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The special challenge for sub-Saharan Africa

THE CHALLENGE

After decades of decline in per capita food production, a new optimism has emerged about the prospects for Africa and African agriculture. Growth in agriculture and in the economy as a whole has outpaced population growth in many countries, armed conflicts have been reduced, regional and sub-regional institutions are being strengthened, and good progress has been made in developing the business environment. There is wide agreement that African agriculture has enormous potential for growth thanks to its abundant natural resources, namely land and water.

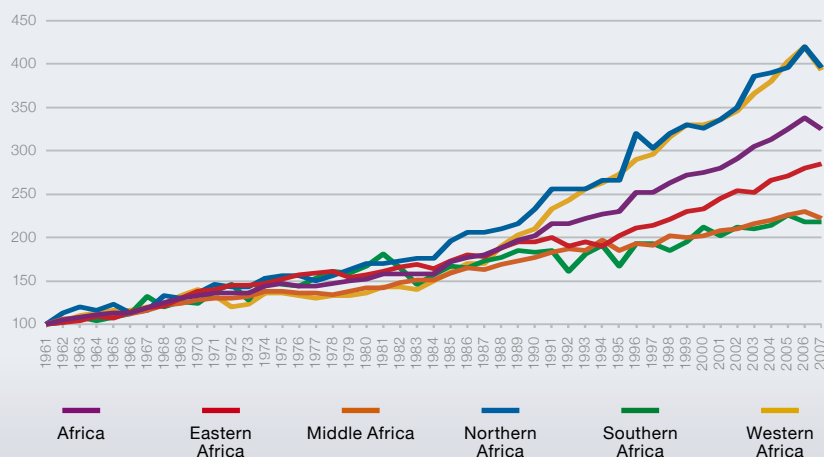
As the global economic crisis eases, new and improved market opportunities

are expected to arise for African farmers in traditional as well as non-traditional agricultural exports, such as biomass feedstocks for bioenergy production. Population growth and urbanization point to domestic and intra-African markets as the most promising areas for stimulating medium- to long-term agricultural growth. Several countries have opportunities for expansion into high-value labour-intensive products for both regional and international markets. The strong potential of agriculture in sub-Saharan Africa is welcome news: agriculture is the backbone of overall growth for the majority of countries in the region and essential for poverty reduction and food security. But, as pointed out by the 2008 World Development Report, failure to exploit this potential has significantly

compromised the role agriculture could play in reducing poverty.

Agriculture in sub-Saharan Africa has responded to a better macroeconomic environment, and improved price incentives brought about by *inter alia* reduced "taxation" of agriculture and higher world prices. The negative rate of protection for Africa as a whole improved from about minus 20 percent in 1975-79 to less than minus 10 percent in the first half of the present decade, and to near zero in 2005. However, this was the easier part of the challenge. The positive prospects for Africa's agriculture will not materialize without concerted and purposeful policy action, especially if agricultural growth is to be sustained and if it is to result in substantial poverty reduction. Many challenges need to be overcome, including the widening technology divide, slow development of input and output markets and associated market services, slow progress in regional integration, governance and institutional shortcomings in some countries, conflicts, HIV-AIDS and other diseases. Connecting smallholders to markets and helping them to adapt to new conditions and become more productive, increasing opportunities for rural employment, reducing risk and vulnerability, especially to extreme weather events and price swings, and increasing access to assets and skills will be some of the actions to make sure that agricultural and rural growth goes hand in hand with poverty reduction.

Index of Agricultural Production (1960=100)



Source: FAOStat

THE ISSUES

NATURAL RESOURCES

The food crisis trap that threatens the African continent is primarily the result of lack of investment in the agricultural sector. Its vulnerability to climate adds to the burden. Farming in Africa is largely done under rainfed conditions, and Africa's reliance on agriculture and its very low levels of irrigation make it singularly vulnerable to the vagaries of its highly variable and changing climate. Despite abundant natural water supplies at the continental level, this abundance is not evenly distributed and it is apparent that Africa has not been able to intensify its agricultural production through irrigation and improved water management (water harvesting and storage).

