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# *Food security in Africa*

## Water on oil

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## *Summary*

Food security's significance as a key geostrategic theme was confirmed in 2007-2008 when it emerged at the top of the international political agenda. Although food price inflation has receded in recent years, the underlying supply challenges remain demanding. The collapse in oil prices has forced food security and agricultural development to the top of the political and economic agenda across Africa. To thrive economically and socially, Africa needs first to deal with its own US$35bn structural food deficit before it can play a role in alleviating long-term strategic supply impediments across the world.

*Escalating food demand in emerging economies is forcing many regions to abandon self-sufficiency and look overseas to secure their strategic food supplies. Growing populations, increasing affluence and urbanisation bring many challenges. Higher protein consumption in China alone will require an area the size of the UK to support additional demand. And China's burgeoning food needs are hardly unique. The shape of future demand is only one half of the equation: the other half is supply – and we cannot take a supply response for granted.*

### *Where will the supply side response come from?*

- Emerging economies? China, like many emerging economies faces challenges when seeking to increase domestic food production. The country feeds almost 20% of the world's population with only 7% of the world's water supplies. Of the country's water, 80% is in the south, while 67% of the country's farmland and 50% of its population is in the north. In the 1950s China had some 50,000 rivers with significant catchment areas. Today it has perhaps 23,000. Some estimates have it that 70% of China's river water is unfit for human consumption and 30% is unfit for even agricultural use. And if that wasn't enough of a challenge, between 1997 and 2008 China lost some 6% of its farmland to factories through urbanisation.

- Developed markets? Developed markets will only have a marginal influence on additional supplies. Yields have been maximised, improvements will be marginal or, at the minimum, will take decades to make a material difference. There are no great unfarmed areas left.

- Commonwealth of Independent States (CIS) and Central Asia? As well as having lost some 40m hectares (ha) of productive land, in the post-Soviet era, port bottlenecks on the Black Sea (25m tonnes export capacity) and other infrastructure impediments suggest that what remains will be difficult to maximise. The same applies to Central Asia which suffers from poor rail links and erratic supply arising from inconsistent and extreme weather patterns.

- Latin America? Higher oilseed and grain imports into China have been welcome trends for farms all across the Americas, not least Latin America, over the last 15 years. However, food security cannot exist when there is an over-reliance on too few producing nations and they are capable of enforcing export bans.

### *All roads may lead to Africa*

- With some 400m ha of land on the Guinea Savannah, the ability to double crop, and only 10% of it cropped currently, Africa represents an extraordinary resource not only capable of supplying domestic needs for multiple African nations but also of becoming a major source of world food supplies.

- There are many challenges to overcome, including climate change, demographic changes, land tenure security, gender inequality, maintaining and improving national food security.

- This report considers food security across Africa with particular emphasis on the policies of nine African countries: Nigeria, Ghana, Angola, Kenya, Tanzania, Mozambique, Zambia, Zimbabwe and Sierra Leone.

# Contents

# Part 1: Africa's position in the world

## The world needs more food

*Our planet faces many geostrategic challenges. One prominent theme is the ability of the world to feed itself. Across many emerging economies, rapid industrialisation and urbanisation place significant strains on the world's food resources. Some industrialising economies are rapidly losing their ability to feed themselves. China, for example, is losing its self-sufficiency in maize, mirroring its position in soybeans where import reliance has been the norm for decades.*

***Meat consumption (kg/person/year)***

| Country | 2003 | 2013 | 2015 | 2020 | 2025 |
|---|---|---|---|---|---|
| China | 46 | 57 | 60 | 67 | 73 |
| European Union | 76 | 77 | 78 | 79 | 80 |
| Hong Kong | 104 | 145 | 147 | 151 | 156 |
| Indonesia | 8 | 9 | 9 | 10 | 11 |
| Japan | 43 | 47 | 48 | 49 | 51 |
| Philippines | 25 | 27 | 28 | 30 | 31 |
| Russia | 45 | 59 | 61 | 64 | 67 |
| South Korea | 51 | 63 | 65 | 70 | 76 |
| Taiwan | 74 | 74 | 76 | 82 | 87 |
| Thailand | 25 | 27 | 28 | 30 | 32 |
| US | 115 | 107 | 106 | 107 | 109 |
| Vietnam | 20 | 29 | 29 | 31 | 32 |

**Note:** China includes the mainland only
**Source:** FAPRI

This structural shift, driven by growing affluence and higher protein consumption, needs to be put into context: if Chinese per capita levels of meat consumption equalise with Taiwan (i.e., a developed Chinese society) then China will require an additional 94m tonnes of grain to satisfy that shift in demand. In short, China's growing protein needs alone will need an area the size of the UK to grow the grains to support that consumption.

### *A supply response has many challenges*

We cannot take a supply response for granted. A number of key industrialising nations are suffering from their own domestic supply pressures. Again, consider China as a proxy for many emerging economies. The country feeds almost 20% of the world's population with only 7% of the world's water supplies. Meanwhile their overall water usage rates are a mere 25% of average US rates. Some 80% of the country's water is in the south while 67% of the country's farmland and 50% of its population is in the north.

In the 1950s China had some 50,000 rivers with significant catchment areas. Today it has perhaps 23,000. Some estimates have it that 70% of China's river water is unfit for human consumption and 30% is unfit for even agricultural use. Between 1997 and 2008, China lost some 6% of its farmland to factories and urban sprawl. Cadmium has been found in 10% of the country's rice supplies. Overall, some 40% of China's arable land may have been degraded and 20% of it polluted.

The situation in developed markets may be better but supply constraints exist there too. Yields have been largely maximised and the output and productivity revolutions are a theme of the past. Gains can most likely accrue through improved plant genetics, the clever deployment of technology and so on but the gains might still, over the long run, be marginal and cannot be guaranteed as a new source of supply.

## *Where can we turn to for a supply-side response?*

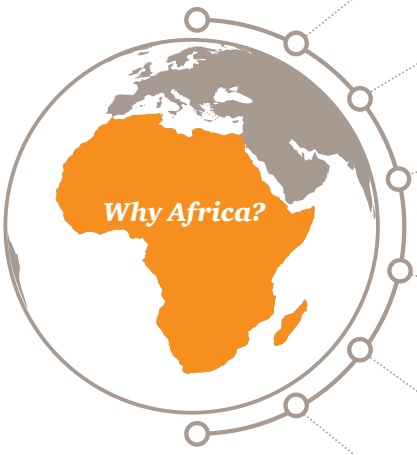

That takes us on to a range of developing markets where a stepchange in supply might be more certain. What about the Commonwealth of Independent States (CIS)? When the former Soviet Union collapsed in the early 1990s, it is estimated that as much as 40m ha of agricultural land was withdrawn from production as the communist system collapsed under the reforms initiated by Boris Yeltsin's Minister of the Economy, Yegor Gaidar. Could this land be returned to active production? It may offer an alternative source of supply for the world's growing food demands. However, there are many constraints, not least the current investment climate in the countries that constitute the CIS. Russia and Ukraine are engaged in a difficult and increasingly protracted conflict in the East of Ukraine. Meanwhile, Russia's Black Sea ports can barely handle 25m tonnes of annual exports. Infrastructure inconsistencies are not only a feature of the Black Sea ports and the railway networks that supply them; Central Asia too suffers from poor rail links and erratic supply arising from inconsistent and extreme weather patterns.

Latin America offers a degree of potential food security. Higher oilseed and grain imports into China have been welcome trends for farms all across the Americas, not least Latin America, over the last 15 years. However, food security cannot be said to exist when there is a possibility that supply is held back by export bans. If there was a single lesson that could be taken from the food crisis in 2007-2008, it was that ownership of an overseas agricultural asset is no guarantee of food security if an export ban were to be put in place.

In addition, although Latin America could offer significant growth potential, dependency on a few key markets can be an unwise or possibly even unsustainable policy. The diversification of supply that dictates energy policy among oil and gas consuming countries should also be at the forefront of food policymakers' thinking in the years ahead.

That brings us to Africa. Some 400m ha of land on the Guinea Savannah, the ability to double-crop and only 10% of that land cropped currently. This represents an extraordinary resource not only capable of supplying domestic needs for multiple African nations, but also of becoming a major source of world food supplies.

## *Why Africa?*




- Key advantages on the supply side are fertile land, abundant water, and cheap labour.
- Urbanisation, the rise of superfarms, and the need for food security are key drivers.
- African agriculture is likely to witness a transformation over the next two decades.
- New investment models tailored for Africa will become increasingly prevalent.
- We believe Africa will see a change similar to that of Brazil over the past forty years.
- Advantages in the demand side are rising food requirements, both locally and globally.

Does that last statement sound fanciful? It shouldn't. Yesterday's dream, ambition or whimsical notion becomes today's conventional wisdom. It happened once before. In Brazil, yesterday's agricultural backwater became today's agricultural superpower in the space of two generations. This could be Africa's future.

# *Learning from others: the Brazilian experience*

*In our work with African governments and companies, we often hold up Brazil as a case study to demonstrate how a nation can turn itself from a relatively minor player in the global agriculture industry into a superpower within a few decades. The similarities between Brazil and Africa – climate, topography, soil types and nutrient distribution – are well known. Africa's Guinea Savannah is Brazil's Cerrado.*

In the early 1960s, Brazil's Cerrado region was an agricultural backwater – low fertility, acidic soil, nearly non-existent infrastructure and no urban demand centres within its vicinity. Today, however, the Cerrado region is a major agricultural centre, accounting for the bulk of Brazil's annual production of soybeans, sorghum, coffee, beef and a large share of maize and rice output.

But a crucial lesson from the Brazil experience is to acknowledge how long the process took: policies and reforms introduced in the 1960s, culminating in the founding of EMBRAPA (the Empresa Brasileira de Pesquisa Agropecuária) in 1973. EMBRAPA's role was to integrate strategies to raise productivity. Major initiatives included adding lime to neutralise soil acidity, the development of high-yielding soybean varieties suitable for the tropics and the implementation of appropriate farming practices.

A range of macro-economic factors also reinforced the efforts of EMBRAPA. The Real Stabilisation Plan in 1994 stabilised the Brazilian economy and reduced inflation. In 1999, Brazil adopted a floating exchange rate and the currency suffered a significant devaluation: this made Brazilian exports competitive in the global market. Above all, the government enacted reforms that improved the investment climate and allowed the private sector to flourish.

So key factors to recall when applying the Brazilian experience to Africa are:

- **The length of time that it took for Brazil to develop into an agricultural superpower.** It is now over 40 years since the foundation of EMBRAPA. A well-executed strategy, in an era when the transfer of knowledge is indisputably easier than was the case historically and which mirrors a model that has already gone through foundational challenges, can narrow that time frame. It will, however, remain an arduous trek.

- **The relevance of the exchange rate issue and a resilient macro-economic backdrop.** Brazil had already experienced two currency crises in 1994 and 1998. It had also gone through a structural adjustment programme in the late 1990s and, ultimately, used that to the advantage of its agriculture sector. This is especially relevant for a number of African economies where the collapse of exchange rates following the decline in oil prices ought to be seen less as an existential threat and more as an opportunity to embrace new policies and diversify economies.

- **The need for strong environmental and social safeguards, with good governance and well-resourced monitoring.** There is a pressing need to avoid the degradation and conversion of high conservation value ecosystems (including high carbon stock forests*) and ensure positive rather than negative impacts on local communities during the agricultural growth process. This requires landscape level management planning, strong governance and appropriately resourced monitoring processes.

- **Policy reform, government and private sector support.** Government sponsorship, especially with regard to supply-side reforms, was crucial to the success of the Cerrado. However, private sector support was also a critical factor in ensuring its success. In short, it was neither state-mandated support nor market-based backing in isolation that delivered results; it was both working in tandem.

* as defined under the Greenpeace High Carbon Stock approach (Available online: http://www.greenpeace.org/international/Global/international/briefings/forests/2013/HCS-Briefing-2013.pdf)

# The resource pivot: from oil to agriculture

*The collapse in oil prices since the second half of 2014 has significant implications for the agriculture sector across many African nations. Much of the 'Africa rising' narrative can be attributed to a strong demand for natural resources and the corresponding capital flows that have swollen government coffers or flooded into a burgeoning middle class's consumer expenditure patterns.*

*Thus 2015 might represent a major inflection point for a number of African oil- and gas-producing nations such as Nigeria, Ghana, Angola and Mozambique. In short, are the exceptional growth rates, which have characterised many resource-rich sub-Saharan economies in the last two decades, durable in an environment where oil prices are low and may remain low for the foreseeable future?*

### *Nigerian naira*

*When oil prices began their steep decline in the second half of 2014, Nigeria, which is heavily dependent on oil revenues, faced considerable economic headwinds. The Nigerian naira has since depreciated by close to 25%, stoking inflation and disrupting government finances. The Central Bank also imposed various currency controls in an attempt to support the currency. All of this has led to a considerable slowing of GDP growth. Compared to the 6.3% GDP growth rate seen in 2014, the Central Bank of Nigeria expects GDP growth in 2015 to amount to 2.6%.*

'Dutch Disease' is a straightforward economic concept to grasp. In an economy where there is one booming export sector – almost invariably a natural resource – the value of the local currency strengthens against foreign currencies. This pushes up costs and lowers returns in other sectors of the economy, as exports become more expensive for other countries to buy, and imports become cheaper, making these sectors less competitive. The name derives from the effects first observed in the Dutch manufacturing sector in the aftermath of a large discovery of offshore natural gas in 1959.

This became a common theme. In the 1980s, huge discoveries of North Sea oil and gas in the UK delivered an exchange rate that was disastrous for an already moribund manufacturing sector. The relative success of the service-based economy of London in recent years suggests a variant of this model as the 'crowding out' effect appears in many commentators' eyes, detrimental to the rest of the country. In short, does a London-centric exchange rate work for the North of England and the Celtic nations?

This dual-sector model is particularly relevant to many emerging economies. In the absence of highly developed manufacturing sectors, Dutch Disease worked against many agricultural sectors. In the context of developing countries, 'resource curse' is a more common refrain – the paradox of countries with abundant natural resources, such as oil, ending up with poor development outcomes for its citizens. Dutch Disease is one of the causes of 'resource curse', others being government mismanagement, revenue volatility, and so on.

Consider the impact of the 'resource curse' on the economic growth trajectory of Ghana in the 1990s and 2000s. Annual growth rates averaged almost 5% during this period and this was achieved despite the manufacturing component of GDP declining by almost 4% pa and while gold prices were in the doldrums. Much of the growth can be attributed to the sizeable contribution made by agriculture to GDP. However, the discovery of oil in Ghana in recent years does the country's other sectors, including agriculture, no favours.

A similar scenario has played out in Nigeria. Any Nigerian over a certain age will tell you how advanced the country's agriculture sector was in the 1960s during the early flushes of independence. However, the discovery of oil in the Niger Delta – along with other political and economic factors – helped to weaken established industries such as palm oil, cocoa and rice production. Malaysian and Indonesian groups now dominate the palm oil industry; Nigeria has a 7% market share of global cocoa production versus a combined 65% for Côte D'Ivoire and Ghana. Meanwhile, Nigeria imports over 3m tonnes of rice per annum, almost 50% of consumption.

The collapse of oil prices and the concomitant effect on the exchange rates of these nations suggests a unique opportunity for agriculture to redress some of these imbalances. Africa has a US$35bn agriculture deficit and Nigeria alone may account for some 15% of that deficit. Exchange rate devaluations obviously push up the cost of food to domestic consumers but, equally, they can also boost the returns of domestic producers and create opportunities for exporters. One of the factors that has driven Brazilian and Argentine agriculture exports has been the 1999 and 2001 exchange rate devaluations in both countries.

But analysis of the decline of the agricultural sectors in resource-rich nations goes beyond the Dutch Disease formulation. Seen through the lens of development economics, specifically the Lewis dual-sector model, the growth of a developing economy can be described in terms of a labour transition from the subsistence sector to the capitalist sector.

The dual-sector model postulates that, as a developing economy urbanises, the cost of goods produced in cities is held constant while there is a continuous supply of cheap rural labour migrating to cities and towns. This cost advantage must end when the cheap (rural) source of labour is no longer available. This process was evident in Japan in the 1960s and China may have reached what is commonly referred to as the 'Lewis turning point' in recent years.

The key point of this model is that when this inflection point is reached, a labour-intensive economy must become a capital-intensive one if growth is to continue. Equally, it also means that the rural economy – and, by definition, the agricultural sector – needs to make the shift from labour to capital because the cheap source of labour is no longer available. This is what happened in Western Europe in the latter half of the 19th century.

It would be folly to assume that Africa's agriculture sector has reached anything resembling a turning point. Also, the model glosses over the obvious imbalances that can occur when a readily available pool of urbanised labour remains 'available' but unemployed.

However, we might be witnessing something unique. Analysis of the Dutch Disease and Lewis models suggest a confluence of two trends in which newly competitive economies with a pressing need to diversify their economies and find new sources of income can do so during a period where labour remains cheap and economic sectors are only just becoming more capital intensive.

Of course, this is a 20-year, once-in-a-generation economic shift. Africa becoming a more central component of the global agriculture sector is happening and it might be a surprisingly rapid shift. On the eve of their respective independences in 1957 and 1960, Ghana and Nigeria were considered the economic peers of South Korea and better placed than the latter to grow. Yet, within a couple of generations South Korea had become the world's 13th biggest economy[1].

Certainly there will be some countries that understand and embrace the underlying shifts taking place within their economies and harness the dynamic benefits that they offer. Some countries will emerge as spectacular winners while others will be left wondering what might have been. Agriculture as a strategic pillar of economic growth and development? In an age of capital and technology? Well, if you read academic and multilateral descriptions of South Korea's economic prospects from the 1960s, they sound not unlike North Korea now.

1 World Bank

# *Hubs, corridors and islands of competence*

*Farm size and food security are as inseparable as politics and economics. Farm sizes might vary widely, but according to the Food and Agriculture Organization of the United Nations (FAO), some 60-70% of global agricultural output comes from farms under 2ha in size. In absolute terms some 80-85% of the world's farms are under 2ha in size. The 5,000ha plantation is an anomaly. Or, another way to look at it, a significant percentage of the world's farms barely merit the description 'backyard'.*

In a global industry dominated by smallholders, food insecurity is a real everyday risk for many, especially in Africa. To promote food security, policy responses vary. Some promote out-grower schemes – essentially a first cousin of many co-operative movements – while others promote greater scale and consolidation across the sector.

Both responses have benefits and drawbacks. What they have in common is that both should improve access to markets and capital, thereby promoting food security. In short, the effects ought to be positive. Responsibilities are shared with regards to costs, benefits and risks. In essence, there is a choice between two options: out-growers can be wholly responsible for production with corporate entities guaranteeing only purchase; or corporate entities can provide inputs, machinery, training, financing and guarantee purchases.

The strengths of out-grower programmes are obvious. They allow a capital-constrained company to expand cheaply and quickly, while smallholder farmers get better access to inputs, technical support and markets. They work well in societies where communal land ownership is the norm. They also provide social and political benefits, as local communities become genuine stakeholders in the project.

There is no overwhelming evidence to suggest whether out-grower strategies or large-scale industrialised farming is better or worse than the other. Quite simply there are too many variables in play. In our experience, it always pays to be sceptical of the many voices which promote one or the other and only view the landscape in terms of black or white.

However, when it comes to access to capital and markets, which can promote food security, it might pay to find some useful compromises between the extremes.

Consider the fragmented nature of the sector. A model shaped by many millions of weather-dependent, price-taking smallholders neither readily attracts capital, nor provides food security. However, at the other end of the spectrum, large-scale farming enterprises remain minnows in sharp contrast to most industrial sectors.

Take the market capitalisation of SLC Agricola and AdecoAgro, two flagship agricultural operators, listed on Bovespa and the NYSE respectively and both with extensive operations across Latin America. In hectares they account for an area four times the size of greater London. In market capitalisation terms, they account for about an hour's trading of Apple Inc stock on NASDAQ.

### *Out-grower agreements can work well for both parties*

| Company benefits | Out-grower benefits |
|---|---|
| Provides an easier, cheaper route to expansion, compared to wholly-owned execution. | Access to high-quality inputs, mechanisation, financing and technical support, which are extremely difficult for smallholders to access. |
| By assisting out-growers with inputs and technical support, the company can ensure output quality. | Assured market and prices for output that allows farmers to sell their output to the contracting company at pre-determined prices, thus eliminating pricing risk. |
| The political and social benefits from out-grower strategies are perhaps as important as the economic benefits, especially in Africa. | Access to local and global markets to which smallholders are often poorly linked with local supply chains. Out-grower arrangements allow indirect access to both. |
| Concerns over land grabs, exploitation of water resources and displacement of indigenous communities are never far from the surface in any African agricultural projects. | Stable income with minimal investment and risk. |
| Turns local communities into stakeholders and provides them with a share of the project benefits, thereby increasing the project attractiveness both socially and politically. | The local community in general benefits from infrastructure such as roads, and power that would be required for the out-grower strategy to work. |

**Source:** PwC

So, how do we resolve this conundrum? At face value it appears that the current structure of farming and potential new structures do not, or will not, necessarily provide food security. We would argue that the best way to ensure food security is to let both models flourish, not one at the expense of the other.

Africa's development corridors may provide a template to unite smallholders with large-scale agriculture. A development corridor is defined by Patsy Healey, a prominent urban planner, as:

"a conceptual and programmatic model for structuring physical and socio-economic responses to develop an area building upon a linear agglomeration of economic activities and people along the physical backbone of transport infrastructure".[2]

In non-academic language, it means using infrastructure to generate economic activity. But development corridors are complex. They can require huge capital undertakings, they need to engage multiple stakeholders and navigate multiple sectors, including transport, energy, telecoms and agriculture.

Simultaneously, they have the advantage that they can bring necessary economies of scale to bear. The potential for employment opportunities and social benefits is well known. The SAGCOT scheme in Tanzania, for example, aims to create more than 420,000 jobs. Transport development is also critical in lowering business costs for market participants. Another benefit – especially relevant for the likes of the Maputo Corridor – is that they can reduce cross-border delays and payments.

As the FAO observes, development corridors, whether called an economic corridor, a cluster, an industrial park, a special enterprise zone or a technopole, all have a single feature in common: they all represent an agglomeration of economic activity in a specific location where businesses gain advantages through co-location.

The role of governments, in the view of the FAO, ought to be the reinforcement of this process through the provision of infrastructure and facilities as well as capacity building, research and other ancillary services.

2 Healey, P. 2004. The Treatment of Space and Place in the New Strategic Spatial Planning in Europe. International J. Urban and Regional Research, 28(1): 45–67. February.

