

Feed the world?

The challenges of global food security

by Costanza Caputi

According to the UN's Food and Agricultural Organization (FAO), food security exists when 'all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life'. This is determined by the four key dimensions of availability, access, utilisation and stability of food supply.

Whilst food security may be defined in such simple and clear terms, it is, in fact, a highly complex, multi-faceted global challenge that involves many aspects. Virtually every policy area is connected to food security: from the economics of food price formation to environmental stress, from financial market dynamics to energy production and supply.

More than anything, however, it is a social issue. Today, an estimated 870 million adults and children are undernourished and food shortages have resulted in riots in the wake of the 2008 price spikes. Beyond that, food (or lack thereof) was a major factor in triggering the Arab Spring, thus laying bare its fundamental link with social peace. And inflated food prices are making the prospects for improved food security ever bleaker, in particular for net food-importing countries in Africa and vulnerable areas in South Asia.

Despite the complexities of the food system and its current difficulties, policymakers should focus on the core issue of food *insecurity*: primarily by establishing a resilient and sustainable agricultural system suitable to the needs of small farmers. And the EU, as one of the largest donors of development aid, might consider doing more abroad of what it is doing at home; supporting farmers through spending on agriculture and rural development.

Food pricing

Prices are a key element of food security. Given that vulnerable households spend up to 70% of their income on food, prices have a tangible impact on people's livelihoods. When food prices spiked in 2007-08, an estimated 50 million additional people suffered from hunger. The spike of 2008 and the subsequent peak of 2010-11 prompted quick reactions from policymakers, with food security climbing up the international policy agenda. Nevertheless, food prices remain at unprecedentedly high levels and no reversal of the upward trend seems likely in the near future.

Food price formation reflects a variety of aspects that are closely interconnected with food security and the drivers of food prices can be identified in

short-term and long-term factors on both the supply and the demand side.

On the supply side: in the short term, prices are determined by available supply. As a result, global levels of stocks play an important role in price formation. In fact, the stocks-to-use ratio had reached a historical low prior to the 2008 crisis, thus putting upward pressure on food prices. In addition, costs of inputs such as fertilisers, seeds, animal feed and energy all soared prior to 2008 and also contributed to the price spike. Finally, weather is a crucial, if uncontrollable, determinant of food supply.

Long-term trends on the supply side include growing pressure on the environmental resources necessary for agricultural production. Intensive agricultural practices pose long-term challenges to the environment, as they reduce the quality of topsoil and result in soil erosion. Furthermore, heavy use of fertilisers causes pollution of water supplies. And water is vital for the production of food: 70 per cent of freshwater is used for agriculture, with this high usage contributing to water scarcity. Finally, climate change exacerbates environmental stress by increasing the likelihood of extreme weather conditions and higher temperatures, which can lead to desertification and even greater water shortages.

On the demand side: the expansion of the biofuels market has increased short-term demand for maize and rapeseed. At first considered the primary driver of the food price surge, its impact has been now reassessed. Nevertheless, biofuel policies remain an issue of concern, as mounting evidence shows a strong food-energy nexus, with high energy prices likely to translate into high food prices. Another potential driver of short-term demand is speculation in the food commodity market, which has expanded massively in the wake of the 2008 financial collapse. Whether speculation as such can cause higher food prices is widely contested, but it certainly has a negative impact by increasing volatility on the market.

Looking at long-term shifts, the most important elements are related to population and consumption.

Quite naturally, a growing world population is demanding more food. Furthermore, the emerging middle class in India and China is changing its consumption patterns as a result of increased wealth. Although demand for meat has intensified, it is, however, a very inefficient source of calories. In fact, with 38 per cent of the world grain harvest currently being used in order to rear animals, more meat ultimately leads to a reduction of food available for consumption.