Less than a quarter of the total land area of sub-Saharan Africa suitable for rainfed

crop production is so used. FAO has estimated that the potential additional land area available for cultivation amounts to more than 700 million ha. Experts point in particular to the Guinea Savannah region – an area twice as large as that planted with wheat worldwide. Only 10 percent of the Guinea Savannah – covering an estimated 600 million hectares – is farmed. The agro-ecological conditions are rather similar to the Cerrado region of Brazil, which has been an engine of agricultural growth in that country. But at the same time, it must be recognized that to exploit this natural resource and open up new farmlands will require enormous investments in infrastructure and technology and appropriate safeguards to avoid potential negative environmental impacts

TECHNOLOGY

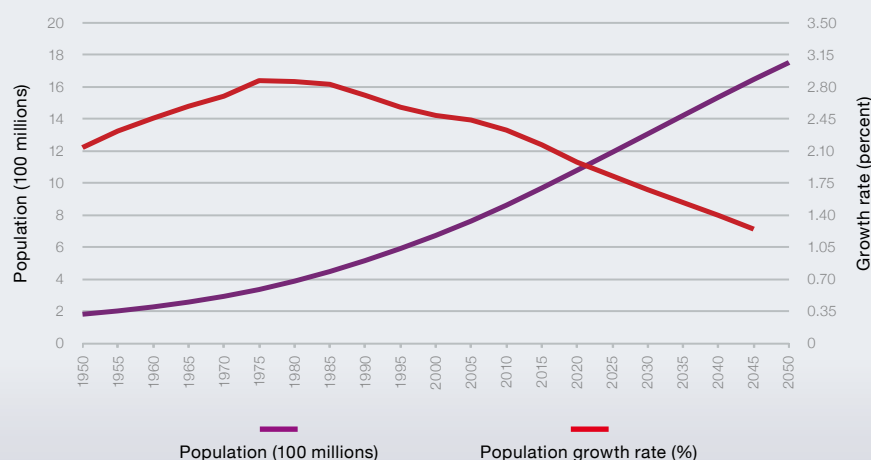
A fundamental challenge in achieving productivity growth in Africa is the variety

of agro-ecological environments and farming systems (also a result of weather variability and dependence on rain), and the large number of staples it produces. Under such conditions possibilities for application of existing yield-increasing technologies or the massive application of new ones is limited¹. However, success stories of technology generation (NERICA rice for instance) do exist and lessons should be drawn from such successes. Yield gains associated with high-yielding varieties have been much lower in sub-Saharan Africa than in other regions, partly as a result of the inadequacies of input and output markets and extension services and poor infrastructure. This in turn has resulted in a low use of irrigation, fertilizers, advanced seeds and pesticides. Despite the much higher need for agricultural research, particularly research into adaptation to climate change, Africa has not been investing significantly in agricultural research and development. Some experts advise that Africa should look at ways of taking advantage of the potential possibilities that may be offered by biotechnology, including transgenic crops that are proved to be safe, while recognizing the existence of legal, economic, social and political barriers to the development of genetically modified crops. Conservation Agriculture could constitute a viable option given the infrastructure, capital and labour situation in parts of Africa.

PROSPECTS FOR SMALLHOLDER FARMERS

Smallholder agriculture is the predominant form of farm organization in Africa. Therefore at least in the short and medium term, agricultural growth (especially that of staples) and poverty reduction will be closely

Population Estimates for Sub-Saharan Africa: 1950 to 2050



Source: UN

¹ According to the World Development Report 2008, Asia had two major staples (wheat and rice) at the time of the Green Revolution vis-à-vis 8 for Africa (maize, rice, millet, sorghum, cassava, yams, and bananas/plantains).



SOME BASIC FACTS

- ▶ For the continent as a whole, economic growth was well above 5 percent until 2008, and for sub-Saharan Africa, above 5.5 percent. Agricultural growth in sub-Saharan Africa has been more than 3.5 percent, well above the 2 percent rate of population growth.
- ▶ Nevertheless, 218 million people in Africa, some 30 percent of the total population, are estimated to be suffering from chronic hunger

and malnutrition. In sub-Saharan Africa, 33 percent of children under five are stunted (affected by chronic malnutrition).