### *Main features of the most prominent types of spatial development initiative (SDI)*

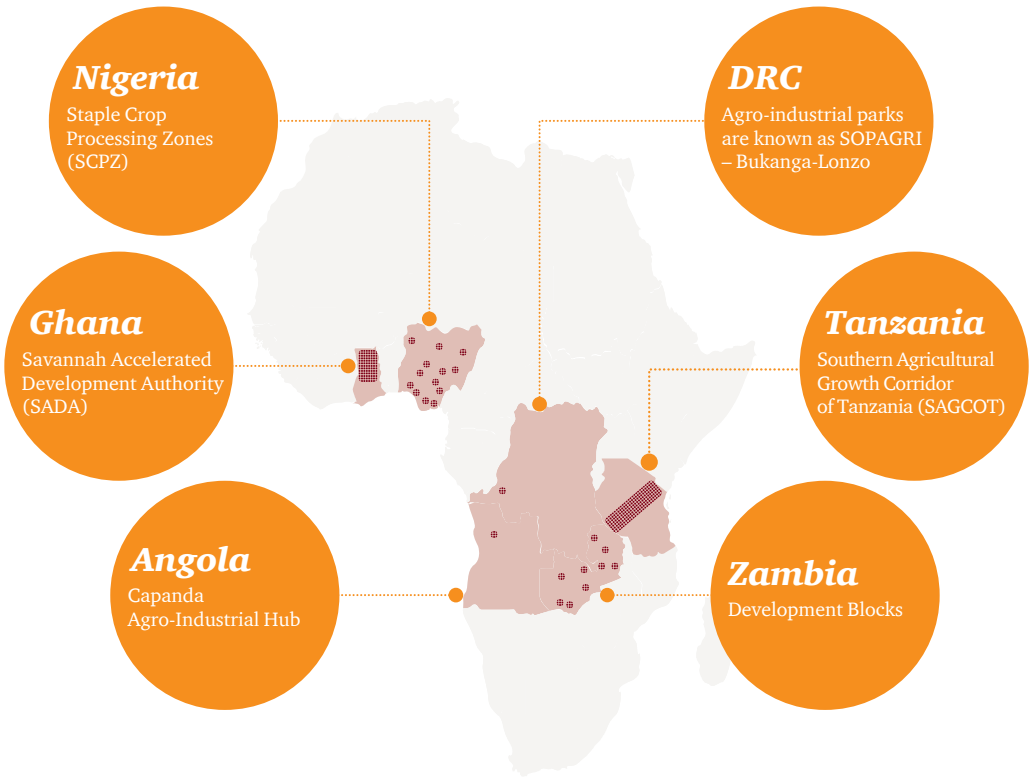
| | Prominent features | | | |
|---|---|---|---|---|
| **Type of SDI** | **Overall purpose** | **Geographic scope** | **Sectoral/ industry scope** | **Emphasized feature** |
| Economic corridor | Integrated planning | Supranational (might encompass smaller SDIs); linear agglomeration spanning across hundreds or thousands of kilometres | Multidimensional | Coupling infrastructure investments with trade and regulatory policy reforms and sectoral development plans |
| Agro-based cluster | Network linkages | Regional or provincial agglomeration (revolving around production area); from hundreds to thousands of ha | Single sector | Benefits of agglomeration economies and promotion of collective action |
| Agro-industrial park | Value addition by processing | Urban (accessible distance from production area); a few ha | Single sector/multi sectoral | Common infrastructure and logistics facilities |
| | | | | Park + academic and research institutions |
| Special economic zone (SEZ) | Export and promotion of foreign direct investment (FDI) | Urban (possibly near to port area if it is an export promotion zone); a few ha | Single sector/ multi sectoral | Advantageous economic and regulatory frameworks |

**Source:** Gálvez Nogales, E. 2014. Making economic corridors work for the agricultural sector. Agribusiness and Food Industries Series No. 4. FAO, Rome

In a sense this is nothing new. The opening up of the Argentine pampas, the Russian steppe and the North American plain promoted food security in the newly industrialising countries of the late 19th century and, in effect, promoted the food security of other industrialising countries where manufacturing and commerce were replacing agrarian lifestyles. These areas were the development corridors and farming hubs of their day. The development of Brazil's Mato Grosso in the last few decades is a modern example. New supplies of cheap food from these areas promoted food security externally as well as locally.

The development of these new 'islands of competence' is likely to be a cornerstone of African agricultural development in the years ahead. An innovative approach to funding and capital will likely deliver the necessary scale economies required to create conduits to capital. Figure 1 highlights some of the development corridors and agricultural zones, which assorted African governments and their agents have assembled in recent years. Enhanced infrastructure is also playing a part in making many of these vehicles and initiatives economically viable.

**Figure 1**: Farming hubs: bringing together development corridors and agricultural zones




**Source:** PwC

# A once-in-a-lifetime opportunity

*Growing consumer demand, dysfunctional markets, illiquid investments, distressed assets and chronic under-investment across the sector: none of these features in isolation paints a pretty picture for African food security. In aggregate the position of African nations often appears if not worse than hopeless, then essentially not capable of structural change. However, the Brazilian experience demonstrates that dire domestic situations can be turned around and converted into success stories. In fact, it is likely that these precarious domestic situations prompt a change in thinking. African governments need to understand that the current situation is not permanent and with some delicate policy footwork and the embracing of radical private sector ideas, they can drive food security and development goals in tandem.*

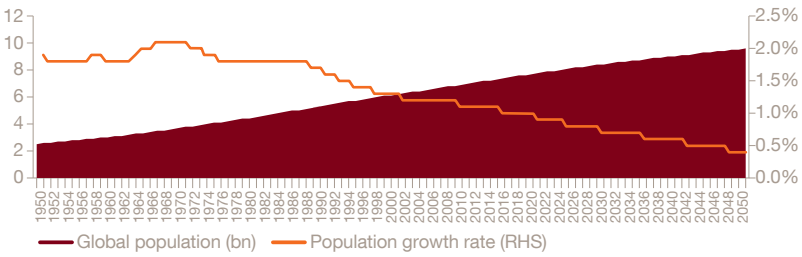
But what demographic factors drive this need to enhance food security? What potential lies within Africa to redress current imbalances? How does urbanisation affect the picture and what about climate change? And what about the individual governments themselves? What are they doing to promote agricultural development, investment and food security? These are all issues addressed in the following sections of this report.

# Part 2: Challenges

## Population growth, urbanisation and income growth

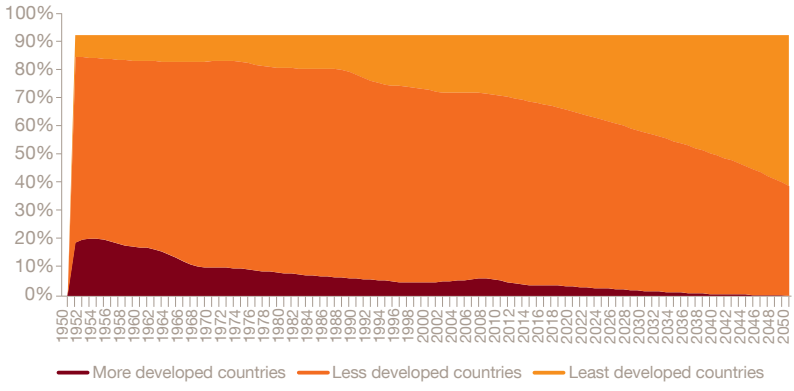
*According to the United Nations (UN), the world's population is set to increase from the current 7.2bn to an estimated 9.6bn by 2050. Although the population growth rate is in decline, this will not prevent the population rising significantly in the years ahead. An additional 2bn people will be with us within the next 30 years – a 28% increase. This, together with steadily rising incomes and increasing urbanisation will place significant strains on the world's food resources.*

**Figure 2**: Global population and growth rate




**Source:** United Nations: World Population Prospects: The 2012 Revision

**Figure 3**: Contribution to global population growth



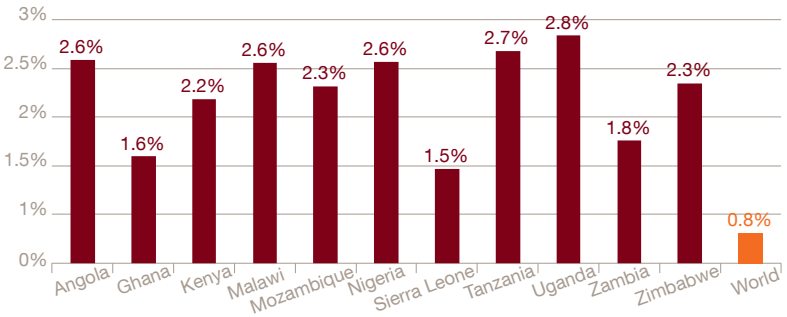

**Source:** United Nations: World Population Prospects: The 2012 Revision

Crucially, population growth over the following decades will be concentrated among developing countries and frontier markets. Developed countries are likely to experience negligible growth or even a decline in population.

A compound annual growth rate (CAGR) of the global population of 0.8% pa over the period 2010-2050, is considered a major strategic theme with global ramifications. However, it isn't the overall growth rate of 0.8% or the overall population forecast of 9.6bn that is notable; it's the extent to which Africa becomes prominent. Consider the rates for individual countries in Africa sketched out in Figure 4. While the world grows at 0.8%, most African countries will experience population growth in excess of 2% over the same period. In absolute terms this means that Africa's population will grow from 1.1bn in 2013 to 2.4bn by 2050. Africa's component of the world's population will have grown from 9% in 1950, to some 25%. The population of Africa in 2050 will be similar to that of the entire world in 1950.

If we focus on one individual country, Nigeria, it provides some equally dramatic context. In 1950, the population of Nigeria stood at some 38m. To put this in context, the population of the UK at that time was 50m. By 2013 Nigeria had an estimated 175m citizens in contrast to the UK's 62m. By 2050, there will be 440m Nigerians.

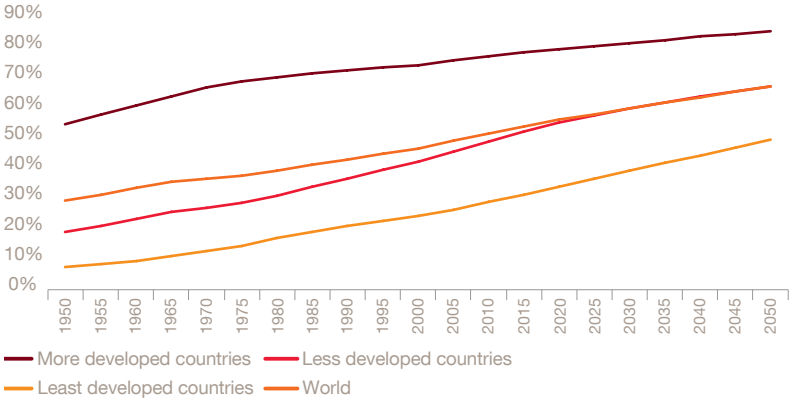
**Figure 4**: Annual population growth rate (2010-2050




**Source:** United Nations: World Population Prospects: The 2012 Revision

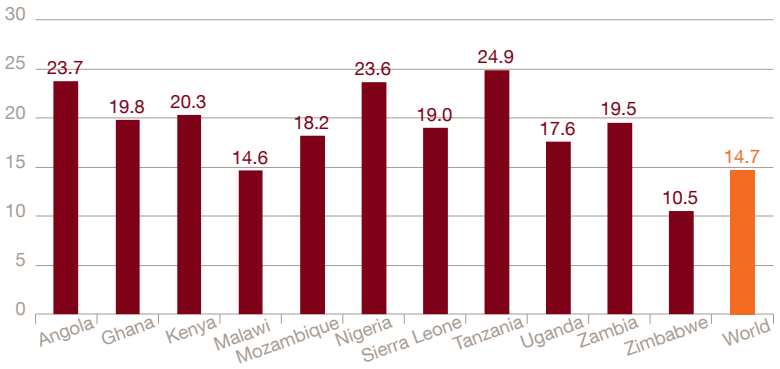
Population growth is a sufficient catalyst for increasing the overall demand for food. However, the effect is amplified by increasing urbanisation. This is especially prominent in developing markets where urbanisation rates are rising sharply. According to the UN some 67% of the world's population will be urbanised by 2050, in contrast to the 54% currently.

**Figure 5**: Global levels of urbanisation




**Source:** United Nations: World Urbanization Prospects: The 2014 Revision

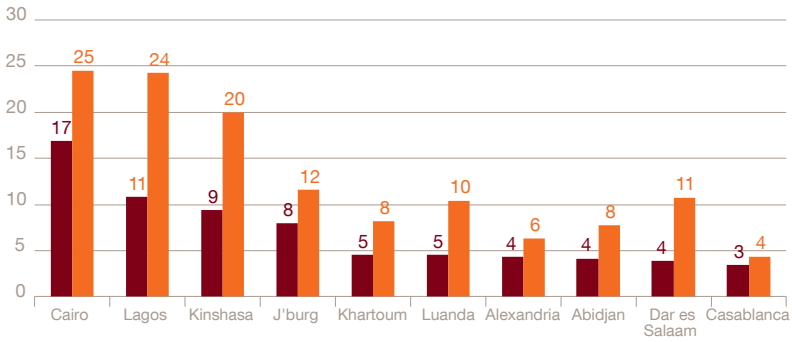
**Figure 6**: Urbanisation increases, 2010-2050 (%)




**Source:** United Nations: World Urbanization Prospects: The 2014 Revision

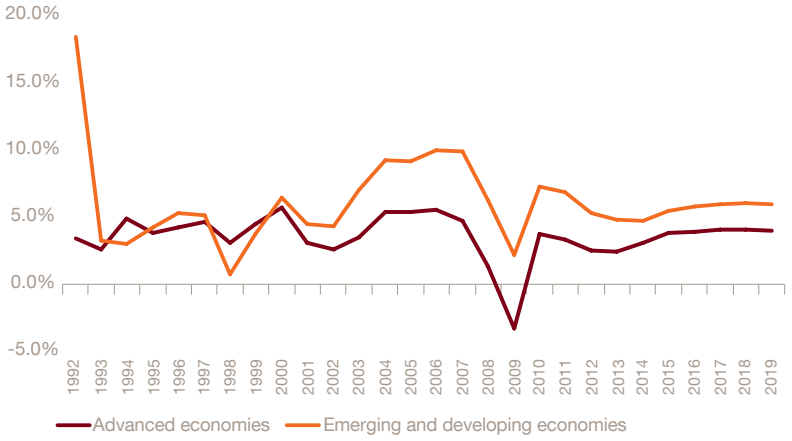
Again, similar to population increases, urbanisation in African countries is expected to be strong.

**Figure 7**: Population of Africa's largest cities (millions)



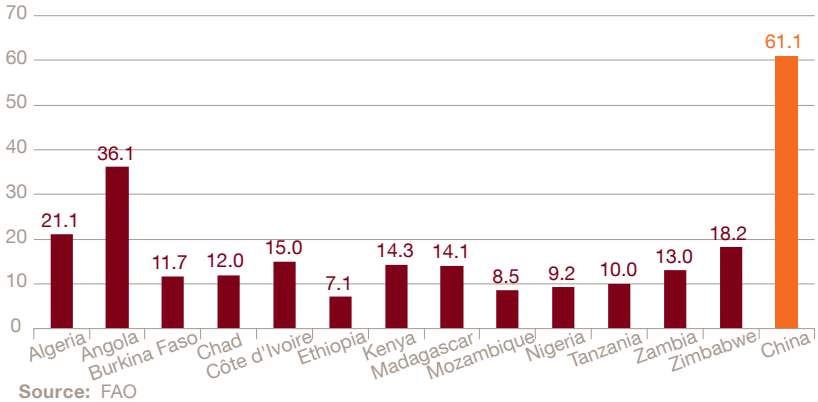

**Source:** United Nations: World Urbanization Prospects: The 2014 Revision

**Figure 8**: GDP per capita growth rate (PPP




**Source:** IMF: World Economic Outlook Database October 2014

**Figure 9**: Meat consumption (kg/person/year)




**Source:** FAO

One needs only to reflect on the growth of Lagos, which mirrors the growth of Nigeria itself. In 1970, the city was estimated to host some 1.4m people. Recent estimates suggest that its population now is closer to 21m. Undoubtedly Lagos has a leading position in the growth stakes, but it is by no means unique. The UN estimates that Africa's five largest urban agglomerations had a combined population of about 50m people in 2010. By 2030, the same five cities will grow by an estimated 39m people, representing growth of almost 80% in only 20 years.

Simultaneously, income growth is also widely expected to be strongest in developing countries as shown in Figure 8.

Combined, these trends will lead to a gradual shift in diets towards increased protein content, in the form of meat and dairy products, which multiply the need for grains – it takes approximately 7kg of feed grain to produce 1kg of beef, 4kg for 1kg of pork and 2kg of grains for 1kg of poultry. This phenomenon is already happening across many emerging markets such as China.

In Africa, this change is coming off a lower base. Meat consumption figures for a number of countries demonstrate the wide differential that exists between the levels associated with a modern China and African nations.

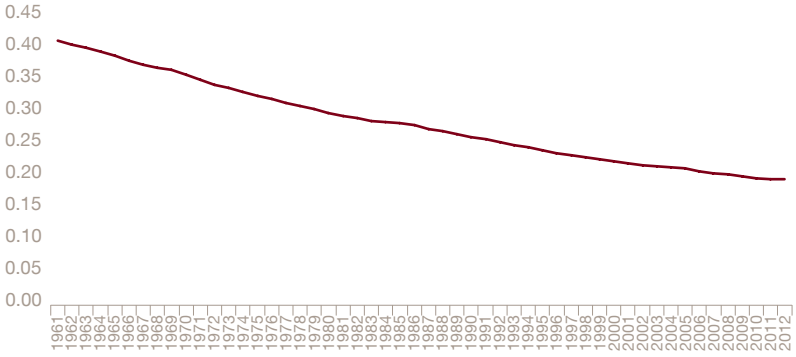
Taking all these factors into account, the FAO says that to feed this larger, richer and more urban population, food production must increase by about 70% (in value terms), with annual cereal production increasing from a current 2.8bn tonnes to 3bn tonnes and annual meat production rising from a current 310m tonnes to 470m tonnes. While these required increments are huge, they do not constitute the full picture. It is important also to examine the supply side of the situation.

# Shortage of land

*Resources such as land and water are finite and commentators often warn that we are running out of both. Our concern is whether the finite quantity available for agriculture is sufficient for global food requirements.*

*Arable land per capita has been on the decline for several decades and this trend is likely to continue. This is often cited as an indicator that global food requirements are running ahead of the land available to supply those requirements.*

**Figure 10**: World arable land per capita (ha)




**Source:** FAOUnited Nations: World Population Prospects: The 2012 Revision

However, looking at declining arable land per capita in isolation only proves that population growth is faster than arable land growth. Land is not the sole determinant of output – yields and cropping intensity must also be considered. The impact of the Green Revolution in the 1960s and 1970s, which transformed yields in developing countries, is a case in point. The focus needs to be on the land growth required for higher crop production – after accounting for yield growth and increases in cropping intensity – and on whether that growth is possible.

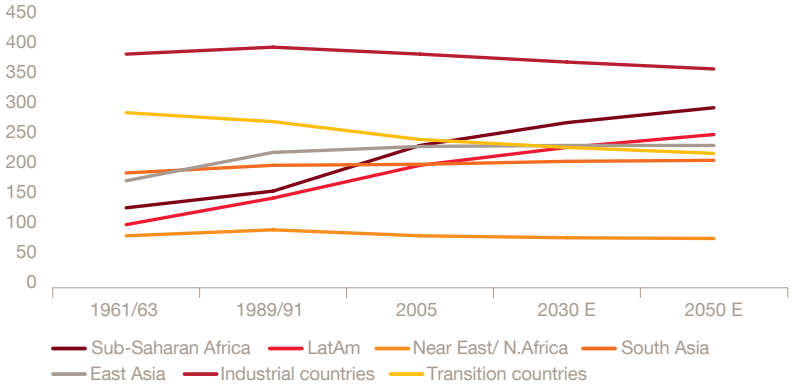
According to the FAO's Global Agro-Ecological Zone (GAEZ) study, about 4.2bn ha of land in the world is suitable to some extent for rain-fed agriculture. Of this, some 1.6bn ha is currently under cultivation, while approximately 2.6bn ha is available for expansion. In other words, the amount of unused arable land is more than one and a half times the amount of currently used arable land.

Clearly, this suggests the potential land available for agriculture is considerable. However, there are caveats. It does not take into account the use of this land for non-agricultural activities such as forests, protected areas, human habitation and economic infrastructure. In addition, the GAEZ defines arable land as any land capable of supporting a single crop at a minimum yield. This suggests a potential mismatch between the amount of agricultural land available and the type of crops we actually want to grow on it. Finally, much of the unused land has other constraints such as ecological fragility, low fertility, toxicity and so on. Using this land would require considerable investment, if indeed it were possible to farm it.

Although there are no estimates of how much arable land is still available once all these factors are taken into account, the sheer magnitude of the total availability should provide a fair degree of comfort. An FAO study, *The Resource Outlook to 2050*, estimates that arable land worldwide will likely increase from 1.6bn ha to 1.67bn ha in 2050. In other words, of the total 2.6bn ha of unused arable land available, only about 70m ha is likely to be added to production by 2050. By implication, we should expect significant yield enhancements in the years ahead.

Given the outcomes of the Green Revolution in the 1960s and 1970s, this is unsurprising. After all, the Green Revolution was mostly about the transfer of technologies from developed-country laboratories and R&D centres to developing markets. If anything, this process has accelerated in recent years through trade liberalisation.

**Figure 11**: Arable land in use (millions of hectares)

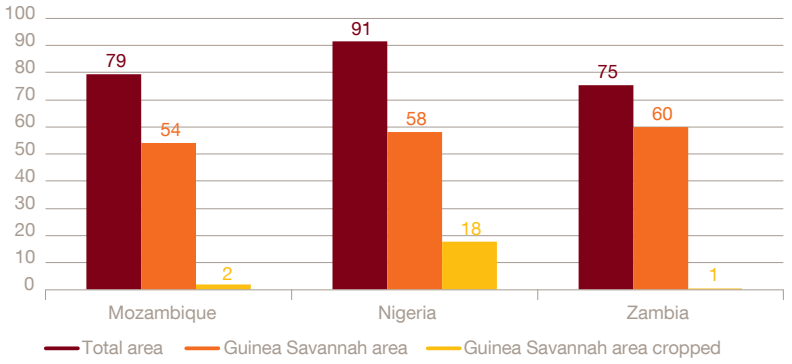



**Source:** FAO 2009, The resource outlook to 2050

Figure 11 highlights the development of arable land from 1960 and incorporates forecasts to 2050 across all geographies. While arable land in Latin America and sub-Saharan Africa is expected to increase substantially, Near East, industrial countries and transition countries will likely see a decline. South Asia and East Asia will see minor increases. We believe that the geostrategic needs of the Middle East and Asia will likely have a demonstrable impact on the acquisition of arable land in Africa and Latin America.

A more focused study, conducted by the World Bank, explores the potential of the Guinea Savannah zone in sub-Saharan Africa – an agro-economic region encompassing approximately 600m ha of land with a warm tropical climate, annual precipitation of 800-1 200 mm and generally poor soil quality. Of this, nearly 400m ha of land can be used for agriculture, although less than 10% of that land is in agricultural use currently. Figure 12 shows the extent to which this area is underutilised in a few of the countries it covers.

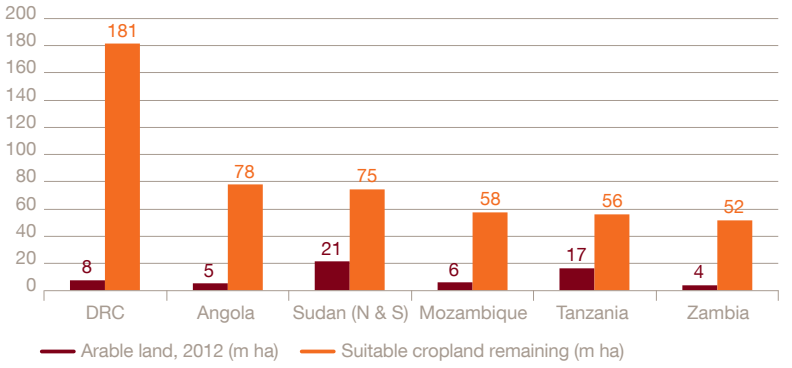
**Figure 12**: Extent of Guinea Savannah area in a few African countries (m ha)




**Source:** World Bank, 2009, Awakening Africa's Sleeping Giant

The degree of under-utilisation in a few key nations is only half the story. The other is the absolute level of available land resources. Mozambique, Nigeria and Zambia each have more than 50m ha of land available for cropping. They are not a unique trio. Figure 13 highlights African countries with land balances in excess of 50m ha.