Food scarcity

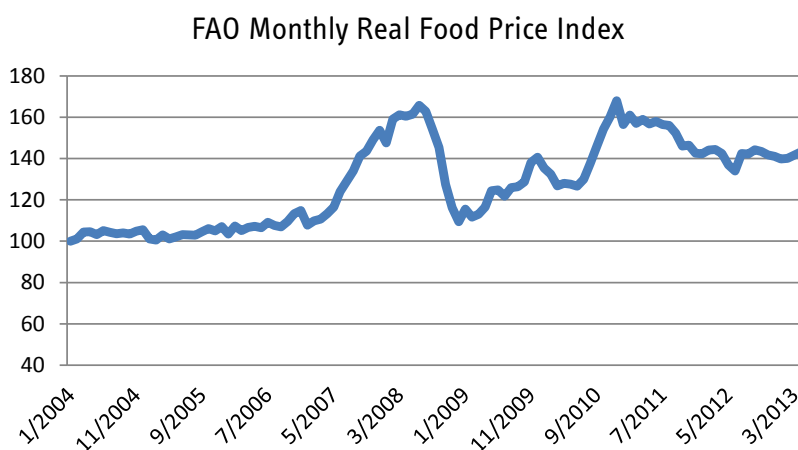
Malthusian fears have long spurred the food security debate. Given the projected population increases in the next decades, many argue that food production will have to increase by 60 per cent by 2050 in order to keep up with demand. Yet current production is already putting strain on environmental resources.

To complicate matters further, agricultural growth has slowed down since the yield increases delivered by the innovations of the Green Revolution. Wheat and rice yields, for instance, were growing

at about 2 per cent a year between the 1970s and 1980s. Since the 1990s, their yields have levelled off at about 1 per cent per year. Given that the expansion of arable land is hardly an option for increasing production today, further yield increases appear to be the only solution for sustaining (but not necessarily

expanding) food production.

In fact, there are important disparities between the developed and the developing world. While agricultural growth has slowed down in industrialised countries, it is actually picking up in much of the developing world. Large investments in agricultural research carried out in China and Brazil are paying off in terms of productivity. Following the introduction of important reforms, Africa, too, is showing positive signs in terms of agricultural growth. Indeed, much of the developing world has still untapped potential for yield increases and productivity gains through technological innovation, R&D, and improving rural infrastructure.



Source: Data from FAO Monthly Real Food Price Index

Still, extending high-input agricultural methods to other parts of the world would not alleviate – let alone solve – the problems posed by environmental issues. Is a more productive and more sustainable agricultural sector a contradiction in terms, or can it actually be achieved? In fact, concepts such as ‘sustainable intensification’ and agro-ecology have already been put forward as means to reconcile the need for greater food production with environmental sustainability. Yet little has been achieved in terms of implementation of such methods, in particular on a large scale.

Food access

More than sufficient production, the key to food security lies in access to food. Famine can occur despite sufficient food production if governments put the wrong policies in place. Thus, food security is for the most part a political problem (this has been Amartya Sen’s main insight in his seminal 1981 work *Poverty and Famines: An Essay on Entitlement and Deprivation*). Gradually, this notion has entered the international debate. Specifically, food insecurity is often associated with poverty and the lack of proper infrastructure required to access the food market. In fact, the majority of poor and hungry people live in rural areas and depend on smallholder-based agriculture for their livelihoods. The biggest problem in this scenario is poverty, and economic growth seems the obvious solution to reduce poverty. However, with respect to food security, *agricultural* growth proves to be much more effective compared to other sources of economic growth. According to the FAO, in resource-poor, low-income countries, a given rate of GDP growth in the agricultural sector reduces poverty five times more than the same rate of growth in another sector - and in sub-Saharan Africa this rate can be as high as eleven times.

Furthermore, strengthening rural development has a number of positive effects. First, it raises employment prospects and income of poor farmers; second, it reduces food prices; and third, real wages increase as a result. Given this three-fold (multiplier) effect, increasing the productivity of small farmers should be the priority. An important caveat lies in smallholders’ participation in growth. This includes equal distribution of land ownership and the ability to reap the benefits of one’s work.

Public spending is critical for the development of the agricultural sector and, unfortunately, it has been completely neglected in the international development efforts of the past decades. In fact, the share of agriculture in overseas development assistance (ODA) plummeted from 17 per cent in 1980 to 3 per cent in 2006. Disregard for agriculture led to a dramatic increase in import dependence, in particular for the least-developed countries (LDCs). African leaders took an important step to counter this already in 2003 by committing to devote at least 10 per cent of their budgets to agriculture. Following the 2008 crisis, the importance of agriculture and smallholder farming has been re-examined and is now coming to the forefront of the policy debate. The EU has recently introduced agriculture as a priority in its European Development Fund (EDF), and for the first time in 25 years, the World Bank has acknowledged the essential role of agriculture in its 2008 World Development Report and is increasing its funding commitments to the sector.

