



# Sub-Saharan Africa – realizing the potential



## 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.

Agriculture in sub-Saharan Africa has responded to a better macroeconomic environment, and improved price incentives brought about *inter alia* by reduced

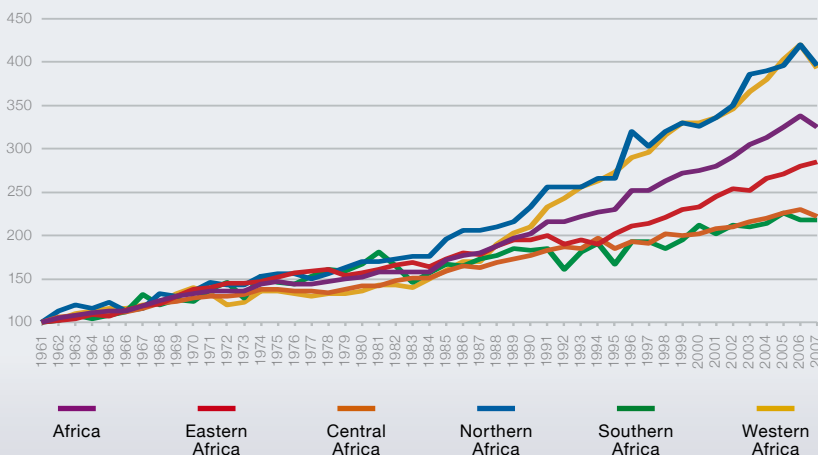
“taxation” of agriculture and higher world prices. The negative rate of protection for Africa as a whole improved from about minus 20 percent in 1975–79 to less than minus 10 percent in the first half of the present decade, and to near zero in 2005. The positive prospects for Africa’s agriculture will not materialize, however, without concerted and purposeful policy action and massive investments, especially if agricultural growth is to be sustained and if it is to result in substantial reduction of malnutrition and poverty.

Many challenges need to be overcome, including the widening technology divide, poor infrastructure, declining technical capacity, weak input and output marketing systems and associated market services, slow progress in regional integration, governance and institutional shortcomings

in some countries, conflicts, and high incidence and prevalence of HIV-AIDS and other diseases.

Improving capacity to develop and deploy improved agricultural technologies and policies, improving farmers’ access to water and modern inputs (high-quality seeds, fertilizers, etc.), building rural infrastructure (roads, storage, etc.), 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 credit, assets and skills will be the priority actions needed to ensure that agricultural and rural growth goes hand in hand with poverty reduction. These will need investments, both public and private.

Index of Agricultural Production (1960=100)



Source: FAOstat

## THE ISSUES

### NATURAL RESOURCES

Despite abundant natural water supplies at the continental level, this abundance is not evenly distributed and to date Africa has not been able to intensify its agricultural production through irrigation and improved water management (water harvesting and storage). Less than 4 percent of sub-Saharan Africa’s water resources are mobilized and less than a quarter of the total land area suitable for rainfed crop production is used. The moist savannah agro-ecology has huge potential for increasing crop and livestock

production if properly managed, following lessons learned from other regions, such as the innovations that have brought major production increases to the Cerrados of Brazil. FAO has estimated that the potential additional land available for cultivation amounts to more than 700 million ha. But at the same time, it must be recognized that to open up new farmlands will require enormous investments in infrastructure and technology as well as appropriate safeguards to avoid potential negative environmental impacts.

### TECHNOLOGY

A fundamental challenge to achieving agricultural productivity growth in Africa is