**Figure 13**: Land balance, selected sub-Saharan countries

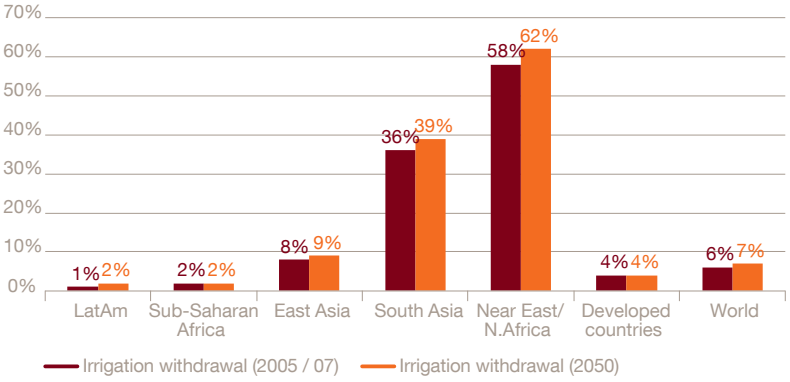



**Source:** FAO, 2009, The resource outlook to 2050

# Shortage of water

*The other resource often highlighted as a constraint on food production is water. Population growth and urbanisation undoubtedly put pressure on water resources. However, this does not mean there are insufficient water resources for agriculture. A good indicator to emphasise this point is to calculate the 'pressure on water resources due to irrigation', which is defined as the ratio of irrigation water withdrawal to renewable water resources. Figure 14 illustrates this ratio across all geographies.*

**Figure 14**: Irrigation water withdrawal/renewable water resources (%)




**Source:** FAO2009, The resource outlook to 2050

At a global level, irrigation water withdrawal accounted for only 6% of the total renewable water resources in 2005/07. The FAO expects this ratio to reach 7% in 2050, which hardly seems a cause for worry. More importantly, the lowest levels of irrigation water withdrawal are seen in Latin America and Africa – precisely the regions where additional arable land resources are widely available.

One of the key concerns is not the overall lack of water availability, but rather the wide differentials across regions. A prominent example of internal water shortages is China. Northern China faces severe water restrictions while Southern China has sufficient water resources. Across the country as a whole, a false impression of sufficiency could be created.

In an attempt to alleviate these strategic concerns, the Chinese Government has embarked on an engineering project of huge dimensions: the South-North Water Diversion Project, a modern-day version of Imperial China's Grand Canal, which will consume more than US$60bn in investment over the next few decades in an attempt to divert water from the Yangtze River to the parched regions of the North. Of course, with US$3trn-plus in foreign exchange reserves, this is a project China can afford to support. African nations do not have the same advantage.

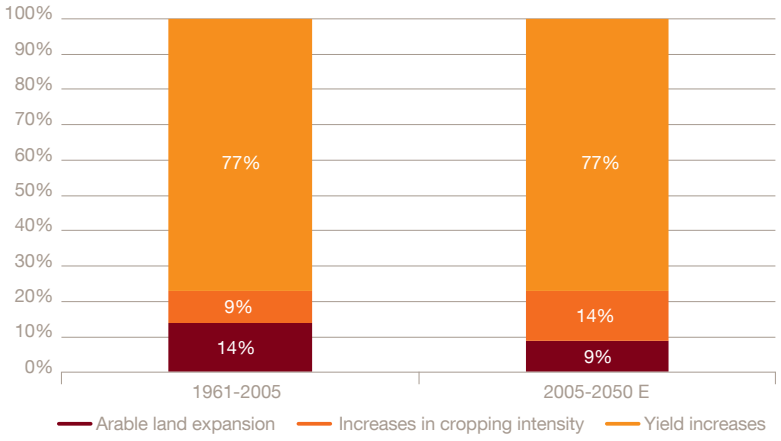
To understand the importance of water for crops, consider that, on a per-hectare basis, most crops require about 5,000-8,000 kilolitres of water in a single growing season. This water can come from three sources, which are not mutually exclusive: rainfall, shallow groundwater and irrigation. About 40% of the world's food production comes from irrigated fields and for some crops, such as rice, the share is nearly 100%.

In sub-Saharan Africa, water availability for irrigation is scarcely an issue. Instead it is the cost associated with irrigation. Estimates suggest that the capital cost of irrigating a hectare of land comes to around US$10,000. This cost is roughly the same regardless of the method of irrigation – be it labourers operating treadle pumps all day, pressurised sprinkler and drip systems or a large-scale canal system with dam storage. The current land area equipped for irrigation in sub-Saharan Africa is about 6m ha, out of a total arable land area of around 240m ha. If we looked to double irrigation capacity in Africa, i.e. bring an additional 6m ha under irrigation – a modest goal – it would require US$60bn in investment an amount similar to China's South-North Water Diversification Project.

# Yield growth potential

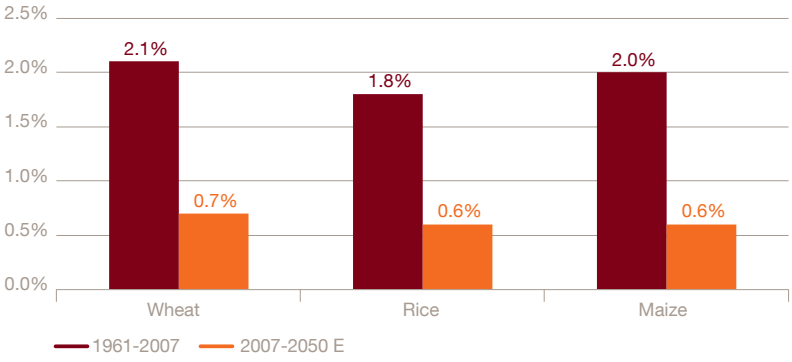
*The three sources of growth in crop production are: arable land expansion (increasing the area under production); increasing multiple cropping and shortening fallow periods; and increasing yield. As Figure 15 shows, the FAO expects yield increases to continue to be the major source of future production growth.*

**Figure 15**: Sources of growth in crop production




**Source:** FAO, 2009, The resource outlook to 2050

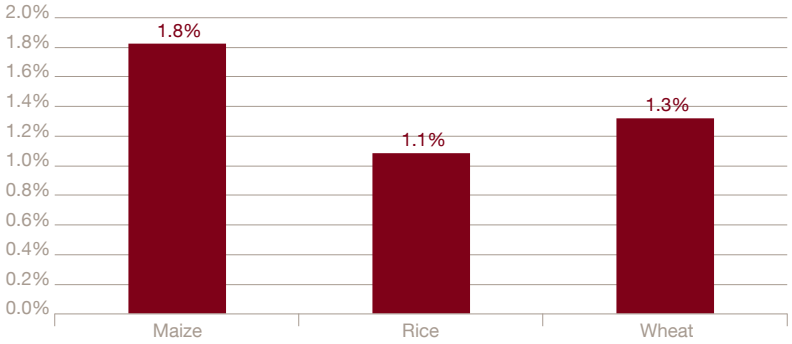
**Figure 16**: Annual growth in yield of major grain staples




**Source:** FAO, 2009, The resource outlook to 2050. Even if we just look at the yields in the last couple of decades, the required yields are still only half of that.

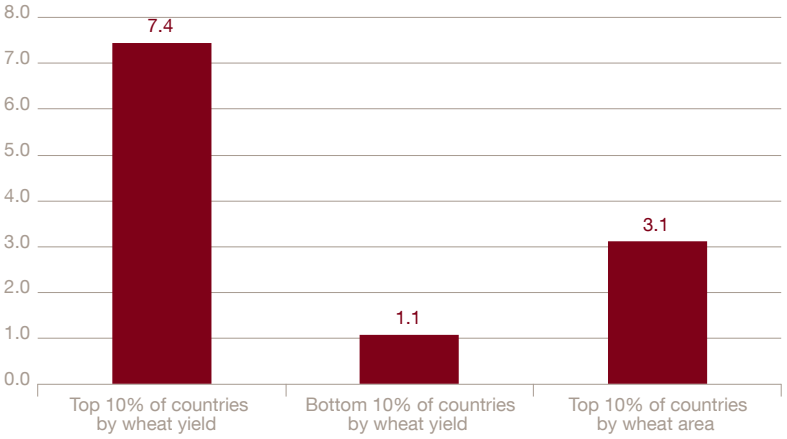
In terms of growth in yields, this translates to an annual growth that is about one-third of what was achieved in the past half a century.

**Figure 17**: Annual growth in yields over 1991 and 2013




**Source:** FAO

**Figure 18**: Average wheat yield for different country groupings (2013)




**Source:** FAO

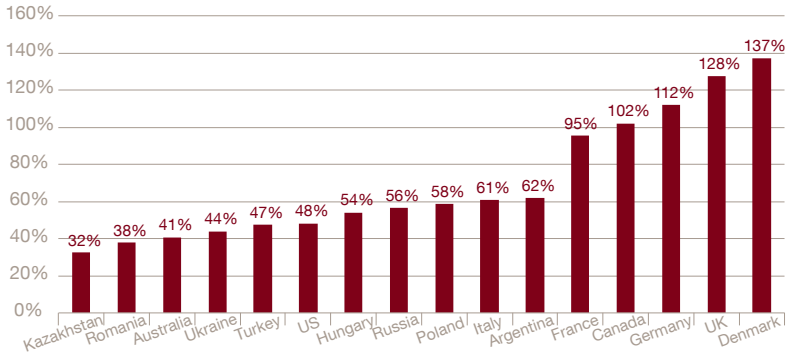
To see if such yield increases are feasible, let us first look at current yields across countries. For the purposes of this analysis, we will focus on wheat. Broadly, however, the results will likely be similar for most other crops. In 2013, Ireland's wheat yield was 9 tonnes/ha, while Kazakhstan's was just over a tonne/ha. If we consider only those countries that have over 50,000ha under wheat cultivation, the top 10% had an average yield of 7.4 tonnes/ha while the bottom 10% had an average yield of 1.1 tonnes/ha – less than one-sixth.

Another group of countries to consider is those with the largest areas under cultivation, as any increase in their yields would have a major impact on production. The average wheat yield for the top 10% of countries, according to area under wheat cultivation, is 3.1 tonnes/ha – just over one-third of that in the top-yielding countries.

These vast differences in yield between countries would seem to indicate that further growth in global yields should be attainable if less productive countries could simply catch up with the leaders. However, not all these yield differences can be bridged. One part of the difference is due to the varying agro-ecological environment – all other things being equal, wheat yields are likely to be higher in the fertile Black Earth region of Ukraine than in the arid steppes of Mongolia. The yield difference stemming from such non-transferable factors cannot be bridged.

However, other factors, such as crop management practices, fertiliser use and irrigation can be transferred. The yield difference arising from these factors can be bridged if economically feasible, and it is the reduction of this difference which will likely contribute to the growth in global average yields. Figure 19 shows the ratio of actual average wheat yields between 2009 and 2013 and the agro-ecologically attainable average wheat yields for selected countries.

**Figure 19**: Actual average wheat yield (2009-2013)/average attainable wheat yield

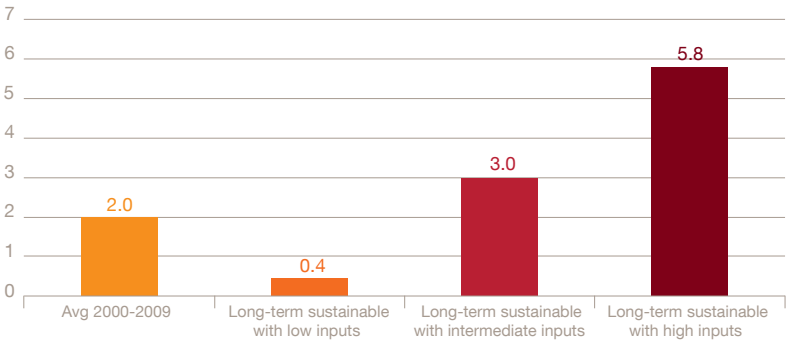



**Source:** FAO, 2009, The resource outlook to 2050, FAO

For most countries, the actual wheat yield is a small fraction of the attainable yield, with a few countries from the EU demonstrating long-term outperformance. This difference suggests that there is significant scope for improvement in yields. However, a few caveats are in order. To obtain higher yields requires large levels of investment coupled with changes in crop management practices. It follows that this would increase the cost of production, and be justifiable only in an environment of higher prices.

Consider the situation in Africa. African yields are among the lowest in the world and have a large scope for improvement. To get an idea of the extent of this, consider Figure 20, which shows the long-term sustainable cereal (wheat, maize and rice) yields that can be achieved in Africa with varying levels of inputs. In this context, the levels are generically defined and represent farming technology, nutrient inputs, and management practices.

**Figure 20**: Cereal yields in Africa (tonnes/ha)

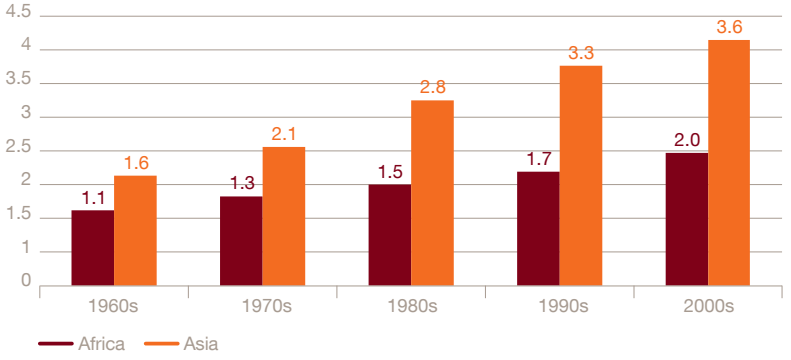



**Source:** FAO.IIASA

If African cereal yields improve to the level achievable with intermediate inputs, this would imply a large increase in agricultural output. For some historical perspective, consider the evolution of cereal yields over the past half-century in Africa and Asia. In the 1960s, Asian yields were about 46% higher than African yields. But over the next two decades, as the Green Revolution spread throughout Asia and skipped Africa, the difference in yields widened.

In the 1990s, Asian yields were nearly double African yields. Only in the past decade have African yields grown faster than Asian yields, narrowing the gap marginally. The strong growth trajectory experienced over the past 10 years suggests African agriculture can be transformed if these improvements are maintained over the course of the following decades.

**Figure 21**: Average cereal yields (tonnes/ha)




**Source:** FAO.

To conclude, yield increases are capable of being the primary driver of growth in crop production. Moreover, all yield increases noted above are for existing plant varieties and based on existing farming practices. Any improvements such as genetically modified varieties that are higher yielding, drought- or pest-resistant crops and so on, would surprise on the upside.

# Climate change

*African agriculture is already being severely impacted by climate change and these impacts are set to rise over the 21st century[1].*

## The challenge

Agriculture is highly vulnerable to climate change. Mean temperatures in Africa will rise faster than the global average, exceed 2 degrees Celsius and this century may reach as high as 3 to 6 degrees greater than the 20th century. Seasonal changes in temperature and rainfall can affect yields, pests, weeds, growing seasons, planting and harvesting schedules and land suitability. As a result agricultural losses in Africa due to climate change will amount to 2% to 7% of GDP by 2100[2]. Vast areas of Sub-Saharan Africa will experience a loss in suitability for bean production, while the suitability for cassava production will increase, especially in Eastern Africa[3]. For livestock future climate projections indicate widespread negative impacts on forage quality and thus on livestock productivity[4].

Climate change not only affects food production but quality and safety and the reliability of its delivery to consumers. By 2050 hunger and child malnutrition could increase as much as 20% as a result of climate change, jeopardising the achievement of the Sustainable Development Goals (SDGs) on the continent.

## The need to adapt

A strong and coordinated adaptation response will be needed if African agriculture is to respond successfully to the climate change challenges it faces, secure its own food security and contribute to food security globally. At least 32 African countries have included agricultural adaptation measures in their Intended Nationally Determined Contributions (INDCs)[5], which represents a significant opportunity to implement robust and wide-spread adaptation measures. This is complemented by the 'Malabo Declaration' at the 31st African Union Summit in 2014 where Heads of State and Government were clear in their resolve to commit to action on climate change and agriculture.

This ambition can be supported through the targeted increase of annual climate finance to $100bn per year, building on the experience of existing agricultural adaptation initiatives such as IFAD's Adaptation for Smallholder Agriculture Programme (ASAP), the Alliance for a Green Revolution in Africa (AGRA), NEPAD's Comprehensive Africa Agriculture Development Programme (CAADP) and DFID's Climate Smart Agriculture Programme (CSAP). There is also growing private sector interest in investing in the climate resilience of African agriculture, for example the Grow Africa initiative and the World Business Council for Sustainable Development's recently launched Climate Smart Agriculture Action Plan 2020.

African agriculture is also set to play its role in mitigating GHG emissions, which will become increasingly important as the industry grows on the continent. Many African governments already have mitigation plans in place, with 30 countries including agricultural mitigation in their INDCs so far[6], but now the challenge will be to balance agricultural growth with these mitigation objectives.

1 Climate Development Knowledge Network (2014). The IPCC's Fifth Assessment Report. What's in it for Africa?
2 FAO (2009). Climate Change in Africa: The threat to agriculture.
3 CGIAR Research Program on Climate Change Agriculture and Food security (2014). Big facts on climate change, agriculture and food security.
4 CGIAR Research Program on Climate Change Agriculture and Food security (2015). Climate change impacts on livestock. Working Paper No.120.
5 CGIAR Research Program on Climate Change Agriculture and Food security (2015). How countries plan to address agricultural adaptation and mitigation.
6 Ibid

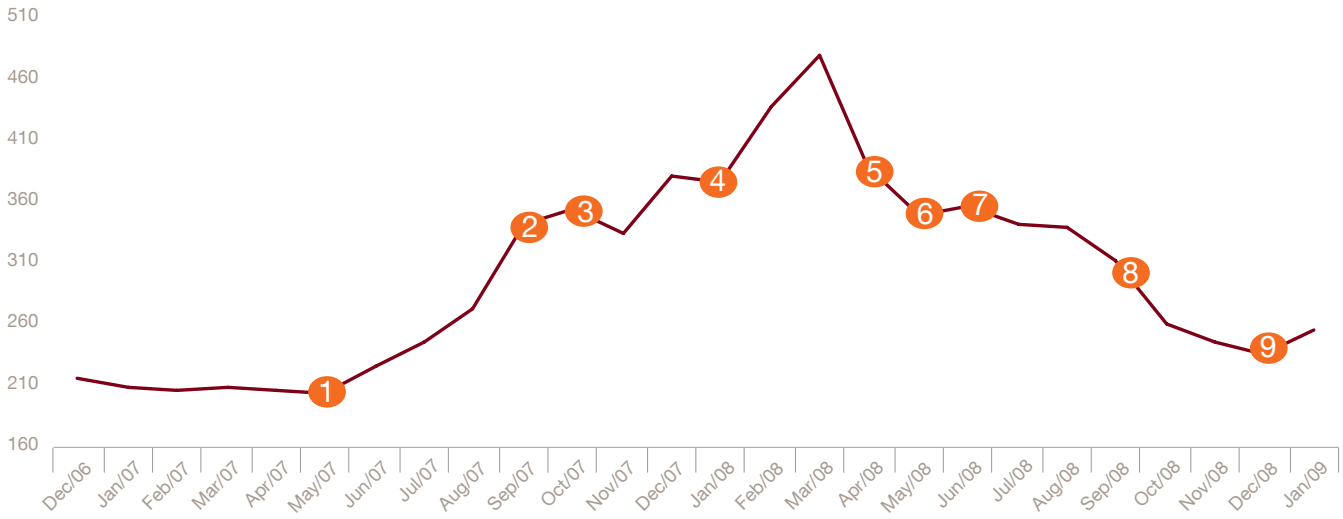
# National food security

*In the previous section, we looked at food security from a global perspective. However, what is relevant to most people is the narrower definition of national food security. Even if there is sufficient food in the world, its distribution might be uneven. As seen in 2007-2008, export bans and import tariffs can severely hinder normal trade flows and exacerbate any crisis. So, countries try to achieve a level of self-sufficiency that does not put them at the mercy of global food markets. However inefficient this may be from an economic perspective, it is inescapable.*

This narrower aspect is what drives the politics of food security. This came sharply into focus during 2007-2008, when the prices of agricultural commodities rose sharply across the board. Exporting countries restricted exports through bans, quotas and taxes, leading to further increase in prices as trade volumes shrank.

Figure 22 highlights the history of wheat prices during this period. Clearly, the dynamics of supply and demand are a major determinant of price. However, more interestingly, export restrictions have also played an important part in price movements. Other commodities, such as rice, have witnessed similar export restrictions and subsequent price increases.

**Figure 22**: Wheat price history – 2007/2008




**1. May 2007** USDA's initial supply and demand forecasts for the 2007/08 season project global ending stocks at 113.4mnt, the lowest since 1981/82

**2. September 2007** USDA further lowers 2007/08 global ending stocks to 112.4mnt, the lowest in 30 years, on the back of drought in Australia. Russia mulls imposing a 10% wheat export duty

**3. October 2007** India bans exports of wheat flour, and indefinitely extends the ban on wheat exports

**4. January 2008** Russia imposes a 40% duty on wheat exports. Pakistan imposes a 35% duty on wheat exports. China imposes a 20% export tax on wheat

**5. April 2008** Ukraine withdraws grain export restrictions. International Grains Council expects global wheat production to rise 7% to 646mnt in 2008/09

**6. May 2008** USDA's initial supply and demand forecasts for the 2008/09 season project record global production of 656mnt and ending stocks at 124mnt, up 13% from last year's projection

**7. June 2008** Australia is expected to recover from a long drought, and produce one of its biggest wheat harvests

**8. September 2008** India allows export of wheat seeds. Kazakhstan lifts ban on wheat exports

**9. December 2008** India announces that it would export 2mnt of wheat

**Source:** FAO

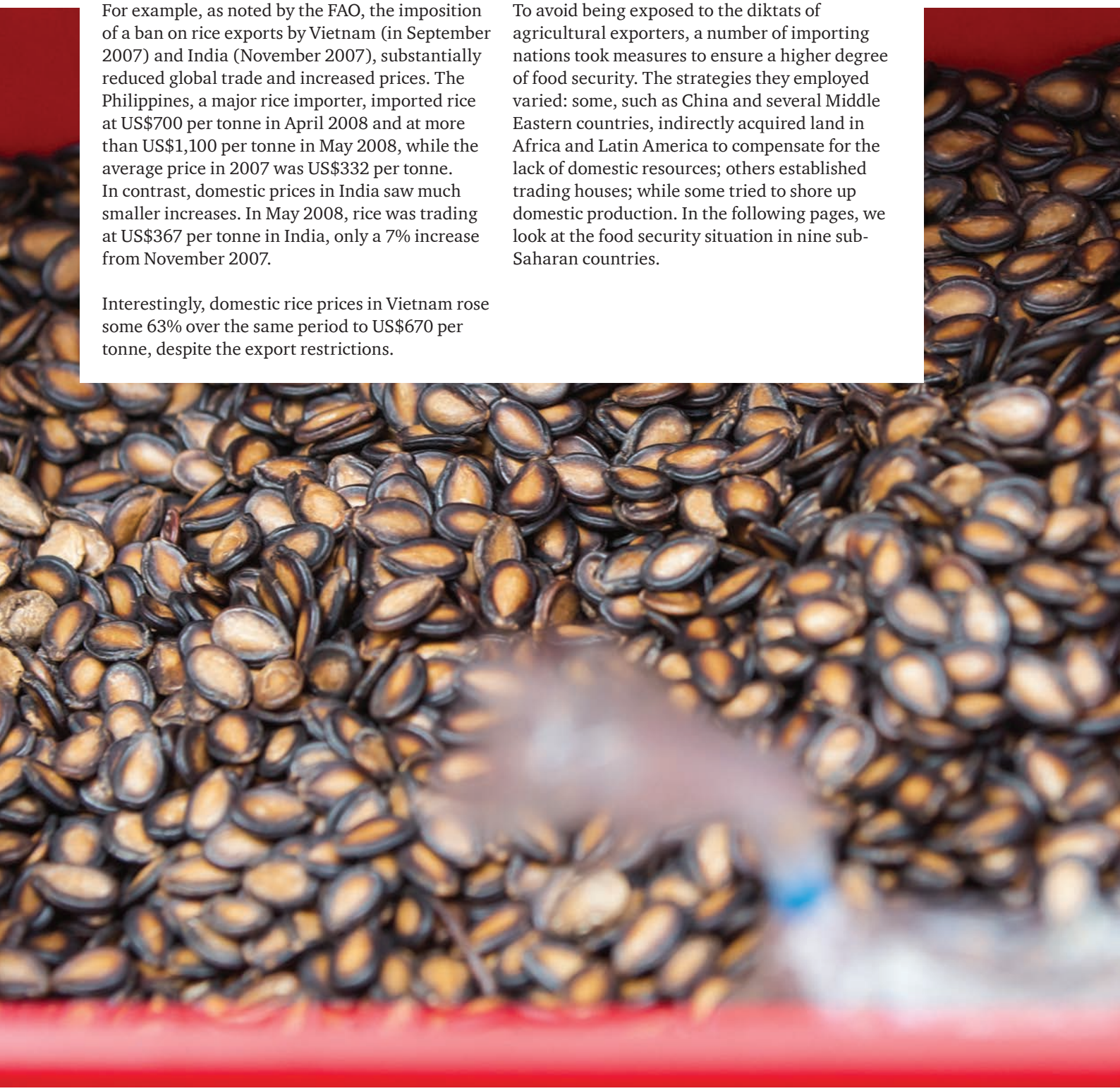
While the global price may have increased as a consequence of these actions, domestic prices in countries that imposed restrictions saw only modest price rises. This is an important point as it highlights the distorted incentives and the inability of importing and exporting countries to align their interests.