- ▶ The population of sub-Saharan Africa is projected to grow from some 770 million in 2005 to between 1.5 and 2 billion in 2050. Despite rapid rural-urban migration and the growth in urban population, the absolute number of rural people is also likely to continue to grow.
- ▶ There are around 33 million small farms of less than two hectares, representing 80 percent of all farms in the continent.

associated with growth in smallholder agriculture. However food systems are being transformed into globally integrated, more knowledge-based, capital-intensive chains. Cheaper capital, the introduction of new technologies and higher opportunities for off-farm employment, are factors that work towards changing the optimal size of farms in favour of larger holdings. The comparative advantage that smallholders have in food production is under threat as larger commercial farms are better placed to handle the process of managing risks associated with adoption of new technologies and the diffusion of knowledge. The result may be over time an increase in the average farm size, land consolidation, increased commercialization of agriculture and possible migration out of the sector. In this process, small-scale farmers will be under increased pressure to adapt. This points to the urgent need for programmes and policies to increase the capacity of small farmers to boost their productivity and enter dynamic sectors for national, regional and international markets. Such programmes include awareness and capacity building, reductions in transaction costs due to small volumes and perishability, facilitating the creation of farmers' organizations and other forms of business associations to ensure a minimum optimal scale, and the control of quality and safety of food.

INVESTMENT CLIMATE

Sub-Saharan Africa's agriculture is grossly undercapitalized, with capital per person working in agriculture being much less than in other developing regions. This reflects both insufficient investment as well as rapid growth in the region's rural population.

Table 2: Transaction cost advantages of small and large farms

	Small farms	Large farms
Unskilled labour supervision, motivation, etc	X	
Local knowledge	X	
Food purchases and risk (subsistence)	X	
Skilled labour		X
Market knowledge		X
Technical knowledge		X
Inputs purchase		X
Finance & capital		X
Land		X
Output markets		X
Product traceability and quality assurance		X
Risk management		X

Source: Poulton et al. 2005

It is a cause for concern because many countries with the highest prevalence and greatest depth of hunger are located in the region. Insufficient investment in agricultural production value chain development and support services can have a severely detrimental impact on the food security of the majority of the poor and hungry, who live in rural areas and depend directly or indirectly on agriculture for their livelihoods. There is a need for substantial investment in public goods that support agriculture, notably research and extension, irrigation and power supply, rural roads, storage facilities, education, health care. Given Africa's low population density, infrastructure connecting farmers to markets is costly and public-sector investment is essential. A favourable investment climate calls for well functioning institutions that effectively allocate and protect property rights, promote trading, reduce risk and facilitate collective action.

IMPORT DEPENDENCY

Many of the least developed countries in Africa have become increasingly dependent on imported food in recent decades. This dependency may not be a serious issue *per se*, so long as other export sectors can be developed to generate revenue to pay for food imports, but in many instances this has not been achieved. Consumers in these countries may have benefited from the low prices of imported food resulting from, *inter alia*, OECD farm subsidies, but the recent price spike demonstrated the precariousness of this position, while at the same time highlighting the challenges farmers (especially small farmers) in developing countries face in trying to expand production in response to higher prices. Projections to 2050 tend to confirm that this import dependency will continue in many African countries, which need to find ways of ensuring that they can pay for their imports. A further problem has

- ▶ Cereal yields have grown little and are still around 1.2 tonnes per hectare in the region, compared to an average of some 3 tonnes per ha in the developing world as a whole.
- ▶ Fertilizer consumption was only 13 kg per ha in sub-Saharan Africa in 2002, compared to 73 kg in the Middle East and North Africa and 190 kg in East Asia and the Pacific.
- ▶ Only 4 percent of arable land in sub-Saharan Africa is irrigated, compared to about 20 percent globally and 38 percent in Asia.
- ▶ Agricultural research and development spending in the countries of the region between 1981 and 2000 grew at only 0.6 percent per year on average, and actually fell during the 1990s.
- ▶ Some 40 percent of the population of the region lives in landlocked countries, as against only 7.5 percent in other developing countries, and transport costs in sub-Saharan Africa can be as high as 77 percent of the value of exports.



