

Innovations, policies, and investments to promote smallholder productivity in Africa

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Increasing agricultural productivity & enhancing food security in Africa: New challenges and opportunities
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I. Introduction

The economy in Sub-Saharan Africa (SSA) has been growing at record speed, but the region's food security is still under stress and will be further threatened by global, regional, and local challenges that include: population growth, demographic changes, high and volatile food prices, natural resource constraints, and climate change. In SSA, these stress factors put additional pressure on already fragile food security and agroecosystems. It is therefore essential to turn these challenges into opportunities to improve food security. As land and water have become increasingly limited, future growth in food production must come from productivity improvement. As a result, an innovative agricultural development agenda and investment portfolio must be adopted.

II. Recent economic and food security trends

After years of stagnation, many countries in SSA have experienced positive trends in economic and agricultural growth, investments, and trade. Many governments in the region have solidified their commitment to development through active participation in processes such as the Comprehensive Africa Agriculture Development Programme (CAADP) and regional trade cooperation such as the free trade area under the Economic Community of West African States (ECOWAS). Until the recent turmoil in global financial markets, the region exhibited an acceleration in both economic and agricultural growth over the past several decades. Eight countries achieved 6% annual agricultural growth from 2005 to 2009. Agricultural spending in SSA has also been on the rise in nominal terms, although only seven countries in the region are meeting the CAADP target of spending 10% of total national expenditures on agriculture.¹ Foreign direct investment to SSA has increased six-fold between 2000 and 2008, before falling in recent years.² Wireless communication has also expanded significantly from 11 million to 313 million mobile subscriptions between 2000 and 2009.³

Despite some progress in improving food security, much remains to be done in SSA. Not only does the region have the highest prevalence of undernutrition compared to other developing regions but recent economic and food price volatility has had a detrimental effect on domestic staple food prices in food-importing countries in Africa—largely due to their relative lack of grain reserves and budgetary resources to shelter domestic markets from international turbulence. For example, the number of undernourished rose by 8% in Africa between 2007 and 2008, while the number increased marginally (0.1%) in Asia.⁴ Furthermore, according to the 2011 Global Hunger Index (GHI)—a combined measure of the proportion of undernourishment, child malnutrition, and child mortality—SSA is home to all of the countries with extremely alarming GHI scores and many of the countries with alarming GHI scores.⁵

¹ Benin, S., A. Kennedy, M. Lambert, and L. McBride. 2011. Monitoring African agricultural development processes and performance: A comparative analysis. ReSAKSS Annual Trends and Outlook Report 2010. Washington DC: IFPRI.

² UNCTAD. 2011. UNCTADstat. Available at <http://unctadstat.unctad.org> (accessed 21 October 2011)

³ World Bank. 2011. World development indicators. Available at <http://databank.worldbank.org> (accessed 21 October 2011)

⁴ FAO. 2011. State of food insecurity in the world 2011. Rome: FAO.

⁵ von Grebmer, K., M. Torero, T. Olofinbiyi, H. Fritschel, D. Wiesmann, Y. Yohannes, L. Schofield, and C. von Oppeln. 2011. 2011 Global Hunger Index: Taming price spikes and excessive food price volatility. Bonn, Washington, DC, and Dublin: Deutsche Welthungerhilfe, IFPRI, and Concern Worldwide.

Improving agricultural productivity in SSA will be key factor in tackling the region's food security issues in the future as water and land resources have become increasingly limited. In the past, the region's modest and slowly growing agricultural productivity has been largely driven by efficiency gains (the reallocation of productive factors) rather than technical change (technological advancement).⁶ In fact, SSA's agricultural growth was largely a result of the expansion of crop land. Region-specific stress factors, which worsen the situation for the food insecure and vulnerable groups, include weather-related shocks, poor infrastructure, undeveloped markets, as well as weak governance and institutions. At the same time, future food security will be increasingly under stress from a complex web of emerging factors, including: nonfood policies in energy, trade, and finance; transformation of food supply and demand chains through the "supermarket revolution" and a growing and changing population; and, more extreme weather patterns due to climate change. These changes will have especially adverse effects on smallholder farmers—who are already challenged by limited resources and insufficient access to inputs, services, and markets.

III. New Approaches in Innovations, Investment, and Policy Urgently Needed

The business as usual approach has not delivered satisfactory results. In light of the current and future challenges facing SSA's food security, a new or business as unusual approach must be adopted.

