



What's next for Agriculture?

Key Messages from *Business at OECD* (BIAC) Food and Agriculture Committee for the consideration of G7

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Introduction

Business at OECD's Food and Agriculture Committee (BIAC) is building on its contributions to the November 2022 OECD Meeting of Agriculture Ministers and exploring further the practical actions that can be undertaken to enable more sustainable, productive, and resilient food systems, domestically and globally.

Since the October 2022 release of BIAC's *Peace for Food* synthesis report, the situation on global food and agriculture markets has improved somewhat, but the outlook remains highly uncertain. Food price inflation in February 2023 declined for the eleventh consecutive month since its peak in March 2022 but is still high by historical standards and was 14% higher in 2022 than in 2021. Fertilizer and energy markets remain under pressure, with low and uncertain supplies and high prices translating into increased agricultural input costs. The immediate impacts weigh most heavily on vulnerable populations and less developed economies, and future market risks remain high for those least able to cope. Increased humanitarian aid to reduce hunger and undernourishment, including for displaced families in conflict-affected regions, must be a top priority today.

Towards a medium-term public-private action agenda

The medium-term challenges confronting global food systems are well known and long-standing, but with effective public-private collaboration it is possible to turn these challenges into opportunities. Current food and agriculture policies and business as usual industry strategies will not ensure food security and nutrition for a growing population, address climate change, sustain the environment, and enable livelihoods across the food chain. New approaches are needed.

Sustainable agriculture

Sustainability is no longer a 'luxury good' in global food systems, but an essential requirement of doing business. While agriculture production is the largest source of GHG emissions in the food system and the most heavily affected by climate change, value-added primarily occurs upstream and downstream of farm operations. Farmers cannot be expected to change practices, incur additional costs, and assume new risks entirely on their own. Agribusiness strategies across the food supply chain must increasingly focus on providing incentives for adopting sustainability practices on-farm.

Already, farm management decision-making tools and associated technical assistance have been introduced in many countries for a wide variety of commodities, supporting on-farm soil analysis, ongoing field monitoring, and more efficient use of pesticides, fertilizers, and water. This includes support for integrated approaches to pest management, incorporating biological products, based on precise location-specific conditions. Access to weather and market information has been enhanced, along with access to e-payment systems and in some cases payment premiums for sustainably produced commodities.

While available, these tools and supporting services need to be significantly scaled-up and made available to farmers on an equitable basis. Here, food and agriculture policies can play a greater role in encouraging sustainable outcomes directly, but also in enabling the digital applications that are particularly important for both sustainability and productivity.

Agriculture productivity

Increasing productivity - doing more with less - is not optional. OECD-FAO analysis indicates that productivity growth rates over the past decade will need to triple, on average, to provide adequate food for the growing world population and to address climate change.

FAO estimates that roughly one-third of global food production is lost (primarily on-farm and in distribution and processing stages) or wasted (primarily at retail, food service, and household levels), and that up to 40% of crops planted are lost annually to pests. Reducing loss and waste provides immediate benefits: increased food supplies, higher farm incomes, reduced pressure on land, water, and biodiversity, and lower GHG emissions.

Private sector investments in superior seeds, fertilizers, and pesticides, efficient farm machinery, automated processing facilities, and digital tools for application across the supply chain (including to monitor and reduce loss and waste) have been increasing. But much more needs to be done. Several governments have introduced campaigns to reduce domestic food loss and waste, but public investments in agricultural research and development have declined over time and are relatively low today. Productivity performance in many less developed economies remains well below potential.

Digital applications in agriculture

Digital applications in agriculture can help increase both sustainability and productivity across global food systems. More and better data collection systems are being built around artificial intelligence, sensors, drones, and satellite systems; sophisticated, precise, site-specific data analysis are being undertaken in real time; and data-driven process improvements are being identified across the food supply chain. In addition to the digital applications noted briefly above, improved systems are being developed for soil carbon content monitoring; food traceability; transportation and logistics planning; supply chain management; and so on.

For many agribusinesses, digital analytics that improve the sustainability and productivity performance of their suppliers, their customers, and their own operations are a source of competitiveness. As such, private investments are substantial and growing. The public sector is increasingly engaged as well and has a particularly important role in ensuring that needed digital infrastructure is in place in rural and remote areas, that farmers and other small businesses have access to the needed digital training and skills, and that data can move seamlessly across borders.

Food security

A reliable international trading system is prerequisite to building food security, globally but also domestically. Over 20% of calories consumed around the world are traded, and in some regions the share is 50%; with climate change this is only going to increase. For net food importing countries, the best option to ensure adequate and nutritious food supplies at affordable prices is a combination of domestic production, emergency reserve stocks, and diverse sources of imports. Public and private investments in sustainable productivity growth, alongside well-functioning markets for both inputs and outputs, are essential for net food importing as well as food exporting countries.

