

CROPLIFE INTERNATIONAL PERSPECTIVE ON FOOD SECURITY

CropLife International believes that the task of feeding the world can be achieved. Despite the challenges posed by population growth, rising urbanisation, changing diets and climate change, food security is still fully achievable. Its achievement does, however, require genuine political will and coordinated, targeted policies, as well as significantly increased investment.

For this investment to make an impact, policies must address six key issues: agricultural productivity, global and local trade, sustainable resource management, improved infrastructure, rural poverty and fostering innovation.

Agricultural productivity

Feeding the world sustainably means that agricultural productivity must continue to increase in responsible ways.

The UN Food and Agriculture Organisation (FAO) predicts that global food production globally must rise by 70% to meet food needs by 2050.

Opportunities to expand arable land are limited, and so to achieve this without damaging our environment, agricultural productivity must increase further still. 90% of production increases are expected to come by increasing yields on existing land. Such productivity gains require greater investment in agriculture, including agricultural R&D. According to the FAO, a 50% increase in agricultural investment by developing countries is needed to achieve the necessary productivity improvements.

Investment in agriculture has fallen noticeably over the past 20 years, with Overseas Development Assistance (ODA) for agriculture dropping from 17% to 3% of total ODA between 1982 and 2006¹. Agricultural productivity gains have simultaneously fallen from an annual average of 3-6% to 1-2%².

The private sector currently accounts for one-third of all agricultural R&D, according to the Consultative Group on International Agricultural Research (CGIAR), which it invests in the multi-year process of researching and developing new technologies, including the lengthy process of registration for market approval.

Continued R&D investment by the private sector as well as the public sector is critical to identifying new and improved solutions for growing more food sustainably. Public-private partnerships (PPPs) should be encouraged as a means to effectively share knowledge, enable market access and facilitate access to inputs. To continue to incentivise private sector R&D investment, and to ensure the resulting technologies become commercially available for everybody's benefit, clearly defined, robust intellectual property protection systems are indispensable.

Wider application of existing technologies and knowledge also has vast potential to improve productivity. For example, yields in many developing parts of the world reach only 20% of the yields achieved in the developed world. Extension services play a critical role in transferring skills, knowledge, and technology, and there is scope for improving and expanding existing services to make them more impactful and targeted. For example, a recent FAO study found that only 5% of agricultural extension services reach women – yet women constitute the majority of developing world farmers. While they are primarily responsible for stewarding the land in developing regions, women are rarely the recipients of the knowledge, land rights and tools needed to most effectively conduct their activities.

WHAT NEEDS TO BE ADDRESSED?

Agricultural productivity

Feeding the world sustainably means that agricultural productivity must continue to increase in responsible ways.

Global and local trade

To maximise efficiency in food production worldwide, global markets must be open, fair, and well-functioning.

Sustainable resource management

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Improved infrastructure

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Rural poverty

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Fostering innovation

Increasing agricultural productivity sustainably requires continued innovation for new, improved technologies and knowledge.

¹ Consultative Group on International Agricultural Research (CGIAR), 2008

² Ibid., 2008

Beyond growing enough food, it is equally important that the food produced is safe. Approximately 30% of the developed world is estimated to fall ill as a result of food-borne diseases every year.³ The incidence in developing countries is higher still. Naturally-occurring toxins, such as mycotoxins, also cause severe intoxications. Plant science technologies can help lower the levels of such naturally-occurring toxins. However, intervention in the form of education is needed across the food chain to ensure good food production and handling practices are understood and adhered to, to ensure the safety of our food supply worldwide.

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Following the food price spikes of 2008, many countries responded with protectionist measures including export restrictions. A well-functioning trade system should focus on the elimination of such trade barriers, and recognise the vulnerabilities of import-

dependent countries to increasingly frequent price spikes expected in the future. Risk reduction policies and joint measures among countries should be considered to better equip them to withstand future shocks.

Many countries depend on international trade for food security. Developing countries' net cereal imports are expected to more than double by 2050. Policymakers need to recognise this vulnerability and address it through constructive policies that do not distort trade, such as the investment in rural infrastructure, services, R&D and access to technology.

Well-functioning trade systems also require well-functioning regulatory systems comprised of science-based policies. Such policies help to avoid unnecessary obstacles to farmers in their bid to access new technology or key imports such as feed.

Sustainable resource management

Farmers need access to knowledge and innovative tools for sustainable farming practices, and the incentives to implement them.