Country-owned and country-driven development and experimentation

Developing countries should lead the fight against hunger with their own strategies that are developed through local experimentation before being scaled-up. Effective, efficient, and sustainable policies that are well adapted to the local context can help countries maximize the local impact of the global agenda—as was the case in China, India, and Vietnam. However, due to limited resources and inadequate evidence of what has (and has not) worked, an evidence-based approach to policy-making is needed that promotes local experimentation and the impartial monitoring and evaluation of innovative policies and reforms. Within this context, the Regional Strategic Analysis and Knowledge Support System (RESAKSS) is an Africa-wide network that promotes evidence-based decision-making by providing analysis, data, and tools in support of CAADP. Capacity strengthening and building need to receive higher priority to enable countries truly to own and drive their development programs.

New investment priorities

Increased focus on better-targeted and more productive investments and social protection policies is needed to cushion short-term livelihood shocks and offer long-term opportunities to escape poverty and food insecurity. A large body of empirical work has documented the vital importance of public spending on agriculture research and development (R&D) alongside rural infrastructure—especially rural roads—in promoting agricultural productivity, rural household income, and poverty reduction.⁷ New approaches, such as Ethiopia's Productive Safety Net Programme, combine social protection and agricultural support interventions to increase productivity and reach the poor more effectively.

New technologies

⁶ Nin Pratt, A. and B. Yu. 2008. An updated look at the recovery of agricultural productivity in Sub-Saharan Africa. IFPRI Discussion Paper 787. Washington DC: IFPRI.

⁷ Fan, S, T. Mogue, T., and S. Benin. 2009. Setting priorities for public spending for agricultural and rural development in Africa. IFPRI Policy Brief 12. Washington, DC: IFPRI.

Technological innovations need to increase productivity and be adapted to the emerging challenges facing food production and producers (especially smallholders). The push for location-specific technological innovations should be amplified across the whole agricultural supply chain: from the development of crop varieties that more efficiently use inputs (especially natural resources) and are resistant to droughts, floods, and specific diseases/pests all the way to the reduction of post-harvest losses. Other technological innovations include information communication technologies (ICTs)—to provide smallholders with access to extension and financial services and market information—and biotechnology—to increase the productivity and nutritional impact of breeding initiatives. Additionally, the link between climate change and agriculture needs to be exploited through triple-win strategies that improve climate change mitigation and adaptation and agricultural productivity. Above all, new technologies need to be adapted to the specific needs and circumstances of smallholders.

New institutions

New institutional mechanisms are needed to strengthen food security by helping smallholder farmers access markets and technologies and by providing emergency food reserves. The transformation and increased sophistication of supply chains has made it more difficult for many smallholder farmers to access markets due to increased demands in quality and volume, limited market knowledge, and high production and marketing costs. There is thus an urgent need for innovative institutional arrangements that support vertical and horizontal coordination in such forms as group lending, rural marketing cooperatives, and producer associations. Another key area for institutional innovation is the development of strategic grain reserves in large food-producing countries and in (food-importing) developing countries and regions to respond to food supply emergencies and to calm markets.

New players/partnerships

New actors in global development—the private sector, philanthropic organizations, and emerging economies—have important roles to play in reducing hunger in developing countries. Public-private partnerships—such as the West Africa SEED Alliance—can improve smallholder productivity (and hence food security) but need to be supported by a business-friendly environment, including a sound legal and regulatory framework. The involvement of the private sector can reduce costs, improve agricultural research quality, and increase smallholder access to high-value markets. Emerging countries such as Brazil, China, and India can provide alternative experiences and technologies that may often be more relevant to help African smallholders increase their productivity and food security. Information sharing between emerging and developing countries can be supported through the development of databases, information systems, and platforms for collaboration.

III. Conclusion: How to scale up innovations

The already fragile food security situation in SSA is at risk from emerging stress factors. To reduce poverty and hunger in the region, there is an urgent need for global, national, and local actors to pursue innovative approaches to improve agricultural productivity. These innovative approaches include: country-led, evidence-based strategies; greater investment in agriculture and social protection; development of technologies that address the challenges facing agriculture's contribution to food security; institutions that improve both coordination among smallholders along the supply chain and access to food stock during food security emergencies; and the dynamic involvement of new players. The development community should encourage the generation of innovations at the local level, accompanied by a framework for evaluating experiments and a political and legal space to transform the lessons learned into large-scale initiatives to reduce hunger and poverty.