Agriculture markets are expected to remain volatile over the coming period, and future uncertainty is often worsened, rather than alleviated, by current policies. Inefficient customs and border procedures, export and import restrictions, and ill-designed regulatory measures impose unnecessary costs on consumers, farmers, and agribusinesses. Domestic support policies often distort farm production decisions, with unintended negative impacts on climate and the environment.

Recommendations

The following recommendations are offered for consideration by G7 governments, but action to implement them would best be undertaken in collaboration with agribusinesses and farmers. The public and private sectors can do more at lower cost by working together on their shared interests.

Increase public investment in digital infrastructure, to ensure that all farmers have reliable access to broadband and other digital technologies. **Increase public and public-private investment in digital training and on-going digital skills development**, to ensure that farm households have the capacity to utilize effectively new and evolving digital tools that support farm operations. **Promote public-private initiatives (including with educational and research institutions) to develop, demonstrate, and roll-out digital applications** that offer clear agricultural sustainability, productivity, and profitability benefits. Specific applications offering immediate promise include, for example, farm management and e-payment services for small and remote farms, traceability systems for assuring sustainable sourcing, and logistical services for reducing loss and waste across food supply chains.

Develop public and public-private direct payment schemes for farmers for long-term carbon sequestration and provision of high-value site-specific environmental goods. Soil organic carbon measurement, reporting, and verification schemes can enable farms to emit less and store more GHGs, for example, while lessons learned from countries that are already experimenting with 'public payments for public goods' policies might have widespread applicability. **Simultaneously phase-out production-linked and environmentally harmful support to farmers over the coming decade.** Regulatory measures (such as import barriers) that keep domestic prices higher than prices on international markets, contribute to higher GHG emissions, increase pressure on land, water, and biodiversity, distort trade flows, and are costly. About 90% of production-linked support globally is provided by just 12-15 large developed and emerging economies.

Increase public spending on agricultural research and development; the returns are enormous, with one recent US study estimating 20 USD in benefits for every 1 USD spent. Pushing out the technology frontier, including in areas like genome editing, is essential to producing more and nutritious food for more people while using less land and water. **Promote international and public-private cooperation on science and technology**, including with the farm community. G7 countries are amongst the 67 members of the Global Research Alliance on agricultural greenhouse gases, which provides an established platform for collaboration, for example.

Promote even more active engagement of agribusiness traders as well as governments in the Agriculture Market Information System (AMIS). On-going and well-informed international dialogue on supply and demand conditions and emerging market shocks is essential to preclude policy decisions that make things worse. Here, the private sector can contribute more. **Avoid the use of export restrictions;** if unavoidable because of truly exceptional situations, and where available market data warrant, any restrictions introduced should be notified to trading partners in advance and removed as quickly as conditions permit. **Implement low-cost trade facilitation measures to streamline customs and border procedures;** doing so reduces unnecessary trade costs and disproportionately benefits smallholder producers of perishable food and agriculture products.

Ensure that behind-the-border regulatory measures are science-based and technically robust. Unnecessary differences in regulations constrain the freedom of farmers and agribusinesses to innovate in response to consumer preferences and to share the benefits of innovation globally. The immediate interest is to ensure that future regulatory decisions are taken based on the best available scientific information, including with reference to internationally agreed standards. Longer-term issues warranting further consideration include the regulatory treatment of products of modern biotechnology and genome editing, and the uncertain regulatory environment in some jurisdictions for plant protection products that does not foster innovation and impact reduction targets, for example.

While these recommendations are aimed at G7 governments they have widespread global relevance. **The specific needs of less developed economies also warrant additional attention**, both as noted above with respect to humanitarian aid for vulnerable populations and with respect to the challenges facing often resource poor smallholder farms. In very general terms, the priority in less developed economies relates first and foremost to **society-wide poverty reduction and conflict resolution**. The food and agriculture sector can play a greater or lesser role in contributing to widespread economic development, depending in large part on the natural endowments of the country. In those countries where the sector can have an important role to play, at least three priorities for public-private collaboration stand-out.

Increase investment in reducing the productivity gap between current yields in much of developing country agriculture and the much higher yields achieved elsewhere with the application of available science and technology. **Provide digital tools designed for smallholder, women, and minority farm operators**, to ensure that they have access to the same information and know-how as large farms operating elsewhere. **Increase investment in both hard and soft agriculture infrastructure**, from digital technologies, logistic services, and transportation and storage systems to education, extension, and training and skills development.

Conclusion

This brief should be considered as a work-in-progress, reflecting on-going discussions across agribusinesses, farmers, governments, and other stakeholders. The recommendations provided are not intended to be comprehensive. The focus here, almost exclusively, is on identifying the highest priorities for improving sustainable agriculture productivity growth in areas where concrete public and private action is feasible today and where the benefits of action are substantial and widespread.

Neither are the recommendations intended to be prescriptive, in the sense that while the ingredients for improving sustainable productivity growth are clear the specific recipe needs to be adapted to the needs, interests, and capacities of individual countries and regions.



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