Food policies

International trade rules regarding agriculture form perhaps the most contentious area for food security. The WTO Doha Round, which set out to include developing countries in the global marketplace, has been stalled for years. The bones of contention are manifold: developing countries are not willing to open their markets to highly subsidised agricultural products from the developed world, which in turn is not willing to let go of its protected farming. Even though some of the most market-distorting practices have been reformed, notably in the EU, the high transfer payments to farmers still have direct and indirect implications for food security by shifting production to the developed world and reducing incentives for agricultural production elsewhere.

The EU’s Common Agricultural Policy (CAP) supports its agricultural sector to the tune of some €60 billion per year. By comparison, the US helps its farmers with approximately \$20 billion yearly. Despite ongoing discussions on how to reform the CAP after 2013, the EU budget proposal for 2014-2020 indicates that the bulk of the agricultural policy will remain intact - at least financially. Thanks to the generous subsidies of the CAP, EU countries can export their produce at a competitive price.

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In earlier decades this was more of an issue, with the EU's overproduction 'dumped' on the world market via export subsidies. This practice made it very difficult for small-scale farmers to compete with cheap subsidised products and, as a result, many LDCs increased their dependency on food imports. Today, the CAP has largely moved away from practices that link financial support to production. In fact, in the period 2010-2013, 69 per cent of EU agricultural funding has been devoted to income support for farmers, while 24 per cent consists of expenditure for rural development. By contrast, export subsidies account for less than 2 per cent of the total amount. Thus, most EU subsidies fall under the WTO's 'green box', i.e. they distort trade only to a minimum and are therefore compliant with WTO rules. Nevertheless, developing countries maintain that the sheer amount of subsidies has harmful repercussions for them. Furthermore, the EU's 'amber box', which includes practices that should be reduced, still totals around €12.4 billion.

In terms of its trade policy, the EU took important steps in opening its agricultural market to LDCs as well as African, Caribbean and Pacific (ACP) countries. Since 2001, LDCs enjoy preferential access to the EU market in 'Everything but Arms', and ACP countries, too, benefit from duty- and quota-free market access since 2008. In the context of the Doha negotiations, the EU is prepared to eliminate export subsidies, if other countries follow suit. However, radical overhaul of current agricultural policies is out of the question: developing countries are unwilling to allow increased market access as long as agriculture is heavily subsidised as they would lose out through unequal competition.

Concerns about trade liberalisation are not only related to competitiveness. While there is a general consensus that trade is beneficial for economic growth, this does not take distributional issues into account. It is thus debatable whether small-scale farmers would profit from further liberalisation. The UN Special Rapporteur on the Right to Food, Olivier De Schutter, has called for the inclusion of food security considerations in WTO trade negotiations. In particular, he cautions that the effects of trade liberalisation on food prices are widely unknown and should be researched further in order to develop adequate policies.

Food for thought

Given the broad scope of food security, many EU policies have a direct or indirect impact on the issue. In its development policy, the EU has emphasised food security as a priority. It has also

recognised the crucial role of agriculture and smallholder farming in this context and strengthened its commitment to the sector. Specifically, the EU is concentrating its efforts in Africa, where over €1 billion of the 10th EDF is devoted to rural development, agriculture and food security. Even though this figure appears quite small when compared to the total amount allocated to the EDF (around €22.7 billion), it does mark a shift in the right direction. Other EU initiatives include the Food Security Thematic Programme as well as the €1 billion Food Facility of 2009-2011. If all policy instruments are combined, total commitments to food security and agriculture amount to some €800 million per year and are likely to increase in the 2014-2020 period.

Whilst these are all welcome developments, much more could probably be done by 'mainstreaming' food security. While many problems linked to the issue urgently need to be tackled - i.a. climate change, biofuels, commodity speculation and fertiliser use - they are in fact of secondary importance. The key to providing people with enough to eat and access to food lies in strengthening smallholder agriculture. Not only is small-scale agriculture crucial for poverty reduction, it also contributes to the (necessary) shift to sustainable agriculture.

Many challenges need to be overcome in order to support smallholder farmers. In particular, these include insecure land tenure, insufficient infrastructure, lack of specialised training and education, as well as lack of access to finance and technology.

Most importantly, rural-based growth strategies need to enhance smallholder productivity and provide them with social safety nets. Furthermore, more attention needs to be paid to the pivotal role of women in strengthening farming and fighting food insecurity.

So far, the multiple, complex layers of the food security debate have overshadowed what should probably be the overriding priority: support to sustainable smallholder agriculture. With policy-makers trying to grapple with all issues at once, they might be reminded that in order to address the real problem, it is time to go 'back to basics'.

Costanza Caputi is a Junior Analyst at the EUISS.