For example, as noted by the FAO, the imposition of a ban on rice exports by Vietnam (in September 2007) and India (November 2007), substantially reduced global trade and increased prices. The Philippines, a major rice importer, imported rice at US$700 per tonne in April 2008 and at more than US$1,100 per tonne in May 2008, while the average price in 2007 was US$332 per tonne. In contrast, domestic prices in India saw much smaller increases. In May 2008, rice was trading at US$367 per tonne in India, only a 7% increase from November 2007.

Interestingly, domestic rice prices in Vietnam rose some 63% over the same period to US$670 per tonne, despite the export restrictions.

The reason for this was a lack of faith in the government's ability and willingness to maintain adequate stocks which, in turn, led to panic buying and hoarding. This highlights how difficult it is to stabilise domestic prices when there is a global crisis and that export restrictions are no panacea.

To avoid being exposed to the diktats of agricultural exporters, a number of importing nations took measures to ensure a higher degree of food security. The strategies they employed varied: some, such as China and several Middle Eastern countries, indirectly acquired land in Africa and Latin America to compensate for the lack of domestic resources; others established trading houses; while some tried to shore up domestic production. In the following pages, we look at the food security situation in nine sub-Saharan countries.



# *Part 3: Country focus*

# Nigeria

*Nigeria, bolstered by oil revenues, is Africa's biggest economy and its most populous country. It has become a prominent emerging market in recent years. While conflicts in the oil-rich Niger Delta and the Islamic insurgency in the North represent considerable risks, the recent peaceful transition of power from one civilian administration to another should reinforce Nigeria's position as a key investment destination. Nigerian agriculture has a long history; a leading exporter of cocoa, groundnuts, palm oil and sesame seeds in the 1960s, much of that early agriculture potential was lost in the haze of civil war, a series of military administrations, mass urbanisation and the "resource curse" that followed the discovery of oil.*

In the last decade or so, Nigeria has become a major importer of basic staples such as wheat and rice and overall, the country accounts for a major part of Africa's overall food deficit. While we view this feature of the economic landscape as a negative, it might also represent a trough. In short, agriculture could enjoy a renaissance if new reforms underpin the previous government's Agricultural Transformation Agenda (ATA), which was initiated in 2011.

## *Economic snapshot*

Nigeria has been among the world's fastest growing economies in the past decade with a near five-fold increase in GDP and a four-fold increase in GDP per capita. After the April 2014 rebasing exercise, Nigeria's rebased 2013 GDP of US$522bn made it the largest economy in Africa, surpassing South Africa.

Agriculture contributed about 40% to the 2012 rebased GDP, while the oil and gas industry contributed around 14%. In exports, however, oil accounted for 83% of the total in 2013, and is chiefly responsible for Nigeria's positive current account balance. In 2005/2006, Nigeria negotiated a debt relief package with the Paris Club, and has been able to keep its debt in check since then. Nigeria has historically been held up as a classic example of the resource curse, with the bulk of oil revenues benefitting a small elite. While it has managed to overcome this to a certain extent in the past decade, transparency and governance across the oil sector still has much scope for improvement.

**Figure 23:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 8.8 | 8.7 | 8.3 | 9.1 | 8.0 | 9.0 | 10.0 | 4.9 | 4.3 | 5.4 | 6.3 |
| GDP, current prices ($bn) | 126 | 165 | 218 | 257 | 325 | 270 | 374 | 419 | 467 | 522 | 574 |
| GDP per capita, current prices ($) | 953 | 1,209 | 1,555 | 1,790 | 2,202 | 1,781 | 2,396 | 2,612 | 2,835 | 3,082 | 3,298 |
| Inflation, end of period (%) | 10.0 | 11.6 | 8.5 | 6.6 | 15.1 | 13.9 | 11.7 | 10.3 | 12.0 | 7.9 | 7.9 |
| General government gross debt (% of GDP) | 36.6 | 19.5 | 7.9 | 8.4 | 7.4 | 9.6 | 9.6 | 10.2 | 10.4 | 10.5 | 10.5 |
| Current account balance (% of GDP) | 13.3 | 22.2 | 16.8 | 10.7 | 9.0 | 5.1 | 3.9 | 3.0 | 4.4 | 3.9 | 2.2 |
| Exchange rate (US$/NGN) | 133 | 131 | 129 | 124 | 117 | 147 | 148 | 152 | 155 | 155 | 157 |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

The People's Democratic Party (PDP) is the dominant party and until 2015 had won every presidential election held since 1999. However, in the March 2015 elections, Muhammad Buhari of the All Progressives' Congress (APC) – an alliance of Nigeria's major opposition parties – defeated the PDP candidate and incumbent, Goodluck Jonathon. When he assumed office on 29 May 2015, it was Nigeria's first democratic transition of power to an opposition party. President Buhari was also the President for 20 months in 1983-1985, when his military junta ousted a democratically elected government. In turn, Buhari was overthrown in another military coup led by fellow general Ibrahim Babangida. Despite his military background and role in various coups dating back to the 1960s, Buhari made a commitment to democracy and participated in three previous presidential elections before his recent victory.

Presidential and gubernatorial/assembly elections were initially scheduled for 14 February and 28 February respectively. In the elections, the opposition APC also won majorities in the assembly and senate and the bulk of the state governorships. Most observers considered the elections to be largely free and fair. Among the key priorities for President Buhari is the elimination of corruption, especially in the oil sector. Agriculture reform and development will also form a central part of the new government's efforts.

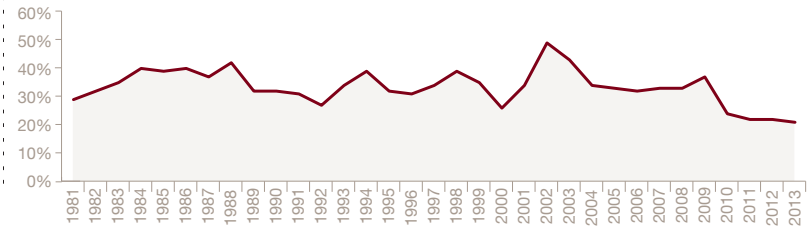
## *Agricultural profile*

Around 80% of the country's total landmass (72m ha) is agricultural land. Over 60% of that agricultural land (42m ha) is currently cultivated. While agriculture's contribution to GDP has declined in recent years, it still accounts for 70% of total employment. Agricultural production declined significantly in the 1970s due to mismanagement and corruption under military rule, but has recovered strongly especially over the last four years.

Extensive water resources and a diverse climate make Nigeria an attractive location for a range of agricultural commodities. The principal crops are yams, cassava, citrus fruits and rice. The chief exports are cocoa, rubber and sesame seeds, while the chief imports are wheat, rice, palm oil and sugar.

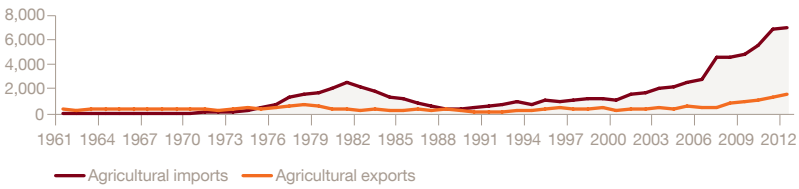
While Nigeria was a net exporter of agricultural commodities in the 1960s and early 1970s, since then imports have grown faster than exports. The country is currently a net importer. In the last couple of decades, agricultural exports have increased eight-fold while imports have increased nearly nine-fold, illustrating Nigeria's rising dependence on agricultural imports.

**Figure 24**: Agriculture value added (% of GDP)



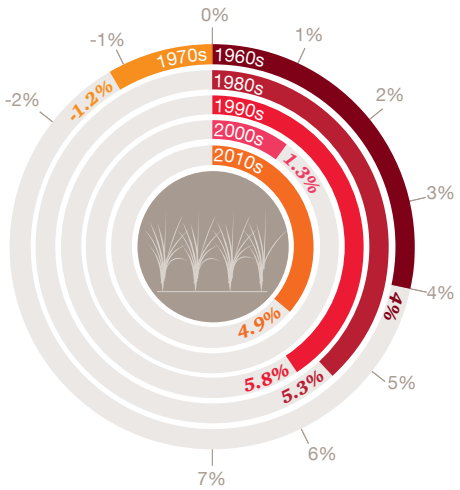

**Source:** The World Bank: World Development Indicators

**Figure 26**: Agricultural trade (US$m)




**Source:** FAO

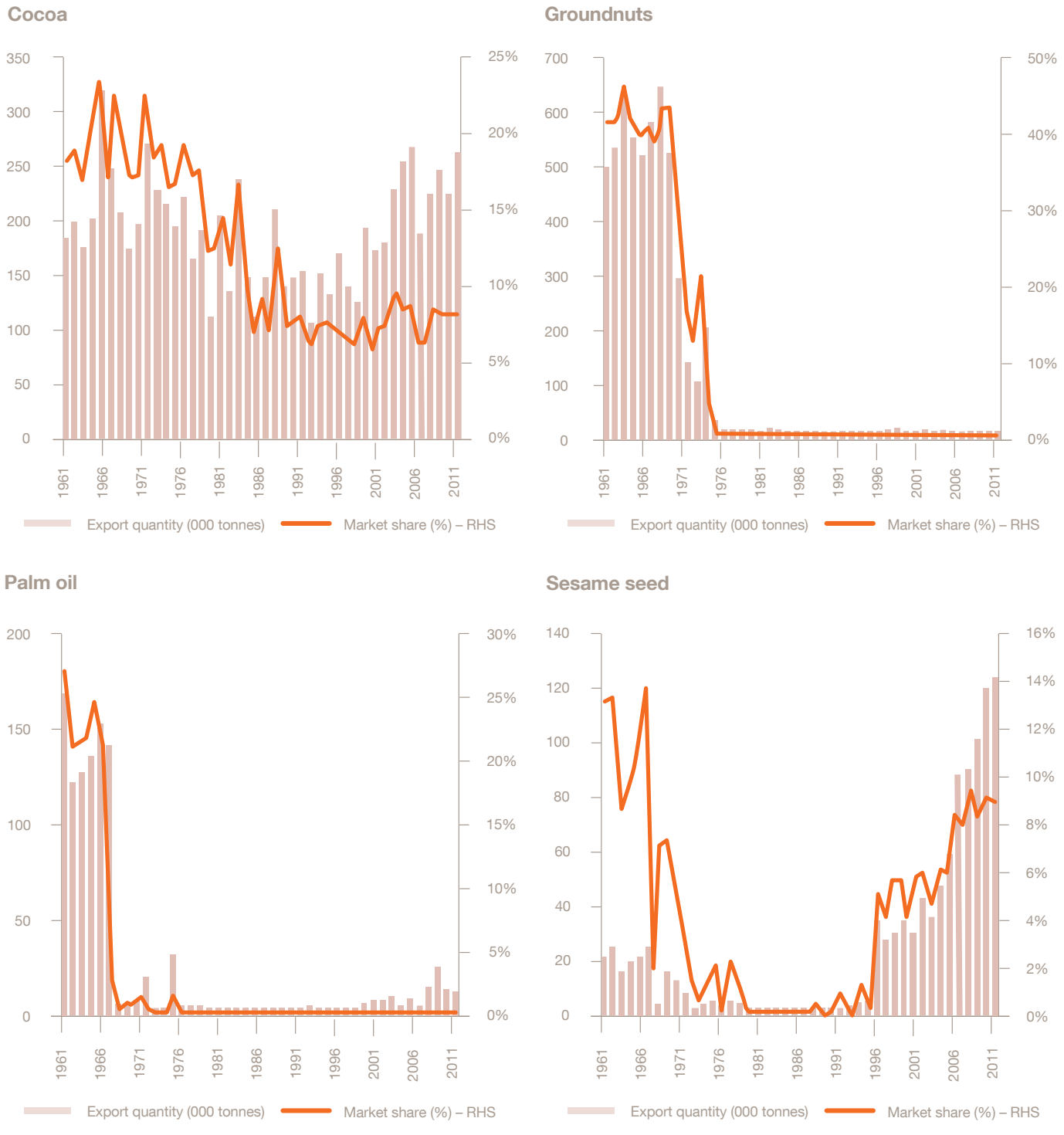
**Figure 25**: Annual growth in agricultural productivity




**Source:** FAO

On the eve of independence in 1960, Nigeria's market share in the exports of cocoa, groundnuts, palm oil and sesame seeds was considerable. Figure 27 highlights how the exports of these four have fared over the past five decades. The chart highlights the global market share for these commodities over the same period.

**Figure 27**: Key export commodities, quantity and global market share

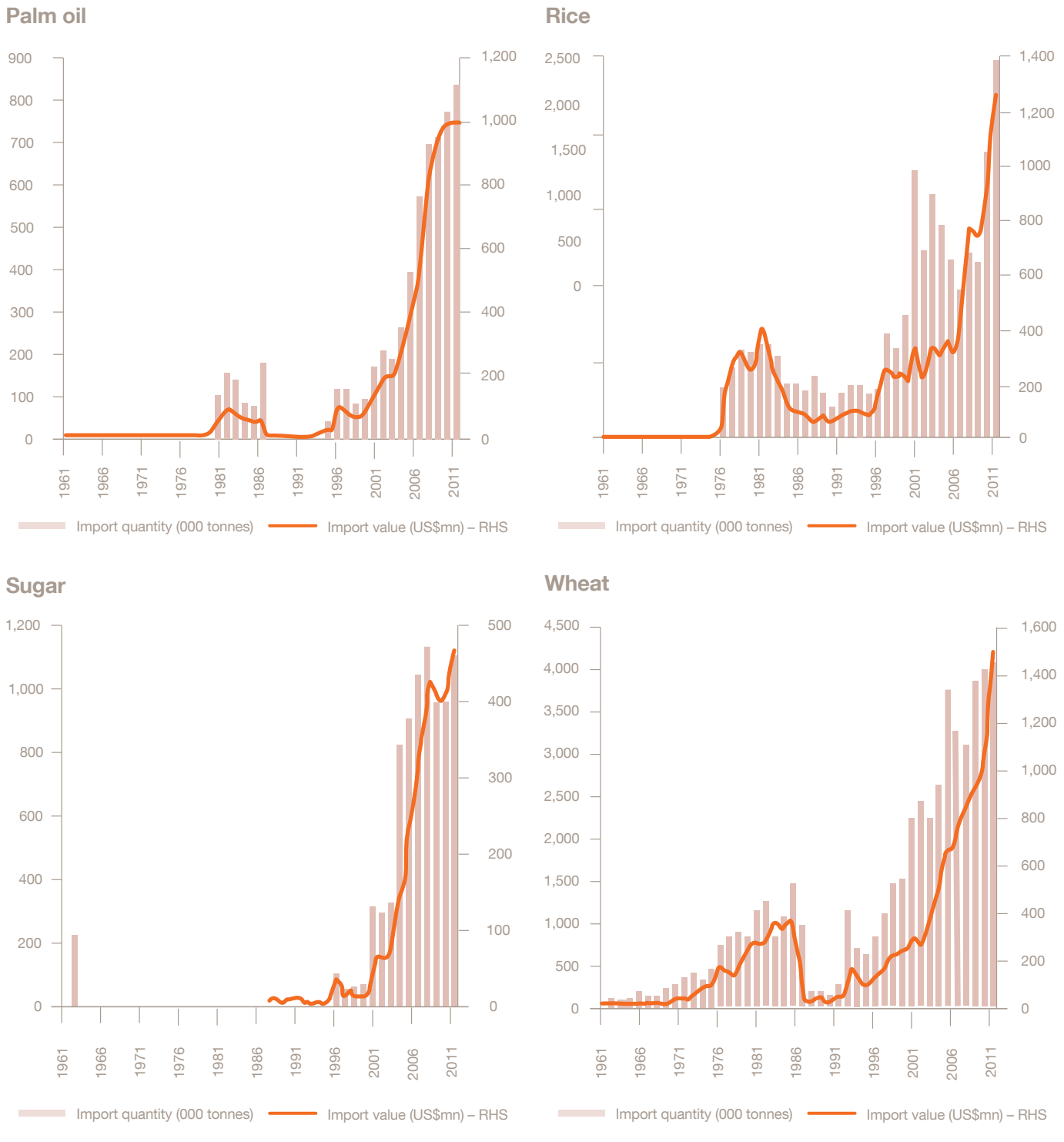



**Source:** FAO

Figure 28 shows the extent to which imports in four key commodities accelerated over the past five decades.

Nigeria is the biggest rice importer in the world. The country's peak production was approximately 2.9m tonnes, a figure achieved in 2011. In isolation, this appears respectable given that it was a near doubling of the 1.5m tonnes produced domestically in 1990.

**Figure 28**: Key import commodities, quantity and import value




**Source:** FAO

However, at the turn of the millennium the picture for domestic consumption altered radically. In 2000, domestic consumption broke through the 3m tonne barrier for the first time and rose sharply thereafter. In 2006, consumption reached 4m tonnes, 5m tonnes by 2011, and by 2013 6m tonnes were being consumed in Nigeria.

Breathtaking figures for sure. However, the domestic supply response, as noted, was muted. Throughout the 1990s Nigeria produced 1.5-2m tonnes of rice per annum. At the beginning of the 1990s, the country had to import 200,000 tonnes of rice. This rose steadily throughout the decade so that by 1999, the country had to import almost 1m tonnes a year.

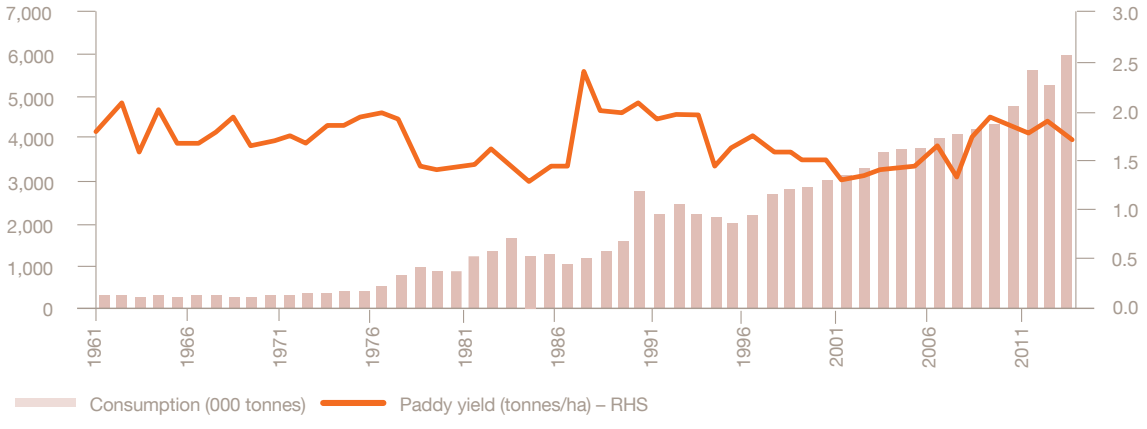
Domestic production also rose, but was insufficient. In fact it took until 2005 for Nigerian domestic production to go above 2m tonnes by which time imports were 1.65m tonnes. The critical year for rice was 2011 when the government launched the Agricultural Transformation Agenda (ATA). That year, rice imports (3.2m tonnes) exceeded output (2.9m tonnes) for the first time.

As it initiated the ATA, the government laid out the failings of the Nigerian agriculture sector somewhat starkly as it initiated the ATA in 2011. Among its observations: the country's mechanisation intensity of some 10 tractors per 100ha was in sharp contrast to the 241 tractors per 100ha of Indonesia. In irrigation, less than 1% of Nigeria's arable land was irrigated versus 28% in Thailand, the world's biggest rice exporter. It also noted how Indonesian yields in 1961 were lower than Nigeria and yet, within two decades, Indonesia had lifted yields threefold.

What the Nigerian government's study concluded was that the transformation of many Asian countries from labour-intensive, agriculture-driven economies towards capital-intensive industrialised economies was driven by government expenditure in both sectors of the economy. In some senses these practical outcomes are supported by economic models such as the Lewis dual-sector model, which, as highlighted in the introduction, demonstrates how capital intensity in the agriculture sector is driven as much by the development of the industrial sector.

Specifically, the government of Nigeria noted how some Asian governments invested as much as 16% of their national budgets in the agriculture sector in contrast to the 2% invested in Nigeria. Unsurprisingly, annual growth rates in many Asian countries from the early 1960s to 2010 averaged 2-3% compared to 0.2% in Nigeria. The economic results were spectacular: Vietnam and China took 40% of their populations out of poverty between 1995 and 2005.

**Figure 29**: Rice consumption and paddy yield




**Source:** US Department of Agriculture

### *Government support*

Nigeria started the ATA in 2011 with the aim to:

"achieve a hunger-free Nigeria through an agricultural sector that drives income growth, accelerates achievement of food and nutritional security, generates employment and transforms Nigeria into a leading player in global food markets to grow wealth for millions of farmers".

Specifically, between 2012 and 2015, the plan intends:

- To increase production of cassava by 17m tonnes, rice by 2m tonnes and sorghum by 1m tonnes;
- To create 3.5m jobs within the five value chains of rice, cassava, sorghum, cocoa and cotton; and
- To increase farmers' incomes by US$2bn.

The vision for Nigeria's agricultural sector was captured by its view on what it would no longer do. First among these was ceasing to view agriculture as a development project. This shift has become a hallmark of much thinking across Africa and ought to be seen in a positive manner. The second was ensuring that isolated projects would have no place unless they were part of an overall strategic focus with clear and identifiable aims. Finally, it was deemed essential to prevent the public sector crowding out the private sector.

In other words, private sector development and a market-led approach were crucial to the success of the ATA.

A key plank of the ATA is to ensure farmers can access better agricultural inputs notably seeds and fertilisers. The decades-long system of government-mandated procurement and distribution of fertilisers became wholly corrupted to the detriment of both private sector providers and local farmers. At the inauguration of the Earth Institute at Columbia University in September 2013, Dr Akinwumi Adesina, then Nigeria's Minister of Agriculture and Rural Development, noted that only some 11% of farmers managed to receive government-distributed fertilisers.

The initial measures to combat this fraudulence were successful. The launch of the Growth Enhancement Scheme (GES) provided subsidised inputs to farmers. The scheme's success has largely been helped by another development, which has transformed African business landscapes in the last decade – the expansion, extension and entrenchment of mobile phone networks across the continent. Thus, to ensure that the GES succeeded, it was supported by another – wholly original – initiative, the Electronic Wallet System. This allows farmers to receive subsidised vouchers for seeds and fertilisers on their mobile phones.

In 2012 some 1.5m smallholder farmers received their vouchers via their mobile phones. By September 2013, this figure had increased to some 3.5m smallholders. Overall, some 20m people most likely felt the social impact of this innovation. The GES system has now been extended to fisheries, livestock and mechanisation services.