Biodiversity and natural resources, such as land and water, have come under great pressure over the past half-century with unprecedented population growth. Agriculture inevitably impacts all three of these natural resources and, therefore, has an important role to play in helping to preserve them. Millions of farmers are already practising more sustainable farming methods. To ensure that agriculture helps to preserve natural resources, policies must further inform and incentivise farmers to adopt more sustainable farming practices, such as conservation tillage.

To feed a rising world population we need to grow more food. There are two main options to achieve this: (1) increase crop yield on current agricultural lands, or (2) convert unfarmed land into arable lands. Increasing yields on existing lands helps preserve biodiversity by avoiding the expansion of agricultural land into natural habitats. Farmer access to technology, skills and knowledge is a prerequisite to achieving such efficiency gains.

Beyond increasing productivity, waste must also be reduced. Waste occurs throughout the supply chain – from pre- and post-harvest crop losses to pests and disease, to unsustainable food consumption practices at the consumer level and vast quantities of food left to go bad or simply thrown away in the developed world. Policies to address waste at each stage of the production and consumption process should complement moves to raise agricultural productivity levels.

Climate change means drier and hotter conditions in regions such as Sub-Saharan Africa, where hunger and poverty are already severe. This threatens to render vast swathes of land uncultivable, further reducing food security and entrenching poverty. In the absence of concerted, decisive international action to reduce greenhouse gas emissions, and adapt to and mitigate the effects of climate change, the impact on rural livelihoods will be life-threatening in many of the poorest parts of the world.

³ World Health Organisation

Water resources must be preserved at each step of the food production process – agriculture currently consumes 70% of all blue water⁴. Here, again, infrastructure and technology play a key role in improving water use efficiency. Better irrigation and water transportation systems can make a big difference in efficient water use and improved crop production and quality. Advances in plant sciences can also enable plants themselves to more efficiently utilize water – biotech-derived drought tolerant crops will be able to maintain crop yields with less water, as well as preserve crop productivity in times of drought.

Improved infrastructure

Infrastructure must improve to raise crop production and quality, reduce post-harvest losses and to secure farmers' access to inputs and markets.

Infrastructure investments are critical to achieving food security, particularly in the developing world. Infrastructural shortcomings mean that often inputs such as crop protection products, quality seed and fertiliser have no chance of reaching the farmer because transport facilities, such as ports, roads or railways are insufficient or inadequate.

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Many smallholder farmers are denied the opportunity of entering the marketplace by insufficient infrastructure. If there is no road or form of transportation, taking goods to market becomes almost impossible. Post-harvest losses are highest among smallholder farmers, largely due to lack of storage infrastructure, leaving harvested produce susceptible to attacks by pests and disease.

Rural poverty

The livelihoods of the rural poor must be protected and enhanced through targeted policies to ensure their purchasing power.

Economic growth does not always spell an end to hunger and poverty. With rising urbanisation, there is a particular danger that rural and agricultural communities will be neglected further by government policies. This must be avoided.

75% of the poor in developing countries live in rural areas and although many count farming as one of their activities, they cannot always feed themselves and as net food buyers, are particularly sensitive to increases in food prices. They need purchasing power to avoid hunger – food availability in itself does not solve the problem. Hunger and malnutrition also seriously impact on the ability to learn and work, which in turn makes it more likely that the hungry and malnourished will fall back into poverty.

Economic growth in the rural and agricultural sectors – particularly among smallholders – is twice as effective at benefiting the poor as growth in other sectors. There is therefore a strong argument for investment in rural communities and effective agricultural growth policies for both economic growth and food security.

Fostering innovation

Increasing agricultural productivity sustainably requires continued innovation for new, improved technologies and knowledge.

To do this, we need more investment in research, by both the public and private sectors.

Innovation in the plant sciences holds vast potential. New, more targeted and impactful crop protection technologies and improved plant varieties, including biotech varieties, are already helping farmers around the world grow more food with a smaller environmental footprint.

Policies should foster and incentivize such continued innovation. These policies should be based on science and recognize food security as a global challenge. Countries where agricultural productivity is high cannot afford to be

⁴ Blue water is defined as stored rainwater

complacent, as most of the world is fed by food currently grown in the developed world. In an interdependent age, productivity losses in one region have implications for food security in other regions.

Research needs to be intensified to generate solutions for the array of challenges to food production in the coming years. Farmer-focused and locally relevant research must be prioritized to ensure that the outcomes are both impactful and relevant. Extension services, again, play a key role in making sure that the knowledge and technologies generated reach the farmer on the ground.

CropLife International believes that with increased investment and a commitment among policymakers to addressing the above six issue areas, food security is fully achievable. 2050 is still some decades away, and there are already over 1 billion hungry today. We call on the international community to take action without delay to make food security a reality for this generation, and for our future generations.