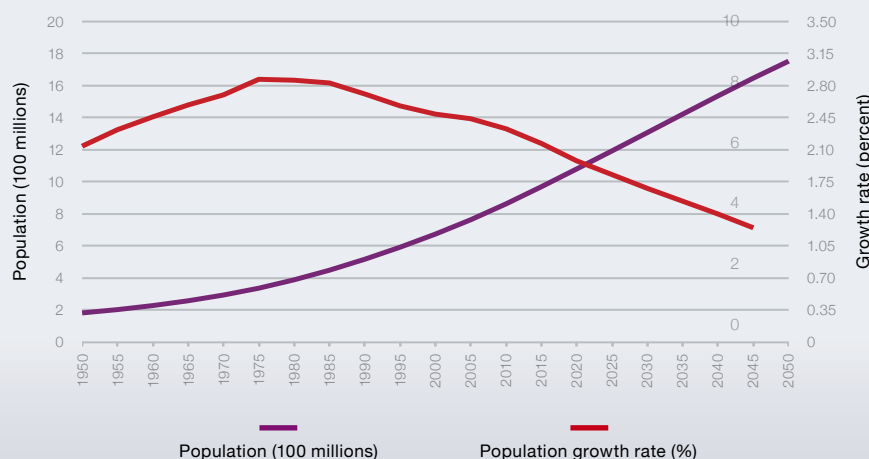
the variety of agro-ecological environments and farming systems and the large number of staples it produces. Yield gains associated with high-yielding varieties have been much lower in sub-Saharan Africa than in other regions, partly as a result of the inadequacies of input and output markets, extension services and infrastructure. Conservation Agriculture could constitute a viable complementary option given the climate, infrastructure, capital and labour situation in parts of Africa. There are also options available for closing the significant performance gaps in animal production through the application of advanced genetics, feeding systems, animal health control and other

animal husbandry, production and product processing technology at various levels. Their implementation so far has been limited by weak institutions both upstream and downstream. Also with the right, locally adapted technologies, the region holds significant potentials in fisheries and aquaculture production.

### PROSPECTS FOR SMALLHOLDER FARMERS

Smallholder agriculture is the predominant form of farm organization in Africa. Therefore, agricultural growth (especially that of staples) and hunger and poverty reduction will be closely 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 result may over time be an increase in the average farm size, land consolidation, increased commercialization of agriculture and possibly forced migration out of the sector. In this process, small-scale farmers will be under pressure to adapt. This points to the urgent need for locally adapted programmes, plans and policies to increase the capacity of smallholder farmers to

Population Estimates for Sub-Saharan Africa: 1950 to 2050



Source: UN



### 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. Much of this growth since 2000 has been driven by exports of primary commodities.
- ▶ Agricultural growth in sub-Saharan Africa has been more than 3.5 percent, well above the current annual rate of population growth of two percent
- ▶ Nevertheless, 212 million people in sub-Saharan Africa, some 30 percent of the total population, suffered from chronic hunger and malnutrition in 2004–06. This number is estimated to have increased to 265 million in 2009 due to high food prices and the economic crisis. About 38 percent of children under the age of five are 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, the absolute number of rural people is also likely to continue to grow.
- ▶ 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 5 kg per ha in sub-Saharan Africa in 2007, compared to 62 kg in the Middle East and North Africa, 127 kg in South Asia and 152 kg in South America.

boost their productivity and make them more competitive, allowing them to enter dynamic sectors for national, regional and international markets. Investments in favour of small producers should be increased.

### 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. Investing in research to improve the macro and micronutrient content of crops, and investing in extension services to increase knowledge of plants that can be used to increase crop diversity and dietary diversity are necessary for narrowing the nutrition gap.

### LOW CAPITALIZATION AND INVESTMENT

Sub-Saharan Africa’s agriculture is grossly undercapitalized. This reflects both insufficient investment as well as rapid growth in the region’s rural population. Insufficient investment in agricultural production value chain development and support services can have a severely detrimental impact on the food security of

**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

the majority of the poor and hungry, who live in rural areas and depend directly or indirectly on agriculture for their livelihoods. Currently, there is a pressing need for substantial investment in public goods that support agriculture, notably research and extension, rural roads, large water projects, education, and health care. 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 revenues to pay for food imports and the availability and stability of food commodities in world markets are guaranteed. Consumers in these countries may have benefited from the low prices of imported food resulting from, *inter alia*, farm subsidies in rich countries, but the recent price spike demonstrated the precariousness of this position, while at the same time highlighting the challenges farmers, especially the smallholders, in developing countries face in trying to expand production in response

- ▶ Only 4 percent of arable land in sub-Saharan Africa is irrigated, compared to about 20 percent globally and 38 percent in Asia.
- ▶ Some 65 percent of the cropped land in sub-Saharan Africa is prepared by hand, 25 percent with draught animals and less than 10 percent by tractor. Projections to 2050 show that the use of tractor power will lag behind all other regions by some 50 percent.
- ▶ High post harvest losses characterize agricultural production in Africa and could be as high as 15 percent in cereals, pulses and oilseeds, up to 30 percent in roots and tubers and up to 40 percent in some fruits and vegetables. For cereals, the losses incurred represent around 17 million tonnes every year.
- ▶ The introduction of advanced genetics, feeding systems, animal health control and other production technology has spurred

livestock productivity, particularly in the rapidly growing sub-sectors of poultry, pigs and dairy supplying urban centres, and in some temperate highland areas. However, livestock productivity overall remains low.