This technological innovation spans several key crops, including heat-tolerant strains of wheat seeds, which can cope with tropical environments. Average wheat yields in Nigeria have never reached much beyond 1 tonne/ha. The yields on these new tropical varieties can produce 5-6 tonnes/ha, an unparalleled uplift in possible productivity and potential output. If the Northern provinces target of 450,000ha of land were attained, then this would suggest another 2.5m/3m tonnes of wheat production in Nigeria. To put this in context, Nigeria currently produces wheat volumes that barely merit the description of 'rounding error'. Meanwhile, the country has imported over 4m tonnes of wheat almost every year since 2009.

Higher domestic output is not the only way to substitute for wheat and rice imports. The domestic cassava industry is also being targeted as a potential source of flour – a policy that also aims to reduce wheat and rice imports. Spread across two-thirds of Nigeria's provinces the cassava industry is highly fragmented and localised. It produces over 50m tonnes annually, a figure which represents more than 20% of global output.

Yields are also high at 10 tonnes/ha and it is not a seasonal crop. The relevance of the product as a wheat/rice substitute is not in doubt. However, in longer term the development of the cassava industry is necessary because it is also used as a cattle feedstock. Bluntly, as Nigerians get richer, their protein consumption will accelerate and the long-term demand for the crop ought to be assured.

The government has targeted the development of 18 large-scale cassava processing plants through cheap financing to private sector participants. The government's thinking is that if 20% of the country's wheat consumption is substituted by domestic cassava output, the annual saving in foreign exchange will amount to some US$800m. Private-sector involvement in the industrialisation of the cassava sector extends to the likes of Flour Mills of Nigeria and Cargill, and exports of cassava chips to China have begun.

The results are already apparent: of the 3.5m jobs that the government aimed to create in the five key value chains noted above, some 2.7m had been created within the first year of the ATA, while output across all crops was raised by 9m tonnes. During 2012, the annual food import bill also declined by some US$5.3bn.

### *Value chain development*

The development of food and agriculture value chains in Nigeria may mirror the development of those in the CIS and parts of Latin America. That is, prominent local brands and consumer groups vertically integrate through the acquisition of, or – more likely – development of primary production.

It would be inaccurate to describe the strategy, which came to dominate in the CIS – most prominently in Russia and Ukraine – as simply a vertical backwards approach. Many groups also began to integrate horizontally across a range of crops and consumer products. Thus a sugar trader such as RusAgro began to process sugar before acquiring its own sugar beet production. Thereafter it entered other markets such as vegetable oils, fats and meat.

Ultimately, this points to the longer term development of a conglomerate model. The advent of groups such as Transcorp, Honeywell, Flour Mills of Nigeria, Dangote, Bua Group and their burgeoning operations spanning multiple points along the food and agriculture value chain, demonstrates the emergence of a model uncommon across the developed world.

# Angola

*The key driver behind Angola's spectacular economic performance since the end of civil war in 2002 has been oil. However, that has been largely at the expense of other industrial and commercial sectors, most of which have stagnated in recent years. The decline in oil prices places significant pressure on the government's finances and highlights the need for diversification into other sectors including agriculture. Angola was a net agricultural exporter before independence; it is now heavily dependent on food imports. Government attempts to revive the agriculture sector aim to reduce imports and increase exports in traditional crops such as coffee.*

## *Economic snapshot*

Since the end of the country's civil war in 2002, Angola has experienced strong economic growth, especially in the first half of the past decade. Buoyed by oil revenues, GDP quadrupled between 2004 and 2008. However, after the financial crisis, the growth rate declined. Angolan per capita GDP in 2014 amounted to US$5,273, a level that places the country far ahead of most African peers. However, this masks the unequal distribution of these gains.

Oil accounts for nearly all of Angola's exports, about 80% of government revenues and about half of the country's GDP. Oil production increased from about 800,000 barrels/day to 1.8m barrels/day in 2009 where it peaked at these levels in subsequent years. Some new facilities were expected to come on stream in the near term and contribute to higher production. Despite the oil bonanza, social indicators have not kept pace with strong economic growth. Living conditions for the majority are challenging. Access to essentials such as electricity and drinking water remains limited. Infrastructure, such as roads and ports, is underdeveloped.

The recent decline in oil prices will likely act as a brake on Angola's economic growth rate and also strain government's finances. The government recently revised its 2015 budget and changed its oil price assumption from US$81 per barrel to US$40. Attempts to diversify the economy away from oil have had some success but cannot conceal the country's dependence on it. The IMF expects Angola to post a budget deficit in 2014 for the first time since 2009. Simultaneously, Angola's current account balance will likely slip into deficit this year, again for the first time since 2009, and perhaps place pressure on the kwanza exchange rate.

**Figure 30:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 10.9 | 18.3 | 20.7 | 22.6 | 13.8 | 2.4 | 3.4 | 3.9 | 5.2 | 6.8 | 4.2 |
| GDP, current prices (US$bn) | 20 | 28 | 42 | 60 | 84 | 75 | 82 | 104 | 115 | 124 | 129 |
| GDP per capita, current prices (US$) | 1 083 | 1 511 | 2 171 | 3 049 | 4 122 | 3 589 | 3 807 | 4 666 | 5 018 | 5 245 | 5 273 |
| Inflation, end of period (%) | 31.0 | 18.5 | 12.2 | 11.8 | 13.2 | 14.0 | 15.3 | 11.4 | 9.0 | 7.7 | 7.5 |
| General government gross debt (% of GDP) | 46.6 | 38.6 | 18.7 | 16.4 | 16.6 | 49.9 | 39.8 | 32.2 | 29.6 | 35.2 | 38.0 |
| Current account balance (% of GDP) | 3.5 | 18.2 | 25.6 | 17.5 | 8.5 | -10.0 | 9.1 | 12.6 | 12.0 | 6.7 | -0.8 |
| Exchange rate (US$/AOA) | 83 | 87 | 80 | 77 | 75 | 79 | 92 | 94 | 95 | 97 | 98 |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

José Eduardo dos Santos has been President of Angola since 1979. His party, the People's Movement for the Liberation of Angola (MPLA) has ruled Angola since it gained independence in 1975 and throughout the ensuing civil war. In 1992, the country made the transition from single-party state to multi-party democracy. The MPLA and José Eduardo dos Santos won the parliamentary and presidential elections respectively. However, the opposition parties contested the fairness of these elections and the civil war resumed. The civil war ended in 2002 but parliamentary elections – won by the MLPA – were not held until 2008. Presidential elections were rescinded in the 2010 constitution when it was ruled that the leader of the largest party in Parliament be appointed as President. The most recent legislative elections were held in 2012. Again these were won by the MPLA and José Eduardo dos Santos continued as President.

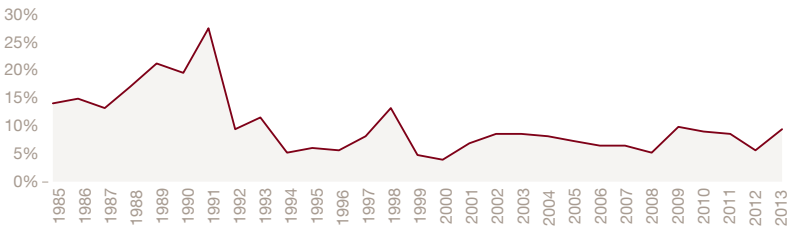
## *Agricultural profile*

Located in Southwest Africa, with a long coastline, Angola lies just south of the equator. The terrain varies from arid coastal lowland to high inland plains and hills and rainforests. The climate is mostly tropical. Agriculture contributes about 10% to the country's GDP.

Prior to independence, Angola was largely self-sufficient in agriculture. It was also a major exporter of commodities such as coffee and maize. However, the huge disruption and displacement throughout the country in the civil war that followed independence dealt a major blow to the country's agricultural potential. Agricultural growth declined over 3% annually in the 1970s and recovered only marginally over the next two decades. It was only after the civil war ended in 2002 that agricultural growth resumed strongly.

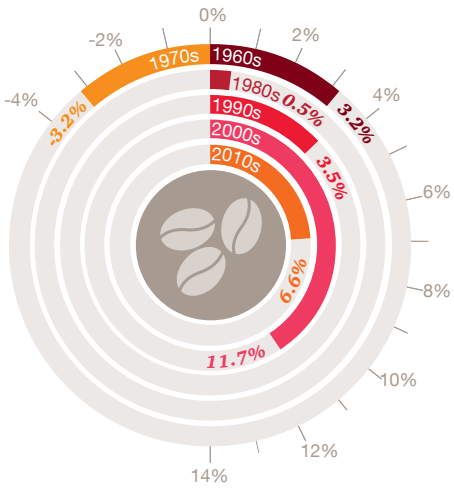
Some 47% of the country's land (59m ha) is agricultural. However, only about a tenth (5.2m ha) is under cultivation with the rest under pasture. Angola's chief crops are cassava, bananas and sweet potatoes. Its chief imports are wheat, vegetable oil, meat, sugar and rice. The country has negligible food exports – a dramatic fall for what was once the third-largest coffee producer in the world.

**Figure 31**: Agriculture value added (% of GDP)




**Source:** The World Bank: World Development Indicators

**Figure 32**: Annual growth in agricultural productivity



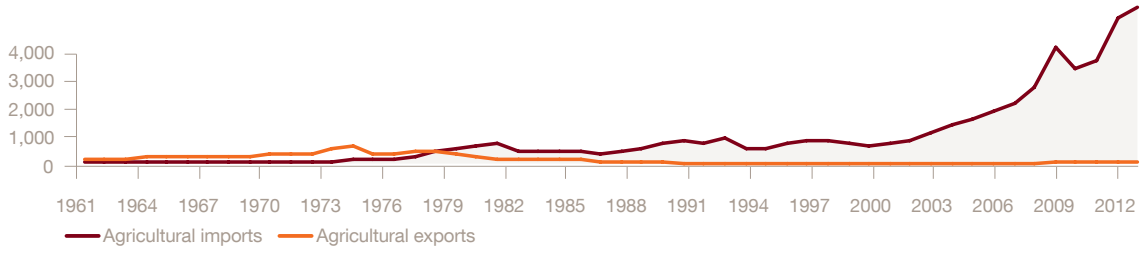

**Source:** FAO

As outlined in Figure 33 Angola enjoyed a modest agricultural trade surplus before the civil war began in the late 1970s. However, since then, exports declined to near zero while imports soared. After the end of the civil war in 2002 and the advent of the oil boom, import growth accelerated. Simultaneously export-driven growth remained marginal. In short, Angola remains heavily dependent on imports for a large part of its food needs.

Consider Figure 34: it highlights the level of import dependence to fulfil domestic consumption for a few important commodities.

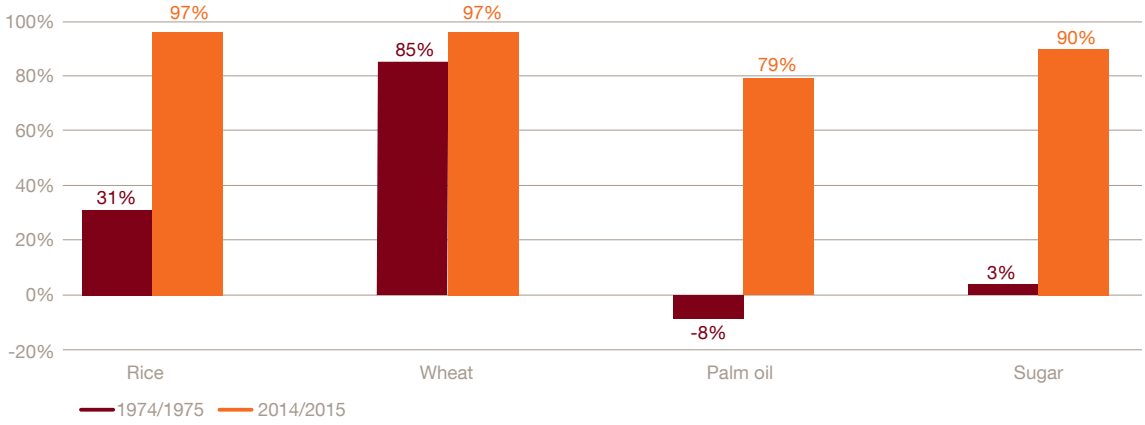
The above focused on imports. However, exports also represent a similar story of agricultural decline. Take coffee. Today, Angola barely produces any coffee. However, in the last few years before independence it was a major producer. In 1972/1973, Angola produced nearly 250,000 tonnes of coffee, of which it exported 186,000 tonnes. In 2014/2015, the USDA expects Angola to produce 1,800 tonnes of coffee and export 300 tonnes. Output and exports declined to less than 1% of their peak, underlining the devastating impact of the civil war. As the statistics below demonstrate, recovery has been slow, even with the end of the civil war in 2002.

**Figure 33**: Agricultural trade (US$m)




**Source:** [© FAO] [http://faostat3.fao.org/download/T/TP/E] [Date downloaded: 29 May 2015]

**Figure 34**: Net imports/consumption (%)




**Source:** U S Department of Agriculture

**Figure 35:** Coffee statistics

| | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Production (000 tonnes) | 1 260 | 3 420 | 2 280 | 900 | 1 500 | 2 100 | 1 800 | 1 800 | 1 800 | 1 500 | 2 100 | 1 740 | 1 860 | 1 800 | 625 |
| Exports (000 tonnes) | 660 | 720 | 780 | 300 | 300 | 300 | 240 | 240 | 480 | 300 | 480 | 480 | 300 | 300 | 693 |
| Consumption (000 tonnes) | 1 200 | 1 200 | 900 | 1 200 | 1 500 | 1 500 | 1 860 | 1 860 | 1 860 | 1 560 | 1 800 | 1 320 | 1 620 | 1 500 | 220 |

**Source:** US Department of Agriculture

### *Government support*

The government's National Development Plan 2013-2017 aims to promote an integrated and sustainable agriculture sector that ensures food security and contributes to exports. The chief goals are: market-orientation and commercialisation of agriculture, rehabilitation of supporting infrastructure, promotion of cash crops and the strengthening of research. Some of the specific programmes are designed to:

- Encourage family farming;
- Rehabilitate agricultural research stations;
- Promote large-scale agricultural projects; and
- Rehabilitate irrigation schemes.

In the food and agro-business cluster, the government has identified 57 projects with a total investment of US$2.8bn. The government is also looking to develop agro-industrial hubs to promote investment. One such hub is the Capanda Agro-Industrial Hub, situated in Malanje Province. This hub was established in 2006 and includes the Pedras Negras, Pungo-Andongo and Biocom farming units as well as the Kizenga Agro-Industrial development hub.

The Capanda project covers 411,000ha, of which 270,000ha are earmarked for rain-fed agriculture, 18,000ha for irrigated agriculture, 70,000ha for environmental reserves and 10,000ha for resettlement of people. The government plans to promote a range of crops including maize, soybeans and sugarcane. It also plans to encourage value-added activities such as oil processing and milling.

Similar to other such hubs across Africa, the government has built a basic level of infrastructure, such as roads and electricity, and hopes to attract private capital.

# Kenya

*Kenya is the largest economy in East Africa and has enjoyed strong economic growth in recent years. Although the elections in 2008 witnessed widespread civil disturbances and violence, the recent elections in 2013, held under a new constitution, were relatively peaceful. Agriculture is a major driver of the economy and contributes substantially to GDP and export earnings. In recent years, Kenya has expanded its export portfolio from its traditional tea and coffee sub-sectors to cut flowers, fruits and vegetables. However, the country still imports a large part of its food needs. To remedy this, and to further enhance exports, the government has initiated a number of projects under the Kenya Vision 2030 programme.*

## *Economic snapshot*

Apart from a blip in 2008, due to the global financial crisis and post-election violence, Kenya's economic growth has been reasonably strong in the past decade. In 2014, Kenyan GDP amounted to US$61bn while GDP per capita was US$1,416 – a near three-fold increase from a decade previously. The contribution from agriculture amounted to 30%, while industry and services accounted for 15% and 55% respectively.

Kenya was hit by multiple shocks throughout 2008 and 2009: post-election violence, commodity price hikes, the global financial crisis and a drought. The country managed to recover thanks, in part, to assistance from the IMF. In 2010, Kenya forged a new constitution. Among many changes, devolution of substantial powers from the Federal Government to counties was a significant shift. However, this political change was paralleled with a strong uplift in infrastructure spending, which, in turn, led to higher fiscal deficits and more debt. At the same time, the country's current account balance has worsened consistently and considerably.

In terms of exports, the principal foreign exchange earners for Kenya are tea, coffee, vegetables, fruits, cut flowers and tourism. The country's chief imports are machinery, petroleum products and motor vehicles.

Tourism, Kenya's largest contributor to its foreign-exchange reserves, has suffered in the last 12 months due to heightened security concerns. This, coupled with possible weather-related shocks, forced the government to request IMF assistance for a precautionary programme of about US$700m in February 2015.

**Figure 36:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 4.6 | 5.7 | 5.9 | 6.9 | 0.2 | 3.3 | 8.4 | 6.1 | 4.5 | 5.7 | 5.3 |
| GDP, current prices (US$bn) | 18 | 21 | 26 | 32 | 36 | 37 | 40 | 42 | 50 | 55 | 61 |
| GDP per capita, current prices (US$) | 549 | 621 | 743 | 895 | 978 | 982 | 1 039 | 1 062 | 1 237 | 1 322 | 1 416 |
| Inflation, end of period (%) | 11.8 | 4.9 | 7.3 | 5.6 | 15.5 | 8.0 | 5.8 | 18.9 | 3.2 | 7.1 | 6.0 |
| General government gross debt (% of GDP) | 53.8 | 48.3 | 44.0 | 38.4 | 41.5 | 41.1 | 44.4 | 43.0 | 40.8 | 42.2 | 48.6 |
| Current account balance (% of GDP) | -0.7 | -1.2 | -2.0 | -3.2 | -5.5 | -4.6 | -5.9 | -9.1 | -8.4 | -8.7 | -9.2 |
| Exchange rate (US$/KES) | 79 | 76 | 72 | 67 | 69 | 77 | 79 | 89 | 85 | 86 | 88 |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

Although Kenya has held multi-party elections since 1992, they were rarely peaceful or free. This violence manifested itself after the December 2007 elections. The Orange Democratic Movement (ODM) won nearly half the parliamentary seats, while the Party of National Unity (PNU) won less than a quarter. However, in the Presidential elections, Mwai Kibaki of the PNU was declared to have won over Raila Odinga of the ODM. This led to allegations of electoral manipulation and fraud, whereupon the country erupted into violent clashes between rival political camps. The crisis ended in February 2008 after Kibaki and Odinga agreed to form a coalition government. Kibaki became the President and Odinga the Prime Minister.

The latest Presidential and Parliamentary elections were held in March 2013 and were the first elections held under the new constitution adopted in 2010. The 2013 elections were largely peaceful and regarded as free and fair. Uhuru Kenyatta, of the Jubilee Alliance Coalition, won the Presidential election and defeated the incumbent Prime Minister Raila Odinga. The Jubilee coalition also won nearly half the seats in the Parliamentary and Senate elections.

Uhuru Kenyatta is the son of Jomo Kenyatta, Kenya's founding father and first president. Kenyatta was the Deputy Prime Minister and Minister of Finance in the coalition government formed after the 2007 election. He was instrumental in launching an economic stimulus programme to counter the effects of the global financial crisis. Kenyatta was indicted by the International Criminal Court for crimes against humanity in relation to the 2007 post-election violence. However, these charges were subsequently dropped, citing non-cooperation by the Kenyan government.

## *Agricultural profile*

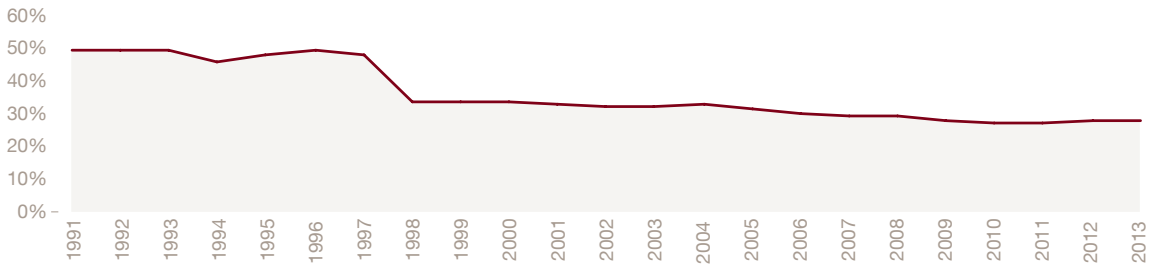
Kenya is a developing East African country with an area of 580,000km$^2$. Of its 40m population some 22% live in urban areas. Kenya straddles the equator, and is bordered by Somalia to the northeast, Ethiopia to the north, Sudan to the northwest, Uganda to the west and Tanzania to the south. Access to the sea is through a 536km coastline along the Indian Ocean to its southeast.

Kenya's terrain ranges from plains to highlands. The climate ranges from tropical along the coast to temperate inland to arid in the northern and north-eastern parts of the country. Agriculture's contribution to GDP has been in decline for some time now as other sectors developed.

While agriculture remains a major contributor to GDP, it is focused more on cash crops such as tea and coffee. Staples such as maize, wheat and rice are regularly imported. Post-independence in 1963, the rate of food production rose strongly throughout the 1970s and 1980s. However, the growth rate slowed over the last couple of decades, largely due to intermittent droughts.

Of the total land area of 57m ha, land for agricultural use accounts for 27m/ha or about 48% of total land resources. Of this agricultural land, 22%, or about 6.1m ha, is covered by arable land and permanent crop land, while the rest is covered by pasture.

**Figure 37**: Agriculture value added (% of GDP)




**Source:** The World Bank: World Development Indicators

The principal crops are tea, maize, plantains, beans and vegetables. Kenya also produces large quantities of meat and milk for local consumption. The chief exports are tea, coffee, cut flowers, vegetables and fruits while the chief imports are wheat, maize, palm oil, rice and sugar.

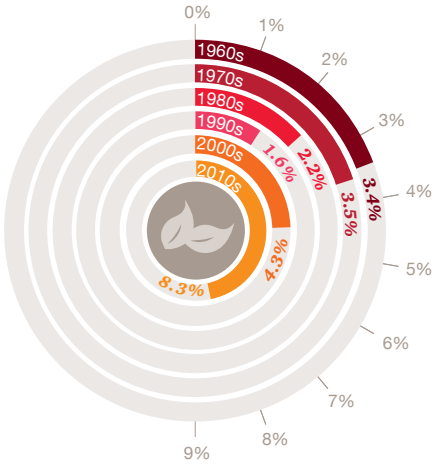
Kenya is dependent on imports for its food security. For example, a large percentage of wheat, rice and palm oil consumption is met by imports. Similarly, a significant share of the consumption of maize, a staple food, sugar and sorghum is imported.

In 2012, the value of agricultural imports was about US$1.6bn and the value of agricultural exports was about US$2bn, thus implying a surplus of some US$400m.

Kenya has consistently run a surplus in agricultural trade. An initial reliance on tea and coffee was later supported through cut flowers, fruits and vegetables.

Unlike countries such as the DRC, Sudan and Ethiopia, Kenya does not have vast tracts of unused or underutilised fertile land that can be put to use for agricultural production. According to the FAO, only about 17% of Kenya's land is high- and medium-potential agricultural land, with the rest classified as arid/semi-arid and unsuitable for rain-fed agriculture. However, the country does have the potential to excel in niches such as cut flowers, where a combination of factors including favourable climate, low cost and access to European markets gives it a competitive advantage.

