to meet the growing requirements in the long term. With regard to food supply, also changing consumption patterns play an important role; that is particularly the case in emerging markets.

Growing wealth is often associated with increased meat consumption. This in turn causes a growing demand for feedstuffs and thus agricultural raw materials. A study that was published by FAO and the Organisation for Economic Co-Operation and Development (OECD) is based on the assumption that there will be a 1.5% annual increase in agricultural production between 2013 and 2022 – whereas an annual increase of 2.1% was achieved in the previous decade. In the same 2013 to 2022 period, world population will grow by about 700 million people, which equals a somewhat lower growth rate of about 1.0%. If the growing per-capita demand is included in the calculation, however, no relief is to be expected in the long-term supply situation. On the contrary, in the above mentioned study, FAO and OECD both assume that per-capita consumption will be growing particularly in Eastern Europe and Central Asia, but also in Asia in general and in Latin America. The tiny lead of agricultural production over the development of the world population will thus be sapped by the higher per-capita consumption in the future.

World population growth is one decisive determinant for the growing demand for food and agricultural raw materials. This population growth still amounts to 1% per year. According to estimates of the United Nations, an accrual of the world population to about 10 billion is to be expected for 2100.

In addition to the problem of food shortages as a consequence of unequal distribution, there is also a growing general problem related to volumes of food production, as the demand keeps on growing whilst necessary production resources become ever more scarce. Accordingly, prices for those goods rise on world markets. The remaining price volatility, however, becomes also evident for those people who live in developing countries or in emerging markets, and who survive on subsistence agriculture or who buy their supply on local markets. Urban populations who mainly depend on buying food will even be more affected by this volatility. One primary target must therefore be to either grant access to means of production, i.e. soil, seeds, and water to everyone, or to allow for a decent income which in turn will enable people to buy sufficient food.

Sustainable productivity increases

According to estimates of the German Federal Ministry of Economic Co-operation and Development, global food production must be increased by 60 percent until 2050. Additional agricultural area, however, is hardly available. Whereas about 3,200 square metres still were available in 1970 per capita, only 1,500 square metres per person might be left in 2050. High land requirements due to reduced productivity as can be observed in organic farming cannot be a constructive solution. In order to provide an ever growing number of people on an ever shrinking area of land, available resources must be used effectively and sustainably.

Increasing efficiency, i.e. achieve higher output per unit of input in terms of soil, water, fertilisers, energy or labour, is one of the major challenges for research and further sustainable development of agriculture – on the local as well as on the global level.

Farmers and all other stakeholders in the business have accepted this challenge as can be seen with regard to vast yield and quality increases achieved so far, and when bearing in mind that resource input in Germany stagnates or even slightly decreases whilst yields continue to grow, thus giving evidence of productivity and efficiency increases.

In order to use available resources such as yield potentials to their full extent, innovations are indispensable. This is true for arable farming and keeping of livestock alike. Only when using modern breeding techniques, an integrated pest and health management as well as optimised methods of production and keeping of livestock, the full utilisation and even expansion of potentials can be achieved.

FNL consider sustainable productivity increases an essential prerequisite to reduce hunger worldwide.

Environment and resources

It must be one key task for today's and future generations to avoid detrimental environmental effects, to minimise threads of climate change, and to conserve and maintain natural resources for the benefit of sustainable development. Reducing space consumption and soil degradation as well as ensuring responsible and livestock-friendly animal husbandry are amongst the greatest challenges of our time. On top of that, there is the limited availability of natural resources such as soil, water and air.

FNL meets this challenge and advocates a sustainable, efficient and resource-conserving agriculture.

Changing consumption patterns / bio-energy

In emerging markets, and in particular in Asia and Latin America, growing wealth of an equally growing middle class with according purchasing power leads to a growing demand for highly processed food. This development is accompanied by changed consumption habits: Decreasing consumption of staple foods on the basis of cereals as well as traditional crops but growing consumption of animal products along with fruit and vegetables. These developments lead to growing imports of processed food from the European Union into Asia in particular. At the same time, these regions are characterised by strong population growth.

The opposite trend can be observed in Europe: A population growth that has almost come to a standstill and ageing of the population. This leads to a decreasing per-capita demand of food, thus releasing production reserves for global food markets. This reserve, however, competes with the use of raw materials for the production of bio-energy. And yet, it may not be ignored that it must be the objective of a sustainability-oriented agriculture to close nutrient cycles. The bio-energy policy, often criticised in 'tank or plate' discussions, is also one important element of livestock production in Europe. Protein-rich feedstuffs which originate from the production of oilseeds such as canola for example substitute feed imports from overseas to a great extent.

FNL concludes: Sustainable agricultural production in Germany is oriented along the added-value potential on food markets and at the same time contributes to a sustainable production of bio-energy and thus to climate protection. The production of food and raw materials for the food business, however, will always have precedence over bio-energy.

Wastage of food / losses during harvest, storage and transport

Food will reach the customer in Germany, but unfortunately will often be thrown away there. On average, every citizen of the Federal Republic of Germany throws away 81.6 kilogram of food per year. In sum, this amounts to almost 11 million tonnes of food which are thrown away in Germany.

Many agricultural products cannot be used for human consumption as they are lost during harvest or transport or get spoiled during storage. These losses are enormous: In Africa for example, 12.5% of the sorghum yield are lost that way. For corn, losses amount to 22.5%, and for other crops losses can reach up to 50% of the yield potential prior to harvesting. Investigations in tomato and the vegetable ocra in India revealed losses as high as 40%. That does not imply food losses only, but also investments in soil, labour, seeds, water, fertilisers and crop protection products to no avail. In some developing countries, huge losses can also result from crops which are successfully harvested but then are not stored properly and are not processed in time.

That is why in many regions of the world – in addition to increasing production and productivity – the development of an effective infrastructure for harvesting, transport, storage and processing of agricultural products is an essential task to ensure the production of sufficient food for a growing world population.

FNL recognises the non-use of food as waste of resources which counteracts the concept of sustainable development.