- ▶ Forests in sub-Saharan Africa are crucial for the livelihood of millions of people who rely on their services for daily subsistence and represent vital carbon sinks and biodiversity zones. Africa holds 16 percent of the global forest area, and produces about 19 percent of global roundwood (2006). Fuelwood accounts for about 90 percent of roundwood production. Africa’s a gross value added in the forestry sector is USD 14 billion.
- ▶ Sub-Saharan Africa currently accounts for only 1.2 percent of global aquaculture production, amounting to 0.6 million tonnes.

to higher prices. This demonstrates the supply-side constraints that exist in these countries. The structural solution for sub-Saharan Africa to achieve food security is to increase its agricultural production and productivity, particularly by small farmers and rural households.

### **CLIMATE CHANGE**

Climate change is expected to affect negatively agriculture, forestry and fisheries in most regions of Africa including through more frequent extreme weather events like floods and droughts, but it will also create new opportunities in some regions where rainfall and other climate parameters may improve. Other opportunities arise from the possibility of carbon trading and offsets. According to the Intergovernmental Panel on Climate Change (IPCC), yields of rainfed crops in sub-Saharan Africa could fall by 50 percent by the year 2020. Climate change should be mainstreamed into general agricultural and risk mitigation agendas, and capacities for agricultural technology development should be enhanced. Especially critical is the need to develop crop varieties and livestock breeds that are adapted to changing climatic conditions and to promote innovations that increase soil organic matter and cover the soil to improve resilience to droughts and floods.

### **HIV-AIDS**

Africa's failure to grow as rapidly as the rest of the developing world has left a legacy of poverty and hunger. 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, HIV and AIDS have depleted the agricultural work force and further retarded production. In addition, the inter-generational transmission of knowledge has been interrupted in many rural communities due to the premature deaths of smallholders who die before teaching their children important farming skills.

### **INSTITUTIONAL REFORMS**

State institutions for agriculture in Africa are particularly weak in the poorest countries. Institutions are needed that support farmers and strengthen the functioning of national and regional markets (input, output, 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.

### **POLICY CONSIDERATIONS ARISING FROM THE FAO HIGH-LEVEL EXPERT FORUM ON HOW TO FEED THE WORLD IN 2050 (ROME, 12-13 OCTOBER 2009)**

- ▶ Development efforts in sub-Saharan Africa should give top priority to agriculture given its important contributions to national GDP, employment, income generation and export earnings. Special attention should be given to rural areas where the majority of the poor and food insecure lives.
- ▶ The Comprehensive Africa Agricultural Development Programme (CAADP) has become a focus for producing strategies and plans to stimulate agriculture. CAADP is changing the way that agricultural development is planned and financed.

Led by African governments and the African Union, it brings together different stakeholders. CAADP recognises the complexity of agriculture and that there are correspondingly multiple entry points for agricultural growth. Much effort is going into translating that vision into country programmes and projects.

- ▶ The current imperative is to work with smallholder farmers to improve their access to markets, both input and output, and to credit to increase their productivity and incomes. Nevertheless, with the industrialization and globalization of agriculture, in the future there could be fewer full-time smallholder farmers and land increasingly farmed in larger units.
- ▶ Africa has a greater diversity of ecosystems and correspondingly of farming than other regions. A green revolution for Africa will thus not be the same as that seen in Asia.
- ▶ The many environments of Africa may mean that a proportionately greater investment in research will be needed. Governments need to commit more funds to research both to ensure that enough is carried out and that there is national and regional ownership of the research agenda.
- ▶ While there is a growing sense that Africa needs to rely on its own resources for agricultural development – as Asian countries did a generation ago – there are serious concerns with the terms on which Africa trades with the rest of the world. Subsidies to farmers in OECD countries and trade restrictions still harm the prospects of African farmers on both their domestic markets and in export markets.

#### **For further information**



**World Summit on Food Security**  
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