**Figure 38**: Annual growth in agricultural productivity

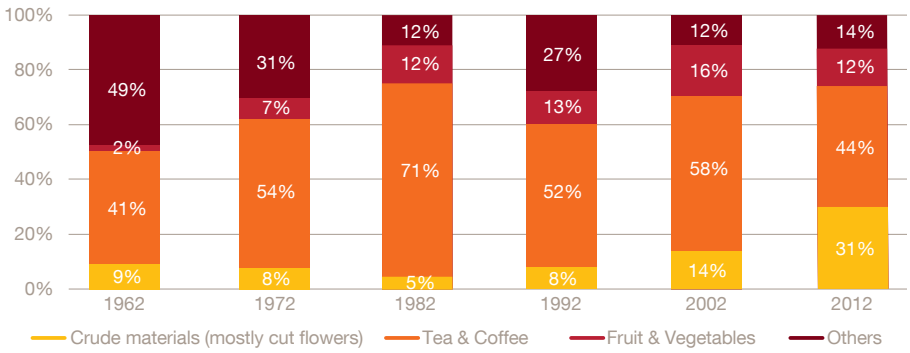



**Source:** FAO

**Figure 39**: Agricultural trade (US$m)


**Source:** FAO

**Figure 40**: Export value split




**Source:** FAO

### *Government support*

Under Kenya Vision 2030, the government aims to "transform Kenya into a newly industrialising, middle-income country providing a high quality of life to all its citizens by 2030." Currently, Kenya is in the midst of its second Medium Term Plan (MTP) of Kenya Vision 2030, which extends from 2013 to 2017. Agriculture is a key focus area of this programme, given that the sector accounts for some 65% of total exports and 60% of export earnings.

Some of the key agricultural programmes include:

- Consolidated agricultural reforms. This initiative seeks to review and harmonise the legal framework for agriculture;
- Fertiliser cost-reduction initiative. This is designed to make fertiliser more affordable and accessible for farmers, through local manufacture and improving the supply chain;
- Setting up livestock disease-free zones. These zones aim to improve the quality of livestock through vaccination, disease control, investment in breeding and so on; and
- Arid and semi-arid lands irrigation project. The aim of this project is to increase arable land by 30% by increasing the area under irrigation to between 600,000 and 1.2m ha.

Apart from these flagship programmes, there are many smaller projects that focus on aspects such as extension services, agribusiness development, access to inputs, access to credit and so on.

# Tanzania

*Tanzania is among Africa's fastest-growing economies. In common with many peers, mining is a major component of the economy. Gold, in particular, is a major export commodity. Prospects for future growth have been pinned on recent discoveries of natural gas, although any revenue streams will not likely materialise for another five to ten years. A major concern is whether the country, having escaped the ravages of Dutch Disease in the past, finds itself in a similar position to Nigeria and Angola.*

Recent corruption scandals relating to the power sector and production-sharing agreements in the oil and gas sector are ominous signs. Tanzania has a strong agriculture sector and has been a major exporter of cash crops such as tobacco, coffee and cotton. However, in 2011, the country became, for the first time, a net importer of agricultural commodities mainly due to imports of wheat, palm oil and sugar. To reverse this, the government has undertaken numerous initiatives to promote private investment in agriculture, improve infrastructure and productivity, and increase exports. The most important among these are SAGCOT and BRN, which we discuss in more detail below.

## *Economic snapshot*

Tanzania's annual GDP growth has averaged 7% over the past decade and its GDP per capita has more than doubled over the same period. The country's self-sufficiency doctrine and command economy, promoted by the Nyerere administrations which followed independence in 1961, began to be dismantled in 1986 when the country embraced economic reform.

Despite the strong economic growth that followed, the current account deficit increased steadily mainly on account of oil imports. Inflation has also been high. Government indebtedness in recent years has increased although it remains below the levels in the period before 2005.

Mining, primarily gold, is a major industry. Gold is also Tanzania's chief export. Other major exports are tobacco, coffee, cashew nuts and cotton. The country's major imports are oil and machinery. The latter has increased in recent years as oil and gas exploration picks up. Services account for more than half of GDP with agriculture and industry accounting for the rest.

Beginning in 2010, offshore natural gas discoveries came to prominence. These amounted to some 33trn cubic feet by the end of 2012. Other new mineral discoveries have been made too. However, the benefits from these resources remain long term and uncertain. Tanzania's mismanagement of its own gold industry is telling.

**Figure 41:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 7.2 | 5.7 | 5.1 | 8.8 | 5.6 | 5.4 | 6.4 | 7.9 | 5.1 | 7.3 | 7.2 |
| GDP, current prices (US$bn) | 16 | 17 | 19 | 22 | 27 | 29 | 31 | 33 | 39 | 44 | 48 |
| GDP per capita, current prices (US$) | 425 | 450 | 482 | 542 | 669 | 684 | 721 | 760 | 868 | 945 | 1 006 |
| Inflation, end of period (%) | 4.1 | 5.0 | 6.7 | 6.4 | 13.5 | 12.2 | 5.6 | 19.8 | 12.1 | 5.6 | 4.8 |
| General government gross debt (% of GDP) | 44.6 | 46.8 | 32.8 | 21.6 | 21.6 | 24.3 | 27.5 | 28.0 | 29.2 | 31.4 | 33.2 |
| Current account balance (% of GDP) | -3.2 | -5.5 | -7.4 | -8.6 | -7.8 | -7.3 | -6.9 | -10.4 | -11.6 | -10.3 | -10.2 |
| Exchange rate (US$/TZS) | 1 089 | 1 129 | 1 252 | 1 245 | 1 197 | 1 320 | 1 410 | 1 571 | 1 572 | 1 598 | 1 653 |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

Tanzania's current President is John Magufuli of the Chama Cha Mapinduzi ("Party of the Revolution") (CCM) party, who has been in office since 5 November 2015 and succeeded Jakaya Kikwete who had been in office since 2005. Both were members of the CCM party, which continues to be the dominant political force in Tanzania, despite the dismantling of the country's socialist orthodoxies that were a hallmark of Tanzania in the years following independence.

A former minister for Works, Magufuli won the election with 58% of the vote, compared to his main rival Edward Lowassa of the Chama cha Demokrasia na Maendeleo ("Party for Democracy and Progress") (CHADEMA) party who won 40% of the vote. Lowassa was previously a minister in the CCM administration between 2000 and 2005 and was Prime Minister from 2005 until 2008. He left the CCM when he failed to win the party's nomination as presidential candidate for the 2015 election. CHADEMA has become a serious political force in recent elections and its 40% share of the vote was up from 27% in the 2010 contest.

Although corruption remains a serious problem, Jakaya Kikwete's management of the economy brought widespread approval and favour internationally. Recently, Prime Minister Mizengo Pinda was implicated in an energy scandal relating to the state-owned power provider Tanesco. Questions have also been raised on the fairness of the production-sharing agreement signed with international oil and gas companies.

## *Agricultural profile*

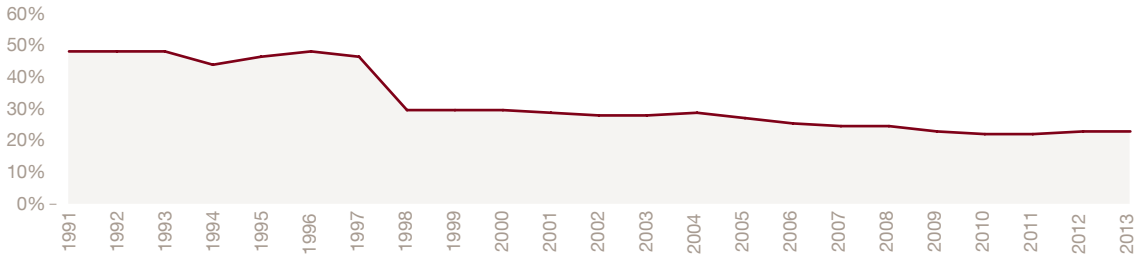
Lying just to the south of the equator, Tanzania is the largest country in East Africa. The terrain is varied with a large central plateau and plains along both the coast and highlands in the north and south. The climate is mostly tropical and modified by altitude. Tanzania has a large number of lakes including Lake Victoria and Lake Tanganyika.

Of the total 89m/ha of land, only 41m ha, some 46%, is used for agricultural purposes. Of this agricultural land, close to 17m/ha is covered by arable land and permanent cropland, while the rest is covered by pasture. The FAO estimates that Tanzania has 65m/ha of land with rain-fed crop production potential.

The government estimates that about 29m hectares are suitable for irrigation but only 450,392 ha are currently under irrigation. Out of the total area suitable for irrigation, 2.3m ha have what is considered 'high potential', 4.8m ha are 'medium potential' and over 22m ha are considered low potential.

Overall, the agriculture sector contributes approximately 27% of GDP, accounts for almost 34% of the country's export earnings, employs 78% of the working population, provides livelihoods to more than 70% of the population and contributes some 95% of national food requirements. The overall contribution has declined since the 1990s, when it was around 50% of GDP, but agriculture grew strongly over the last decade as Tanzania increased production across a range of commodities including rice, maize, pulses, peas, oilseeds and tobacco.

**Figure 42**: Agriculture value added (% of GDP)




**Source:** The World Bank: World Development Indicators

The main food crops grown are maize, rice, sorghum, millet, beans, cassava, sweet potato and bananas. Maize is the leading crop and, in 2004, Tanzania produced 3.2m tonnes of maize on 3m/ha of land. A decade later this had risen to 5m tonnes on 4m/ha of land, indicating strong growth in the planted area and higher productivity. The country's main exports are coffee, tobacco, cashew nuts and cotton while it imports wheat, palm oil and sugar.

In 2012, the value of agricultural imports was US$1.2bn, and the value of agricultural exports was US$1.6bn implying a surplus of US$400m. While Tanzania has traditionally been a strong agricultural exporter, its imports have increased rapidly in recent years. Over the past two decades, while exports grew over 9% per annum, imports jumped at 11% per annum.

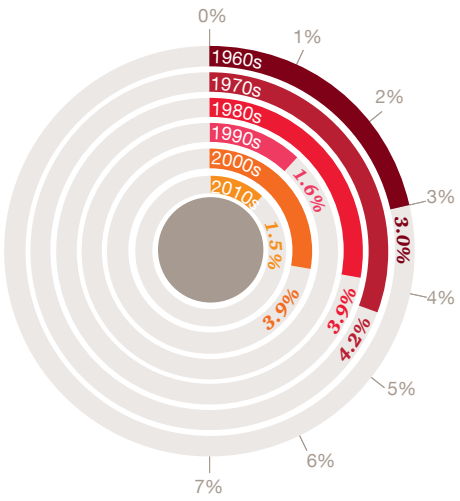
To reverse this trend Tanzania hopes to increase agricultural exports rapidly. In all its programmes, the primary focus is on sugar and rice – two commodities where both Tanzania and a number of its neighbours are net importers.

The government estimates that the domestic sugar supply gap already exceeds 300,000 tonnes annually and is growing at about 6% pa. The gap in the neighbouring East African Community (EAC) countries is about 550,000 tonnes/year and is growing at about 10%+ annually. Beyond this, many other regions, such as the Middle East, are also major sugar importers. Finally, there is also a domestic market for power and ethanol fuel that will likely increase the demand for sugar. Similarly, the government estimates a US$180m rice 'gap' among the countries that constitute the EAC. This extends to the Southern African Development Community (SADC) where the rice 'gap' is thought to be as high as US$660m.

## *Government support*

The Tanzanian government launched the Kilimo Kwanza (Agriculture First) programme in 2009 with the objective of achieving a modern, commercial, productive, profitable and sustainable agricultural sector by the year 2025. Unlike past initiatives, Kilimo Kwanza was led by the private sector with the government playing a supporting role.

**Figure 43**: Annual growth in agricultural productivity




**Source:** FAO

**Figure 44**: Agricultural trade (US$m)


**Source:** FAO

**Figure 45**: Net imports (2013/14)

| Crop | Country | Quantity (000 tonnes) |
|---|---|---|
| Rice | DRC | 140 |
| | Kenya | 410 |
| | Mozambique | 480 |
| | Uganda | 80 |
| | Tanzania | 170 |
| Sugar | DRC | 50 |
| | Kenya | 325 |
| | Mozambique | 108 |
| | Uganda | 19 |
| | Tanzania | 190 |

**Source:** US Department of Agriculture

The government provides a wide range of incentives to the agricultural sector such as lower import duties, VAT deferment, tax holidays, export promotion zones, special economic zones and so on. Producers in Tanzania have preferential access to the EU, US, China and most of East and Southern Africa, under the EU EBA, US AGOA, EAC and SADC agreements.

A key component of the implementation of Kilimo Kwanza is the development of agricultural growth corridors. SAGCOT (Southern Agricultural Growth Corridor of Tanzania) is the first of many that are planned. SAGCOT is a joint initiative led by the Government of Tanzania, private companies and international donors and aims to coordinate government, donor and corporate investments in agribusiness value chains and supporting infrastructure (transport, power, irrigation, etc.), so bottlenecks are removed and the entire system works for investors, smallholders and consumers. The government would provide start-up and operational support in the form of assistance in site identification, leasing, social and environmental safeguards, export regulation, taxation, etc. In many ways, the SAGCOT scheme is an adaptation of the Zambian development block model.

The objectives are to improve food security and reduce rural poverty while sustaining the environment. This includes raising productivity, ensuring the necessary infrastructure is in place, reinforcing the policy environment and providing access to knowledge to create an efficient agricultural value chain. Government and donors are prioritising investments in the corridor to upgrade feeder roads, add transmission lines, increase the capacity of ports and railways and so on. It also includes initiatives to promote out-grower programmes, which will encompass improved seeds and fertilisers, training, microfinance, irrigation and machinery.

SAGCOT offers a favourable climate for agricultural development, with major river systems, ample rainfall, adequate sunshine and suitable soils. These attributes support livestock and a wide range of crops including rice, sugar, maize, and oilseeds among others. In addition, the corridor also has ideal infrastructure, which connects production areas and markets. For example, international highways connect all major agricultural zones in the corridor to main consumer markets in Dar, Arusha, Nairobi and Lusaka. Some of the priority sites already identified are noted below.

The government estimates that over a twenty-year period, private investment of US$2.1bn and public sector grants and loans of US$1.3bn can be mobilised, which could result in a tripling of the area's agricultural output and significant income improvement for many Tanzanians.

In February 2013, President Jakaya Kikwete unveiled the 'Big Results Now' initiative (BRN), which is based on the Malaysian development strategy 'The Big Fast Results'. It aims to transform Tanzania into a middle-income country by 2025. Agriculture was a priority area under BRN. The 'three big results' to be achieved by 2015 are: 25 commercial farming deals for rice and sugarcane, 78 collective rice irrigation and marketing schemes, and 275 collective warehouse-based marketing schemes. The government plans to benefit 70,000 smallholders by doubling rice yields from 4 tonnes/ha to 8 tonnes/ha and a corresponding rise in income from TZS1.6m/ha to TZS2.7m/ha. Through such initiatives, Tanzania aims to export around 4m tonnes of sugar and 3.1m tonnes of rice by 2020.

**Figure 46**: SAGCOT sites

| Site | Crop | Size (ha) |
|---|---|---|
| Ngalimila | Rice | 5,128 |
| Kihansi | Rice | 5,200 |
| Mkulazi | Rice, sugar | 63,000 |
| Ruipa | Sugar | 30,000 |

**Source:** Government of Tanzania

# Ghana

*With a stable political environment and a relatively recent oil bonanza, Ghana is one of the best-performing economies in Africa. However, the recent decline in prices of its chief exports – cocoa, gold and oil – has brought a raft of economic challenges. The country's risk profile has undoubtedly increased in the last two years but the long-term outlook should be positive if the government makes the necessary economic adjustments to adapt to a world of lower commodity prices. Although Ghana is a leading exporter of cocoa, the country remains a net importer of staple foodstuffs such as rice. To remedy this Ghana has embarked on a number of projects to promote agriculture in general and domestic production of rice in particular.*

## *Economic snapshot*

Ghana has experienced strong GDP growth over the past decade. Since 2010, oil production has delivered a further fillip to the growth rate. Ghana's 2014 GDP amounted to US$39bn, while GDP per capita was US$1,474. Much of the country's growth in the past five years has been driven by the oil sector. Crude oil's contribution to GDP increased from zero in 2009 to 6% in 2014. While crude oil is now a major export commodity, Ghana continues to be a leading exporter of gold and cocoa.

Debt relief under the Heavily Indebted Poor Countries (HIPC) programme reduced Ghana's government debt to 26% of GDP in 2006. However, since then debt has risen steadily and sharply over the past three years as the country's recently discovered oil wealth has permitted looser fiscal controls by the government. Higher public sector salaries, greater subsidies and steeper interest payments have all combined to ensure that the challenges of dealing with the fiscal deficit may be considerable. In February 2015, the local Institute of Economic Affairs made the stark observation that the government risked returning to its HIPC status if "frantic and immediate" measures were not put in place to end the trend of high borrowing by the government.

Simultaneously, the current account deficit has also widened as prices for Ghana's chief exports – gold, cocoa and oil – slid. This is reflected in the steady depreciation of the cedi. In 2014, the cedi declined some 40% against the US dollar, which contributed to high inflation in Ghana. Rising oil exports may support the currency in future but volume trends are largely offset by the decline in oil prices. Adding to the pressures on government finances is the fact that private sector investment in the oil sector is likely to slow down too.

To overcome its economic troubles, Ghana approached the IMF in August 2014. In an effort to get IMF assistance, the government resolved to lower the fiscal deficit in 2015 through lower spending and the introduction of new taxes. The IMF approved a two-year credit facility of US$918m in February 2015.

**Figure 47:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 5.3 | 6.0 | 6.1 | 4.5 | 9.3 | 5.8 | 7.9 | 14.0 | 8.0 | 7.3 | 4.2 |
| GDP, current prices (US$bn) | 15 | 17 | 20 | 25 | 29 | 26 | 32 | 40 | 42 | 49 | 39 |
| GDP per capita, current prices (US$) | 715 | 833 | 953 | 1 127 | 1 266 | 1 124 | 1 358 | 1 628 | 1 683 | 1 901 | 1 474 |
| Inflation, end of period (%) | 11.8 | 14.8 | 10.9 | 12.7 | 18.1 | 9.5 | 6.9 | 8.4 | 8.1 | 13.5 | 17.0 |
| General government gross debt (% of GDP) | 57.3 | 48.0 | 26.2 | 31.0 | 33.4 | 36.2 | 46.5 | 42.6 | 49.1 | 55.1 | 67.6 |
| Current account balance (% of GDP) | -4.7 | -7.0 | -8.2 | -8.7 | -11.9 | -5.4 | -8.6 | -9.0 | -11.7 | -11.7 | -9.2 |
| Exchange rate (US$/GHS) | 0.9 | 0.9 | 0.9 | 0.9 | 1.1 | 1.4 | 1.4 | 1.5 | 1.8 | 2.0 | 2.9 |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

Ghana is one of the few resilient democracies in Africa. The country has held elections since 1992 and transfers of power have been peaceful. John Dramani Mahama of the National Democratic Congress assumed the Presidency in July 2012 after the death of incumbent John Atta Mills. He later won the December 2012 Presidential elections and his party won a majority of the seats in the accompanying Parliamentary elections. The other major party in Ghana is the New Patriotic Party, which has formed two governments since 1992.

## *Agricultural profile*

Located just north of the equator, on the west coast of Africa, Ghana has a land area of 24m/ha and is similar in size to the UK. The country has a varied terrain including high plains and forested plateau. The climate is mostly tropical. Of the total land area of 23m ha, nearly 16m ha, or some 70%, is made up of agricultural land. Of this agricultural land, about half is covered by arable land and permanent cropland, while the rest is covered by pasture.

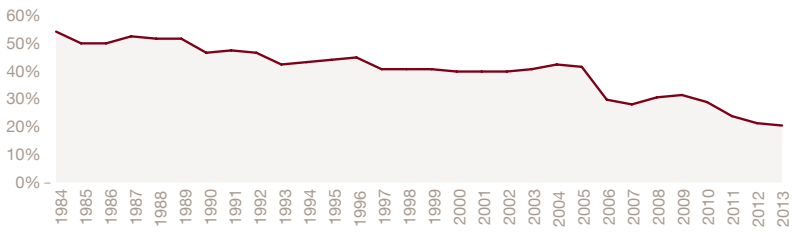
Ghana's agriculture sector contribution to GDP has declined rapidly in recent years as crude oil output has accelerated. Overall, it fell from some 32% in 2009 to 20% in 2014. However it still accounts for over half of all employment, indicating the extent of the smallholder networks that define the sector.

Agricultural growth has been strong in recent decades through a focus on export crops – mainly cocoa – which usually contributes about 2.5% to GDP.

The principal crops grown in Ghana are yams, cassava, plantains and cocoa. The chief exports are cocoa and cashew nuts, while the chief imports are rice, meat, palm oil and wheat. The largest share of the planted area is devoted to cocoa, followed by maize, cassava and yams.

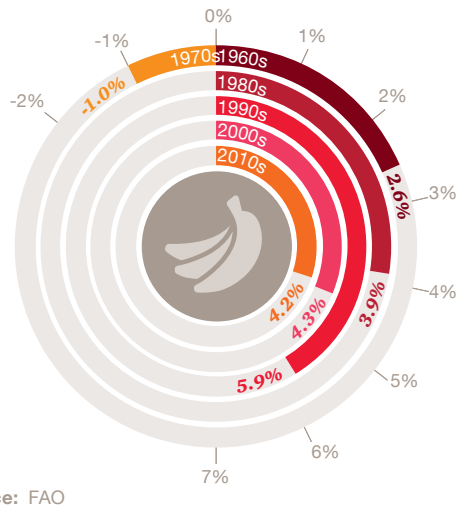
In 2012, total agricultural exports were US$2.7bn and agricultural imports were US$1.6bn. Ghana has long been a net agricultural exporter, although most of the surplus was due to cash crops, specifically cocoa.

**Figure 48**: Agriculture value added (% of GDP)




**Source:** The World Bank: World Development Indicators

**Figure 49**: Annual growth in agricultural productivity




**Source:** FAO

**Figure 50**: Agricultural trade (US$m)


**Source:** FAO

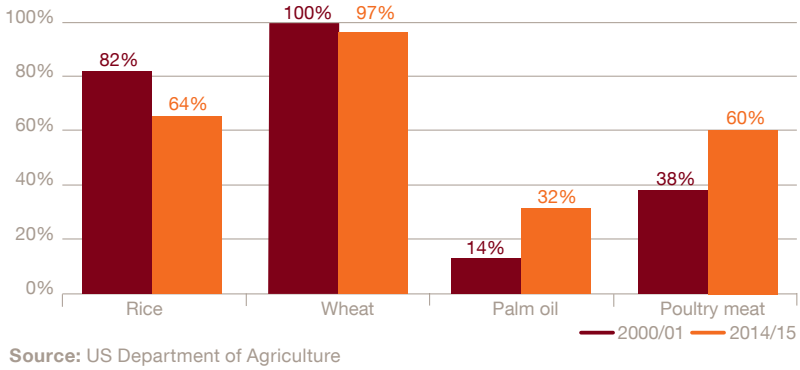
Ghana is highly dependent on imports for a number of key foodstuffs such as rice and wheat. Ghana imports almost its entire wheat consumption, over 60% of its annual rice and poultry meat consumption and about a third of its palm oil requirement. While there has been some improvement in the domestic production of rice, the situation has worsened in the case of palm oil and poultry meat. Figure 51 shows Ghana's import dependence on these commodities in 2000/2001 and in 2014/2015.

Consider the statistics for rice over the past decade. Production increased by 185,000 tonnes, but consumption leapt by 392,000 tonnes, leading to higher imports. While the planted area increased by 76,000 ha, yields improved by barely a quarter.

According to the government, on-farm research using more effective extension services and recommended technologies indicates that the yields attained for most crops is significantly below potential. Figure 53 highlights the yields possible for a few key crops.