1. Why has agricultural performance in much of Africa over much of the last 20 years or longer been disappointing? What has gone wrong? What should be done to correct the mistakes of the past?
2. What is the potential for Africa to ensure its food security?
3. What is the potential of smallholder agriculture to be the engine of agricultural growth and poverty reduction in Africa in the long term, and what will the impact of transition in farming be on the smallholder sector? How should smallholder farmers be assisted?
4. What are the priorities for technological change in African agriculture: does the continent need a Green Revolution of its own, and what might be the elements of such a revolution?
5. What institutional and policy changes are needed to strengthen support to farmers and other actors along the agri-food value chain, and create a favourable environment for investment?

been the low levels of intra-regional trade resulting from physical and institutional barriers. One of the biggest impediments to large-scale private investment in cross-border trading capability, particularly in Southern and Eastern Africa, has been the unpredictable use of export restrictions whenever there is a fear of food shortages in local markets.

CLIMATE CHANGE

Climate change is expected to affect most regions of Africa negatively including through extreme events like floods and droughts which will become more frequent, but it will also open new opportunities in some regions where rainfall and other climate parameters may improve. Other opportunities arise from the possibility of carbon trading and offsets. Climate models are not yet sufficiently well developed for Africa to predict what would happen region by region with sufficient certainty to engage in detailed planning. Regardless, climate change should be mainstreamed into general agricultural and risk mitigation agendas, and capacities for agricultural technology development should be enhanced. The Intergovernmental Panel on Climate Change (IPCC) has estimated that adaptation to climate change could cost Africa some 5 to 10 percent of its gross domestic product. The Panel report also predicted that climate change could cause potential crop yields from rain-fed agriculture to decline by 50 percent in some African countries.

LINKING AGRICULTURE TO NUTRITION SECURITY

Narrowing the nutrition gap in sub-Saharan Africa, where the difference between actual and optimal intake is greatest, and the incidence of undernourishment is highest, is imperative. Improved food security must occur in conjunction with improved nutrition security which refers to the “quality” component of food production, consumption and physiological need. Advances in agriculture are typically framed in terms of narrowing the gap between current and potential production yields. However, there is another type of gap that exists, the “nutrition gap” which refers to 1) increasing availability and access to the foods necessary for a healthy diet, and 2) increasing actual intake of those foods. Agriculture has the greatest potential and role to play in alleviating poverty and improving the food and nutrition situation of vulnerable rural communities. However, nutrition security objectives should be taken into consideration in the design and implementation of agricultural development initiatives to ensure that potential opportunities to improve nutrition are identified and exploited.

HIV-AIDS

Africa's failure to grow as rapidly as the rest of the developing world has left a legacy of poverty and hunger. Sub-Saharan Africa has seen a huge increase in the number of people living in absolute poverty – from

214 million in 1981 to 391 million in 2005, with only a small decrease in percentage terms over the same period, from 53.7 to 51.2 percent. Low growth has not only reduced domestic resources available for investing in infrastructure, agricultural development, health, education and nutrition, but it has also aggravated the HIV-AIDS crisis, which involves a vicious spiral of poverty and disease. In rural areas the fight against HIV and AIDS is lagging badly and needs to be intensified with expansion of HIV and AIDS services to rural areas and major improvements to social safety nets.

INSTITUTIONAL REFORMS

State institutions for agriculture in Africa are particularly weak in the poorest countries. Lack of decentralized and bottom-up processes are often in stark contrast with the heterogeneity of agro-climatic conditions and technology needs that need specific solutions derived through a participatory process. Institutions are needed that strengthen the functioning of national and regional markets (regulatory, risk management, information, a framework for organizations and cooperatives) and those for the management of climatic and other risks. Political stability and peace are still issues that require attention.

For further information



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