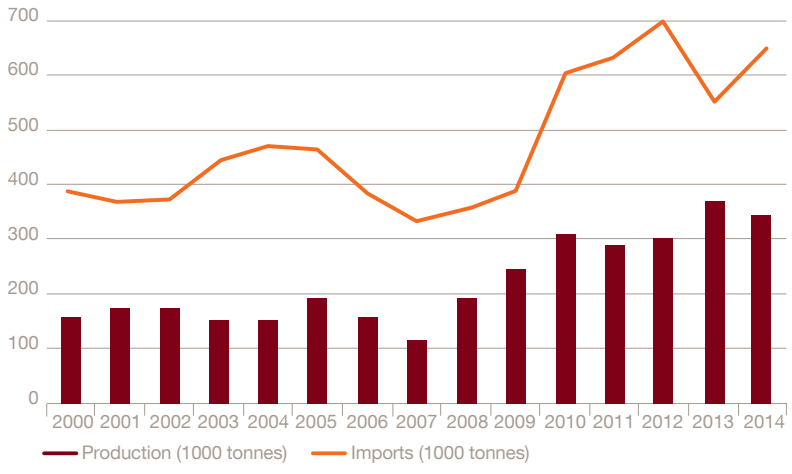
Similarly, the government estimates that land under irrigation in 2010 amounted to some 30,000ha, a mere 0.2% of the total area under cultivation. Moreover, only 10,000ha of this was under formal irrigation schemes. Recognising the need to bolster domestic production the government has initiated a number of programmes to promote agriculture.

**Figure 51**: Net imports/consumption (%)




**Source:** US Department of Agriculture

**Figure 52**: Ghana rice statistics




**Source:** US Department of Agriculture

**Figure 53**: Actual and achievable yields for key crops

| Crop | Country | Quantity (000 tonnes) |
|---|---|---|
| Cassava | 13.8 | 48.7 |
| Plantain | 11.0 | 20.0 |
| Maize | 1.7 | 6.0 |
| Rice (Paddy) | 2.4 | 6.5 |
| Cowpea | 1.3 | 2.6 |
| Soybean | 1.5 | 2.3 |
| Groundnut | 1.5 | 2.5 |
| Millet | 1.3 | 2.0 |
| Sorghum | 1.3 | 2.0 |
| Sweet Potato | 8.0 | 24.0 |
| Cocoa | 0.4 | 1.0 |
| Coffee | 1.5 | n/a |
| Cashew | 0.8 | 1.8 |
| Pineapple | 50.0 | 72.0 |
| Tomato | 7.5 | 15.0 |

**Source:** Ministry of food and agriculture, Statistics, Research and Information Directorate, May 2011

### *Government support*

With favourable climate and soil conditions for a range of agricultural crops, Ghana is well endowed to reduce its dependence on food imports. Furthermore, it is a leader among African countries that can offer an investor-friendly and stable political climate. To leverage these advantages, the following programmes have been developed by the government:

- Ghana Commercial Agriculture Project. The objective is to modernise agriculture through the involvement of the private sector to improve productivity and establish value chains;

- Inland Valleys Rice Development Project, Rice Sector Support Project, NERICA Rice Dissemination Project, Sustainable Development of Rain-Fed Lowland Rice Production Project. All these projects are aimed at increasing rice production through more extensive planting and higher yields; and

- Government-run irrigation schemes. The aim of these programmes is to increase the cultivated area under irrigation.

A flagship programme is the Savannah Accelerated Development Authority (SADA). This autonomous statutory corporation was founded in 2010 to "provide a framework for the comprehensive and long-term development of the Northern Savannah Ecological Zone". The key aim was to reduce the development gap that exists between the northern savannah ecological belt and the rest of Ghana. The SADA initiative also hopes to provide a strategy for long-term adaptation to climate change. The wide-ranging initiative notes that the geography of the northern savannah plays a major part in the 'vulnerabilities' associated with volatile weather, intense heat, creeping desertification and natural disasters.

The SADA area covers some 40% of the country's land resources but only 30% of the overall population. These statistics indicate the extent of migration towards the South and the extent of the resources available for development. The catalyst came in 2007 when floods devastated the region and killed scores of citizens. The UN also supported action that would bring comprehensive development to the North.

The government of Ghana invested some US$25m in seed capital for the project in 2008. Originally the initiative was focused on the three traditional regions of the North – the Upper-East, the Upper-West and Northern Regions. The Atta Mills Administration took this a stage further by increasing the seed capital available to the project, incorporating districts of the Brong Ahafo and Volta regions which shared social, economic and ecological conditions similar to those of the initial regions. This created the SADA in its current form.

Its objectives include the development of a comprehensive regional and ecological strategy, a model for the modernisation of agriculture, development of strategic infrastructure, stronger links between the northern savannah and Sahelian countries, a vigorous private sector initiative that strengthens existing private operators, and active support for civil society organisations and NGOs.

To promote investment, the government offers a range of incentives, including:

- exemption from import duties on capital goods

- five-year tax holidays for agro-processing businesses

- concession in corporate tax for listed companies

- region-based location incentives; and

- crop-specific incentives, such as for cocoa processing.

It would be fair to say that the SADA initiative has stalled. In the introduction to this report we noted two major dual-sector models evident across Africa: the Dutch Disease model and the Lewis dual-sector model. SADA is, in effect, caught between these models. On the one hand, SADA's appearance in 2010 paralleled the development of the oil industry and has been 'crowded out'. Meanwhile the Lewis dual-sector model identifies the economic shifts that come from rural-to-urban migrations. Ironically, the SADA scheme was established to try and halt the North-South, rural-urban shift that continues to shape Ghana (and Africa). However, although migration patterns will likely continue, a reduced 'crowding out' effect that comes from lower oil prices coupled with a more competitive exchange rate could breathe new life into the SADA scheme in the years ahead.

# Zambia

*Zambia has been one of the fastest-growing economies in Africa with annual GDP growth averaging about 7.6% over the past decade. Much of this performance has been driven by the copper industry, a mining sub-sector in which Zambia is the second largest producer in Africa. Copper also accounted for over 70% of export earnings in recent years, making the country vulnerable to shifts in copper prices. In common with many African nations, rising government expenditure followed rising metal prices. However, the recent decline in copper prices, accentuated by slowing growth in China, forced a rapid depreciation on the kwacha and led Zambia to seek assistance from the IMF.*

In an effort to diversify the economy, the government has done much to promote agriculture development. Zambia's support through input subsidies over the past decade has been a great success, especially in maize; Zambia is now a consistent exporter of maize. The key programme for promoting agricultural growth is the development of farm blocks. These are land parcels with basic infrastructure that are leased to investors for commercial agriculture. While the death in 2014 of President Michael Sata created some short-term political uncertainty, the long-term case for agricultural investment in the country remains strong.

## *Economic snapshot*

Zambia has experienced strong economic growth in the past decade. In US$ terms, GDP has increased more than four-fold and GDP per capita more than three-fold. Agriculture contributes some 21% to GDP, industry accounts for approximately 35% while the rest comes from services. Mining – primarily copper – contributes around 10% of GDP. Apart from copper, Zambia also exports sugar, tobacco, cotton and maize.

Zambian copper production fell from a peak of 700,000 tonnes per year in the 1970s to a low of 249,100 in 2000. After privatisation in 2000, production gradually recovered. Output in 2013 was approximately 900,000 tonnes. This, coupled with a strong uplift in copper prices since 2004, was the chief reason behind the vast improvement in the country's current account balance. Other economic indicators also improved – inflation is now in single digits. In 2005 and 2006, Zambia received debt relief and consequently government debt has declined substantially from previous highs.

Underlining Zambia's dependence on copper, the metal's recent price decline has led to the kwacha depreciating against the US dollar. Further, the Zambian balance of payments slipped into a deficit in the quarter ending September 2014, as against the surplus that is usually seen. Part of the problem is also from Zambia's rising fiscal deficit on the back of high public sector wages and subsidies.

**Figure 54:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 7.0 | 7.2 | 7.9 | 8.4 | 7.8 | 9.2 | 10.3 | 6.4 | 6.8 | 6.7 | 5.4 |
| GDP, current prices (US$bn) | 6 | 8 | 13 | 14 | 18 | 15 | 20 | 24 | 25 | 27 | 27 |
| GDP per capita, current prices (US$) | 557 | 726 | 1 083 | 1 161 | 1 438 | 1 195 | 1 533 | 1 741 | 1 772 | 1 845 | 1 781 |
| Inflation, end of period (%) | 17.5 | 15.9 | 8.2 | 8.9 | 16.6 | 9.9 | 7.9 | 7.2 | 7.3 | 7.1 | 8.2 |
| General government gross debt (% of GDP) | 19.3 | 16.7 | 25.0 | 21.9 | 19.2 | 20.5 | 18.9 | 20.6 | 25.5 | 28.8 | 31.1 |
| Current account balance (% of GDP) | -9.1 | -7.3 | -0.4 | -5.4 | -5.8 | 3.8 | 5.9 | 3.0 | 3.2 | 0.0 | -0.2 |
| Exchange rate (US$/ZMW) | 4.8 | 4.5 | 3.6 | 4.0 | 3.7 | 5.0 | 4.8 | 4.9 | 5.1 | 5.4 | 6.2 |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

After the death of Michael Sata in October 2014, Vice-President Guy Scott briefly took power as Acting President. Presidential elections were held in January 2015 to elect a successor. The winner, Edgar Lungu, was previously the Minister of Justice and Minister of Defence in Michael Sata's Patriotic Front (PF) government. The PF, which won the 2011 Presidential elections, defeated the incumbent Rupiah Banda. Although Sata's campaign in 2011 had centred on some anti-Chinese rhetoric early in his campaign, the tone swiftly changed and assurances were given to foreign investors that they were welcome in Zambia.

However, Sata's policies did cause some consternation among foreign investors. Within four months of coming into power, Sata reversed the previous government's decision to sell Finance Bank Zambia, a Lusaka-based lender, to South Africa's FirstRand and Zambia Telecommunications Corp., a fixed-line operator, to Libyan African Investment Portfolio. He also dissolved the board of the Central Bank and embarked on an anti-corruption campaign that opposition leaders said targeted them. Regulations mandating the use of kwacha in domestic transactions and monitoring foreign exchange transactions were introduced. These measures were perceived negatively, deemed unfriendly to business, and lowered the value of the kwacha. In response, the government repealed them. Similarly, the government added onerous rules for VAT refunds for miners. These too were later withdrawn.

These uncertainties were not new in Zambia. In 2008, at a time when commodity prices were rising sharply, the government introduced measures to ensure a bigger share of mining profits. These included increasing royalties from 0.6% to 3%, raising corporate taxes from 25% to 30%, the separation of hedging income from mining income for tax purposes, lowering the capital allowance depreciation rate from 100% to 25% and levying a windfall tax. The move, however, caught the downturn in global commodity prices. Later, the windfall tax was withdrawn following the fall in metal prices. Unsurprisingly, when prices recover, calls for a re-introduction of the measure rise too.

## *Agricultural profile*

Zambia is a land-locked country lying to the south of the equator. The terrain is mostly high plateau and the climate is tropical. The Zambezi River is a key feature of the country. Zambia has fertile soils, favourable climate, and abundant water resources.

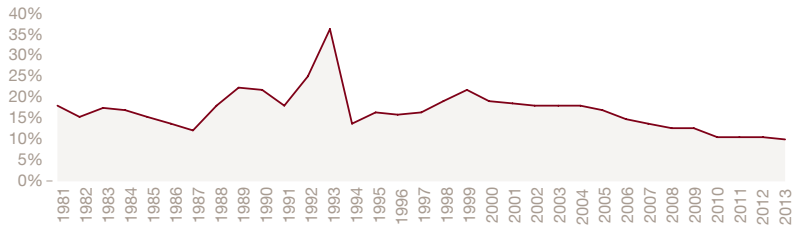
Agriculture contributes about 21% to GDP and represents about 70% of total employment. Agriculture's contribution to Zambian GDP has been declining in recent years mainly due to the development of the copper mining sector. The rate of growth in agricultural production had been strong over the decades post-independence, but declined in the 1990s. The last decade has seen a strong revival in growth.

That said, of the total land area of 74m/ ha, land for agricultural use accounts for only 23m/ ha, which is less than one-third of total land resources. Of this agricultural land, 16%, or about 3.8m/ha, is covered by arable land and permanent cropland, while the rest is covered by pasture.

Zambia's chief crops include maize, cassava, sugarcane and groundnuts. Sugar, tobacco and cotton are its main exports. Maize has emerged as an important export commodity in recent years. Major imports are vegetable oils and wheat.

In 2012, the value of agricultural imports was US$466m while the value of agricultural exports was US$1.3bn, representing a surplus of over US$800m. Zambia has usually run an agricultural deficit but recent surpluses can be attributed to large increases in sugar, tobacco and maize exports.

**Figure 55**: Agriculture value added (% of GDP)

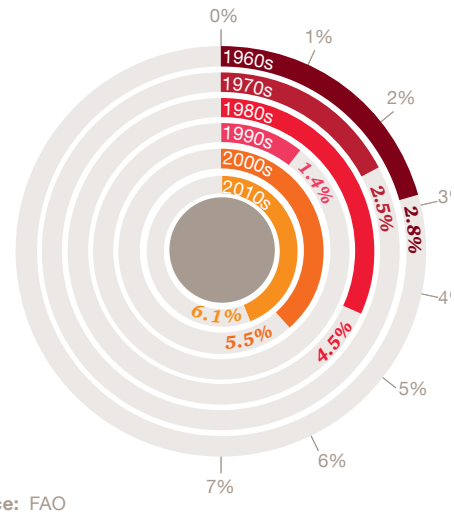



**Source:** The World Bank: World Development Indicators

**Figure 57**: Agricultural trade (US$m)


**Source:** FAO

**Figure 56**: Agriculture value added (% of GDP)




**Source:** FAO

Against this backdrop and given an array of natural advantages at its disposal, Zambia has the potential to become a major agricultural exporter. The FAO estimates that Zambia can potentially farm 57m/ha of land. The government estimates that about 43m/ha of land has medium to high potential for agricultural production. The irrigation potential is estimated at 430,000ha, of which only 100,000ha is currently developed. Moreover, Zambia is adjacent to large agricultural importers such as the DRC and Angola, providing ready markets. To realise this potential, the government has taken steps to promote agriculture, the chief among which is the land development programme. This involves creating land blocks with basic infrastructure that is then leased to investors for the development of commercial agriculture.

The case of maize is especially instructive to understand Zambia's potential. Zambia was a net maize importer almost every year since 1979. This changed from 2003 when it exported a small amount of maize. Over the past five years, Zambia has become a consistent exporter mostly to neighbouring countries such as Zimbabwe, Tanzania, Malawi and the DRC. A stepchange took place in 2010/11 as yields and planted area improved and both continued in subsequent years.

The key reason behind this maize success story was the introduction of input subsidies (fertiliser and seeds) and government procurement at above-market prices. While some of these subsidies were removed in 2013 in an effort to curtail the government's fiscal deficit, it did not have an adverse impact on production – the 2014/15 harvest saw Zambia produce a record 3.4mnt of maize. However, it must be noted that the government's attention to maize has been at the expense of other crops.

**Figure 58:** Maize statistics

| | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Production (000 tonnes) | 1,260 | 800 | 600 | 1,040 | 1,213 | 870 | 1,425 | 1,366 | 1,212 | 1,889 | 2,800 | 3,020 | 2 850 | 2 568 | 3 350 |
| Imports (000 tonnes) | 110 | 146 | 146 | 26 | 3 | 156 | 5 | 5 | 60 | 5 | 5 | 5 | 0 | 0 | 0 |
| Exports (000 tonnes) | 0 | 0 | 0 | 100 | 150 | 0 | 200 | 100 | 0 | 100 | 300 | 500 | 500 | 200 | 300 |
| Consumption (000 tonnes) | 1,300 | 1,000 | 750 | 900 | 1,050 | 1,000 | 1,200 | 1,250 | 1,250 | 1,700 | 2,000 | 2,500 | 2 500 | 2 500 | 2 700 |

**Source:** US Department of Agriculture

### *Government support*

In 2014, the government of Zambia set out a revised 6th National Development Plan for the period 2013-16. It aims to have "an efficient, competitive, sustainable and export-led agriculture sector that assures food security and increased income by 2030". The government looks to focus on irrigation, agricultural research such as soil improvement, high-yielding seeds, extension services, crop diversification and agricultural marketing. Towards that end, the government also provides a wide range of tax incentives, facilitation services (access to water, power and so on) and investor-friendly initiatives including free repatriation of net profits and debt payments and safeguards on investment protection.

One of Zambia's key objectives in its 6th National Development Plan was to reduce the focus on maize and diversify into other crops such as cotton, soybeans, groundnuts, rice and sorghum.

Zambia is a member of the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC). It has market access to the EU through the Everything but Arms (EBA) initiative, access to the US market through the African Growth Opportunities Act (AGOA) and access to the Chinese and Japanese markets through various initiatives.

The government has established farm blocks to extend its land development programme to promote commercial farming and expand the agricultural sector. Each farming block is designed to have at least one large-scale farm, called the core venture of about 10,000ha, several commercial farms of about 1,000-5,000ha each, and finally numerous smallholdings of about 30-3,000ha, each preferably under out-grower schemes.

Farm block investors gain access to already-surveyed land. The investor running the core venture has to develop the infrastructure within the block. The core venture supports the smaller farms in the block through an out-grower scheme and also establishes processing plants for value addition.

The table below lists the new farm blocks earmarked for commercial agriculture. Of these, the government has identified three as priority farms blocks: the Nansanga, Kalumwange and Luena blocks. For these, the state provides basic infrastructure such as trunk roads, bridges, electricity, dams, schools and health centres. The crops prioritised are wheat, sugar, cotton, coffee, tobacco, cashew nuts, cassava and horticultural/floricultural crops.

**Figure 59**: Farm blocks

| Site | Province | District | Size (ha) |
|---|---|---|---|
| Nasanga | Central | Serenje | 155,000 |
| Kalumwange | Western | Kaoma | 100,000 |
| Luena | Luapula | Kawambwa | 100,000 |
| Manshya | Northern | Mpika | 147,000 |
| Mikelenge/Luma | North-Western | Solwezi | 100,000 |
| Musakashi (SADA) | Copper-belt | Mufulira | 100,000 |
| Muku | Lusaka | Kafue | 100,000 |
| Simango | Southern | Livingstone | 100,000 |
| Mwase-Phangwe | Eastern | Lundazi | 100,000 |

**Source:** Zambia Development Agency

The Mkushi farming block is the leading example of the potential for these land blocks. Nearly 300km from Lusaka, the Mkushi farming block is well known within Zambia for its commercial farms and is a major contributor to the country's agricultural output. It has easy access to facilities such as international banks and even a John Deere dealership. However, progress on these new blocks has been slow. For instance, in the Nansanga farm block, while the government has completed electrification and built a road and three irrigation dams, private investment has been muted.

In common with a number of governments, Zambia is looking to extend beyond basic agricultural production and into the promotion of agro-processing to capture more value added and create additional employment opportunities. With agro-processing, the Zambian government aims to "increase income and access to food for the poor, by establishing small-scale, appropriate and sustainable processing businesses that are flexible, require little capital investment and can be carried out without the need for sophisticated or expensive equipment". Currently, the only major agro-processing industry in Zambia is sugar. However, the government sees opportunities in areas including peanut butter, animal feed, cassava processing, grain milling, edible oil production, fruit canning, meat, dairy, leather, fisheries and floriculture.

# Mozambique

*Mozambique was one of Africa's strongest performing economies over the past decade. During that period the country nearly tripled its GDP. Mining, initially aluminium and, more recently, coal, underpinned this growth. Further exploitation of coal resources and continuing discoveries of natural gas resources can be expected to support GDP growth in the future. Of course, this also makes Mozambique vulnerable to fluctuating commodity prices. Politically, Mozambique is relatively stable and has held democratic elections since 1994. However, it still remains among the poorest of nations, as the benefits from its natural resources have not flowed equitably throughout the society. In common with numerous other countries, corruption has meant benefits have accrued to a politically powerful minority. The country's biggest long-term challenge is likely to be the broadening of wealth distribution across the country.*

## *Economic snapshot*

Mozambique experienced an average growth of 7.4% over the past decade. Much of this growth was driven by the mining sector, primarily aluminium and coal. Agriculture contributes about 30% to GDP while industry contributes 24%. Services accounts for the remainder.

As noted, mining is the dominant industrial activity. Mozambique is also a major producer of aluminium, beryllium and tantalum. While aluminium was the most important contributor to GDP after 2000, in recent years coal production has become more prominent and investment in the sector is rising. The country exported its first batch of coal in two decades in 2011 and is expected to become the largest exporter of coal in a decade. Infrastructure bottlenecks are considerable and, in an attempt to overcome these challenges, the country is implementing many road and rail projects linking coalfields with ports and expanding port facilities to enhance exports.

In 2011, large natural gas discoveries were made off the coast of Mozambique which, if exploited properly, could contribute significantly to GDP. These gas reserves are estimated to be the largest in Africa. However, commercial exploitation is still some years away and major benefits will start flowing only beyond 2020.

With debt relief under the HIPC (Heavily Indebted Poor Countries) and other similar programmes, Mozambique has managed to reduce its indebtedness over the past decade. The country's current account deficit has widened dramatically in the last few years, mainly due to machinery imports for the newly developing coal sector. This will likely continue given Mozambique's dependence on capital imports to develop its natural gas sector. However, this will be financed mostly by foreign direct investment and is unlikely to place the economy under any duress.

**Figure 60:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 8.5 | 7.7 | 9.1 | 7.4 | 5.8 | 6.5 | 7.1 | 7.4 | 7.1 | 7.4 | 7.4 |
| GDP, current prices (US$bn) | 7 | 8 | 8 | 9 | 11 | 11 | 10 | 13 | 15 | 16 | 17 |
| GDP per capita, current prices (US$) | 330 | 361 | 385 | 419 | 487 | 473 | 437 | 539 | 590 | 605 | 630 |
| Inflation, end of period (%) | 9.1 | 11.1 | 9.4 | 10.3 | 6.2 | 4.2 | 16.6 | 5.5 | 2.2 | 3.0 | 1.1 |
| General government gross debt (% of GDP) | 59.7 | 70.1 | 46.6 | 36.6 | 37.8 | 41.1 | 41.8 | 37.5 | 41.1 | 46.9 | 55.4 |
| Current account balance (% of GDP) | -9.8 | -14.9 | -7.5 | -9.5 | -11.6 | -11.0 | -10.6 | -23.1 | -42.3 | -40.0 | -34.7 |
| Exchange rate (US$/MZN) | 23 | 23 | 25 | 26 | 24 | 27 | 33 | 29 | 29 | 30 | 32 |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

The Mozambique Liberation Front (FRELIMO) is the dominant political party, and the Mozambican National Resistance (RENAMO) is the chief opposition. FRELIMO ruled the country as a one-party state following independence in 1975. Between 1976 and 1992, FRELIMO and RENAMO engaged in a civil war. When a peace accord was reached, Mozambique was able to hold its first multi-party elections in 1994. These were won by FRELIMO. Elections, with all the usual imperfections that plague emerging democracies, were relatively violence-free and Mozambique has remained a stable presidential republic since. RENAMO partisans and government forces engaged in limited hostilities over the past couple of years. However, a peace settlement was reached in August 2014 just before the elections in October.

Armando Guebuza of FRELIMO has been president since 2005 but his second term ended in January 2015. In the October 2014 elections, which were largely peaceful, Filipe Nyusi of FRELIMO won against his RENAMO rival Afonso Dhlakama. Simultaneously, FRELIMO won a majority of the seats in the Assembly, but lost its current two-thirds majority. Filipe Nyusi aims to reduce corruption and achieve a more equitable distribution of wealth. While not much is known about his policies, he is regarded as close to Armando Guebuza, the outgoing president. Since Guebuza is also FRELIMO's party president, some continuity in governance is to be expected.

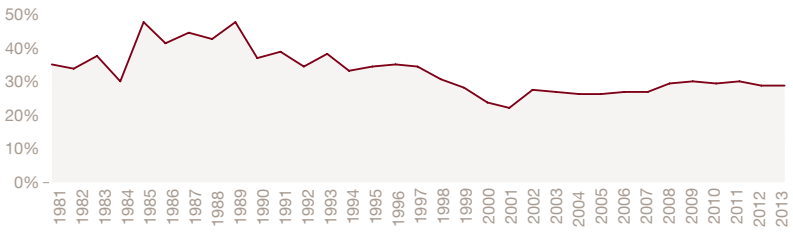
## *Agricultural profile*

Around two-thirds of the total land (50m ha) is agricultural land. However, only 12% of that (6m ha) is currently cropped. The government estimates that some 36m/ha – nearly six times the current cultivated land – is arable.

Agriculture contributes about 30% of total GDP and employs around 80% of the population. Agriculture has seen a revival in the last two decades after it suffered from the detrimental effects of the civil war during the 1970s and 1980s. A recovery began when the war ended in 1992.

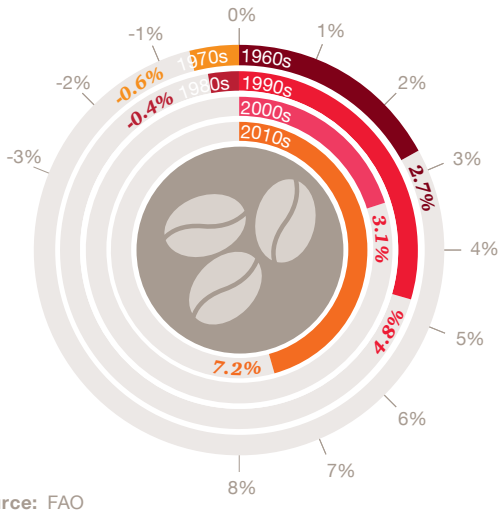
Abundant unutilised land with fertile soils, extensive water resources and ten different agro-climatic zones make Mozambique an attractive location for growing a wide range of crops. The principal agricultural commodities produced are cassava, maize and pulses. The chief exports are tobacco and sugar, while the chief imports are rice, wheat and palm oil.

**Figure 61**: Agriculture value added (% of GDP))




**Source:** The World Bank: World Development Indicators

**Figure 62**: Annual growth in agricultural productivity



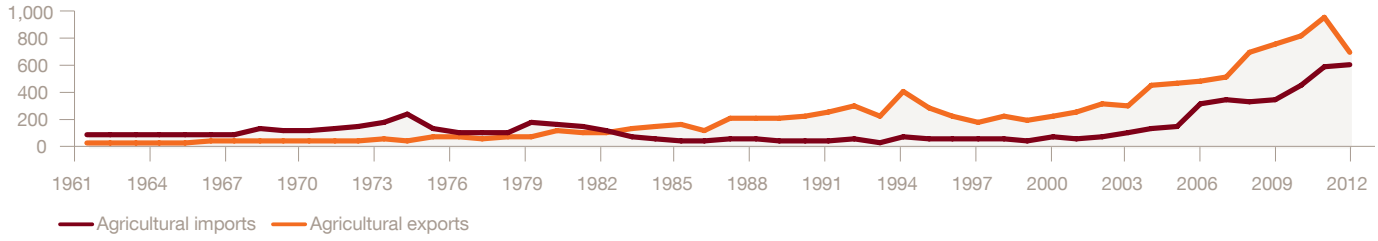

**Source:** FAO

In the last two decades, agricultural exports have increased much faster than imports. However, since exports increased from a low base, Mozambique still has a net agricultural trade deficit. To understand Mozambique's rising dependence on agricultural imports, consider rice. Mozambique depends on imports to fulfil over two-thirds of its consumption requirement. Over the past decade, with yield improvements and an increase in the harvested area, production has almost doubled. However, consumption has increased by almost 60% and therefore the dependence on imports has only declined marginally.

Mozambique has a favourable climate and soils suited to grow rice. In addition, abundant rainfall and extensive water resources allow for year-round cultivation. The government estimates that the planted area can increase from the current 240,000ha to almost 890,000ha – a near four-fold increase.

Another area for development is the meat/protein industry. Consider the table below. Poultry imports jumped more than fourfold between 2001 and 2011. The domestic poultry industry has been unable to keep up with rising demand. Moreover, domestic production is also dependent on imported feed to a large extent. The government estimates that some 78% of soy cake feed is imported. Rice and soybeans are two of the priority crops chosen for promotion by the government as a part of its agricultural growth corridors programme.

**Figure 63**: Agricultural trade (US$m)




**Source:** FAO

**Figure 64:** Rice statistics

| Rice | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Area harvested (000 ha) | 180 | 180 | 200 | 215 | 230 | 218 | 227 | 239 | 238 | 240 | 240 |
| Milled production (000 tonnes) | 119 | 115 | 130 | 127 | 139 | 170 | 168 | 176 | 182 | 228 | 228 |
| Imports (000 tonnes) | 350 | 390 | 335 | 450 | 235 | 345 | 365 | 355 | 480 | 540 | 520 |
| Exports (000 tonnes) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Consumption (000 tonnes) | 469 | 505 | 465 | 577 | 374 | 515 | 533 | 531 | 662 | 768 | 748 |
| Yield (paddy) (tonnes/ha) | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 | 1.2 | 1.1 | 1.1 | 1.2 | 1.5 | 1.5 |
| Imports / consumption | 75% | 77% | 72% | 78% | 63% | 67% | 68% | 67% | 73% | 70% | 70% |

**Source:** US Department of Agriculture

**Figure 65:** Poultry meat statistics

| Poultry Meat | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Production (tonnes) | 33,000 | 35,404 | 24,796 | 21,735 | 20,753 | 24,905 | 25,405 | 26,538 | 31,958 | 31,958 | 30,240 |
| Imports (tonnes) | 2,900 | 7,913 | 3,308 | 8,050 | 13,216 | 10,812 | 8,461 | 9,199 | 12,605 | 9,748 | 12,797 |

**Source:** FAO

Apart from favourable agro-ecological factors, Mozambique enjoys other strategic advantages:

- Its geographic location adjacent to a number of landlocked countries coupled with a long coastline and three ports provides it with the opportunity to play a larger role in regional food security.

- Around 3.3mha of land has the potential to be irrigated. However, only 120,000ha has the necessary irrigation infrastructure and only some 50,000ha is currently irrigated.

Despite these advantages, Mozambique's agricultural sector underperforms due to the usual range of factors including poor-quality seeds, under-use of fertilisers, inadequate extension services, poor linkages with research services, limited access to credit and so on.

To remedy this, the government enacted a Strategic Plan for Agricultural Development (PEDSA). This is Mozambique's key agricultural development programme and outlines its strategy for agriculture over the period 2010 to 2019. PEDSA's vision is to create "an integrated, prosperous, competitive and sustainable agriculture sector". The key objectives are to:

- Increase agricultural production, productivity and competitiveness;
- Improve infrastructure and services for markets and marketing;
- Use land, water, forest and fauna resources in a sustainable manner;
- Establish a legal framework and policies that are conducive to agricultural investment; and
- Strengthen agricultural institutions.

The strategy aims to increase agricultural growth by an average of at least 7% annually, through a doubling of yields and increasing the cultivated area by 25% by 2019.

To achieve PEDSA objectives, the government launched, in April 2013, the National Investment Plan for the Agrarian Sector (PNISA) with the specific goals of accelerating food production; guaranteeing income for producers; ensuring access and secure tenure of the necessary natural resources; providing specialised services geared towards the development of the value chain and boosting the development of the areas of greatest agricultural and commercial potential.

To attract investment, Mozambique has followed the agricultural corridor approach. The government has identified three corridors – Beira, Zambezi Valley and Nacala – where it hopes to promote agribusiness value chains for a range of crops. In the Beira corridor, the government aims to attract investment in rice farming and milling; the Nacala corridor looks to develop the banana sector in addition to other export crops; while the Zambezi Valley corridor focuses on cotton, maize, rice and soybeans.

The most prominent of these is the Beira corridor. The Beira Agricultural Growth Corridor (BAGC) is a partnership between the government, the private sector and the international community, which aims to stimulate a significant increase in agricultural production throughout the Beira corridor. It is a road and rail network linking Zambia, Malawi, Zimbabwe and Mozambique to the Indian Ocean port of Beira.

In the Nacala corridor, the government has entered into a three-way partnership with Brazil and Japan and named it the Agricultural Development of the Tropical Savannah in Mozambique (ProSAVANA). The savannah biome in the Nacala corridor is similar to Brazil's Cerrado region. The plan for the Nacala corridor is to apply the techniques and methods developed for the Cerrado region by Brazil's agricultural research organisation EMBRAPA.

### *Value chain development*

In addition to food production, the government is also focused on the other components of the value chain. For example, as noted previously, in the Beira corridor the focus is not simply on rice production but also on rice milling. Currently, the government estimates that 25-46% of domestically produced grain is broken and 15% of rice grains are lost after harvest, mainly due to old machinery and inadequate processing facilities.

Similarly, there is an opportunity to process soybeans to cater for growing demand in the poultry sector. In the Zambezi corridor, the government believes that there is an opportunity for investors to develop the entire soybean value chain from soybean input supply to farming to soybean oil refining and soybean cake feed production.

# Zimbabwe

*Buffeted by civil conflict, a forcible land redistribution programme and a period of hyperinflation that forced the country to abandon its own currency, Zimbabwe has suffered much economic hardship over the last two decades. Agriculture and mining, the two key drivers of the economy, both went into long-term decline and have only stabilised in recent years. However, the agriculture sector has not recovered from the disruption of land redistribution. The US and the EU relaxed economic sanctions against Zimbabwe in October 2014. This ought to facilitate foreign investment and promote the government's efforts to revive the agriculture sector. However, uncertainty over the longer term political leadership of the country could act against inward investment flows for some time yet.*

## *Economic snapshot*

Zimbabwean GDP in 2014 amounted to US$14bn. This represented a per capita GDP of US$1,031. Agriculture's contribution to GDP has steadily declined from 2007 and amounted to only 12% of the total in 2013. Mining is also a major contributor to GDP. Coal, precious metals and copper are the main products. Metals are Zimbabwe's chief exports along with tobacco, cotton and sugar.

Zimbabwe's economy contracted consistently in the first half of the last decade. The country's participation in the Second Congo War from 1998 to 2003 severely disrupted the economy. In 2000, the ZANU-PF government under President Robert Mugabe implemented the Fast Track Land Reform Programme, which forcibly redistributed white Zimbabwean-owned land. Much of the land seized ended up in the hands of ZANU-PF officials and sympathisers, many of whom were unfamiliar with farming. Consequently, agricultural output declined dramatically, including the main exports of tobacco, cotton and sugar. Simultaneously, international sanctions were imposed, which further worsened the economic situation.

Following the collapse in production capacity in the early 2000s, inflation rose rapidly and reached hyperinflation levels. To make ordinary transactions manageable, the government undertook three re-denominations between 2006 and 2009, reducing the value of the original Zimbabwean dollar by a factor of 10^25.

Finally, in 2009, the government sanctioned the widespread practice of using alternative currencies such as US$, euro, sterling and South African rand. It also suspended the national currency. This stabilised prices and ended hyperinflation.

During the period 2009-2012, the economy registered strong GDP growth. However, this could be attributed mainly to a post-hyperinflation rebound and a low-base effect. Over the last two years, growth has decelerated. A large current account deficit and external debts still pose problems. Since 2008, Zimbabwe's current account deficit has increased dramatically as imports, such as fertilisers, petroleum products and machinery, grew rapidly, while exports stagnated. The uncertainty over the future political and economic direction of the country is a significant deterrent to foreign and domestic investors.

**Figure 66:** Economic indicators

| | 2004 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | -6.5 | -3.6 | -3.4 | -16.6 | 7.5 | 11.4 | 11.9 | 10.6 | 4.5 | 3.2 |
| GDP, current prices (US$bn) | 8 | 7 | 7 | 6 | 8 | 9 | 11 | 12 | 13 | 14 |
| GDP per capita, current prices (US$) | 693 | 598 | 576 | 490 | 667 | 765 | 866 | 961 | 1 028 | 1 031 |
| Inflation, end of period (%) | n/a | n/a | n/a | n/a | -7.7 | 3.2 | 4.9 | 2.9 | 0.3 | -0.8 |
| General government gross debt (% of GDP) | n/a | n/a | 38.6 | 44.7 | 50.1 | 68.9 | 68.3 | 56.7 | 54.2 | 54.0 |
| Current account balance (% of GDP) | -6.0 | -6.5 | -5.4 | -16.5 | -47.1 | -16.0 | -30.9 | -24.6 | -25.4 | -22.3 |
| Exchange rate (US$/ZWD) | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |

**Source:** IMF: World Economic Outlook Database April 2015

## *Political snapshot*

Robert Mugabe has been President of Zimbabwe since 1987 and was Prime Minister for the preceding seven years. In the 2008 Presidential elections, Mugabe returned to power but rival Morgan Tsvangirai's party, the MDC-T, won the majority of seats in the assembly elections, ahead of Mugabe's ZANU-PF. Tsvangirai questioned the validity of the Presidential election results, which led to partisan violence. In 2009, a deal was reached whereby Mugabe would remain President and Tsvangirai would become Prime Minister. This arrangement led to relative stability in Zimbabwe.

In the 2013 Presidential elections, Mugabe defeated Tsvangirai by a large margin. Questions about the fairness of the elections were raised but ZANU-PF won a two-thirds majority in the assembly. Recently there has been some political upheaval related to the question of Mugabe's succession. Long-time Vice President, Joice Mujuru, who was a key contender, was dismissed amidst allegations of coup plots and corruption. Her successor, Emmerson Mnangagwa, is now the leading candidate to succeed Mugabe. Mugabe's wife Grace is also considered to be a contender.

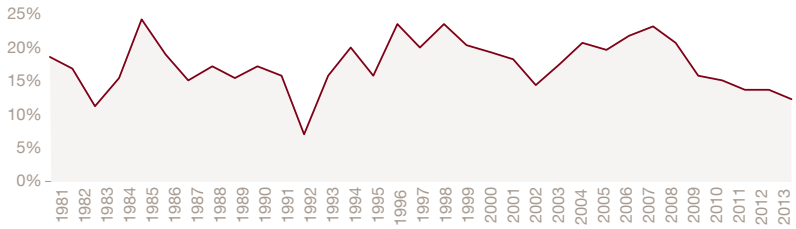
## *Agricultural profile*

With an area of 400,000km$^2$, Zimbabwe is the 61st-largest country in the world. It has a population of over 12m of which some 38% live in urban areas. Zimbabwe is landlocked, its terrain is mostly high plateau and its climate tropical. Agriculture contributes about 15% to GDP, but represents some 65% of total employment.

Zimbabwe has fertile soils and a favourable climate for agriculture. Of the total land area of 38.7m ha, land for agricultural use accounts for some 16.2m ha, or about 42% of total land resources. Of this agricultural land, about a quarter (4.1m ha) is covered by arable land and permanent cropland while the rest is covered by pasture.

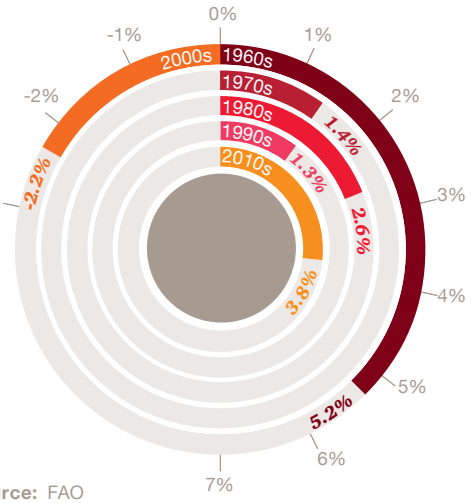
Zimbabwe's chief crops include tobacco, maize, cotton, sugarcane and groundnuts. Tobacco, cotton and sugar are the country's main exports. Maize was once a major export commodity but, in recent years, maize has been imported to fulfil domestic consumption. Major imports include wheat and vegetable oils.

**Figure 67**: Agriculture value added (% of GDP)




**Source:** The World Bank: World Development Indicators

**Figure 68**: Annual growth in agricultural productivity

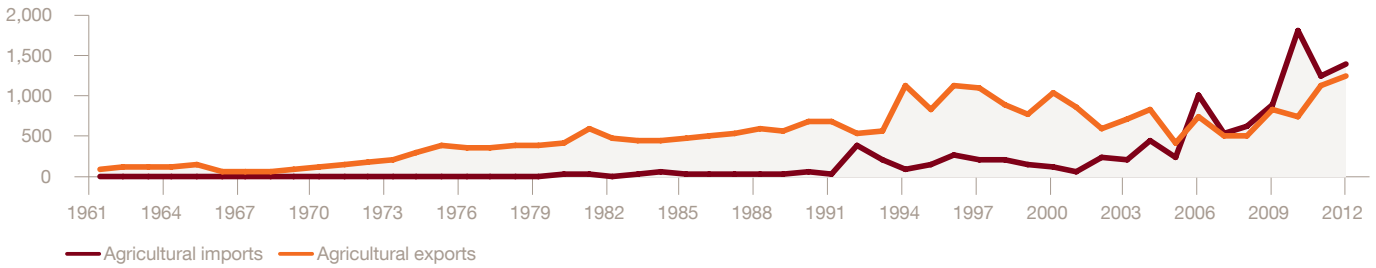



**Source:** FAO

In 2012 the value of agricultural imports and exports was US$1.42bn and US$1.27bn respectively, implying a deficit of approximately US$150m. Historically, Zimbabwe was a net exporter of agricultural output. The trade surplus reached a peak of US$1bn in 1994. However, the surplus declined rapidly in the following decade and turned into a deficit in 2006. In simple terms, tobacco and sugar exports declined while maize and wheat imports rose. Since then, Zimbabwe's agricultural trade balance has been erratic. The deficit soared to US$1.1bn in 2010.

To consider the erratic nature of the country's agricultural capabilities consider tobacco which once accounted for nearly 60% of Zimbabwe's agricultural exports. In 2001, the country exported around 221,000 tonnes. Eight years later this had fallen to 54,000 tonnes before recovering to 135,000 tonnes in 2011. Similar declines were in evidence across many other commodities. Simultaneously imports rose steadily leading to Zimbabwe's trade deficit in agricultural products. Wheat and maize, both of which were just barely imported in 2000/01, are now Zimbabwe's largest agricultural imports and cost US$142m and US$123m respectively in 2011. The tables below show wheat and maize statistics for Zimbabwe since 2000/2001.

**Figure 69**: Agricultural trade (US$m)




**Source:** FAO

**Figure 70:** Maize statistics

| | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area harvested (000 ha) | 1,417 | 1,223 | 1,320 | 1,355 | 1,365 | 1,200 | 1,300 | 1,250 | 1,300 | 1,100 | 1,350 | 1,600 | 960 | 950 | 1,300 |
| Production (000 tonnes) | 2,148 | 1,467 | 500 | 800 | 900 | 750 | 900 | 700 | 525 | 650 | 1,000 | 1,450 | 965 | 800 | 1,300 |
| Imports (000 tonnes) | 50 | 60 | 631 | 415 | 287 | 1 033 | 150 | 700 | 600 | 300 | 300 | 475 | 600 | 900 | 500 |
| Exports (000 tonnes) | 200 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Consumption (000 tonnes) | 1,898 | 1,727 | 1,350 | 1,250 | 1,333 | 1,783 | 1,050 | 1,400 | 1,125 | 925 | 1,300 | 1,850 | 1,600 | 1,700 | 1,700 |
| Ending stocks (000 tonnes) | 700 | 400 | 181 | 146 | 0 | 0 | 0 | 0 | 0 | 25 | 25 | 100 | 65 | 65 | 165 |
| Yield (tonnes/ha) | 1.5 | 1.2 | 0.4 | 0.6 | 0.7 | 0.6 | 0.7 | 0.6 | 0.4 | 0.6 | 0.7 | 0.9 | 1.0 | 0.8 | 1.0 |

**Source:** US Department of Agriculture

**Figure 71:** Wheat statistics

| | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area harvested (000 ha) | 46 | 45 | 38 | 30 | 35 | 35 | 35 | 45 | 9 | 4 | 5 | 12 | 9 | 10 | 10 |
| Production (000 tonnes) | 255 | 325 | 150 | 90 | 105 | 120 | 135 | 135 | 38 | 12 | 18 | 23 | 17 | 25 | 25 |
| Imports (000 tonnes) | 23 | 13 | 110 | 170 | 130 | 125 | 125 | 125 | 200 | 250 | 250 | 250 | 250 | 250 | 275 |
| Exports (000 tonnes) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Consumption (000 tonnes) | 278 | 338 | 310 | 260 | 235 | 245 | 260 | 260 | 270 | 275 | 265 | 261 | 275 | 285 | 295 |
| Ending stocks (000 tonnes) | 100 | 100 | 50 | 50 | 50 | 50 | 50 | 50 | 18 | 5 | 8 | 20 | 12 | 2 | 7 |
| Yield (tonnes/ha) | 5.5 | 7.2 | 4.0 | 3.0 | 3.0 | 3.4 | 3.9 | 3.0 | 4.2 | 3.0 | 3.6 | 1.9 | 1.9 | 2.5 | 2.5 |

**Source:** US Department of Agriculture

Both harvested area and yields fell dramatically in the initial years. While the maize area has recovered somewhat in the last couple of years, the wheat planted area remains low. Forcible redistribution led to the abandonment of many farms with the new owners unwilling or unable to sustain production. While the land reforms continue, the government has recognised belatedly the need to revive its moribund agriculture sector and has attempted to encourage foreign investment.

### *Government support*

The government in 2013, under the African Union's Comprehensive Africa Agriculture Development Programme, adopted the Zimbabwe Agriculture Investment Plan (ZAIP). ZAIP focuses on agricultural development over 2013-18 and aims to allocate at least 10% of the national budget to agriculture development to attain an annual agricultural growth rate of 6%.

ZAIP's objective is "to facilitate sustainable increases in production, productivity and the competitiveness of Zimbabwean agriculture through building capacity of farmers and institutions, improving the quantity and quality of public, private and development partner investment and policy alignment".

Some key results sought by ZAIP are:

- An increase in production and productivity through improved management and sustainable use of land, water, forestry and wildlife resources;
- Increased participation of farmers in domestic and export markets through the development of an efficient agricultural marketing system and an enabling environment for competitive agricultural production, investment and trade;
- Ensuring food and nutrition security by facilitating a cohesive multi-sectoral agricultural response; and
- Improving agricultural research, technology dissemination and adoption.

The other major development programme is the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimAsset). Running through October 2013 to December 2018, it aims "to achieve sustainable development and social equity anchored on indigenisation, empowerment and employment creation which will be largely propelled by the judicious exploitation of the country's abundant human and natural resources".

One of its strategic areas is food security and nutrition. Under that, some of the key objectives are –

- Increase cereal and minor crop production – by facilitating adequate inputs, concessionary credit, and promoting high-yielding seed varieties;
- Improve agricultural marketing – by establishing agro-dealer networks and agricultural commodities exchange markets; disseminating market information to farmers, and establish a tradable warehouse receipt system;
- Increase meat production – by establishing breeding centres and strengthen research and extension services; and
- Improve infrastructure – that is, increase irrigated area, area under mechanisation and crop storage facilities.

With the US and the EU relaxing economic sanctions in recent months, the government also hopes to attract foreign investment to revive its agriculture sector.

# Sierra Leone

*Before last year's outbreak of Ebola, Sierra Leone was among the fastest growing economies in the world over the previous two years. Most of this growth was attributable to growth in the iron ore sector. This, coupled with the country's other traditional mineral resources such as diamonds, rutile and gold, had contributed to strong growth over the past decade. Mining remains the chief driver of economic growth but also made the economy vulnerable to commodity price volatility. Since the end of the civil war in 2002, governance has improved significantly and the present government has made several attempts to reduce corruption.*

Almost two-thirds of the population depends on agriculture for its livelihood but Sierra Leone performs far below its agricultural potential. Although the country is an exporter of cocoa and coffee, its staple crop – rice – is imported. In an attempt to diversify the economy and to alleviate poverty, the government has begun to promote agricultural development. Through initiatives such as the Agenda for Change and the Agenda for Prosperity, the government aims to encourage private sector investment in large-scale farming operations, especially rice. The Ebola epidemic posed a serious threat and will likely cause the economy to shrink in 2015. However, its effects will likely be felt only in the short-to-medium term.

## *Economic snapshot*

When Sierra Leone emerged from an 11-year civil war in 2002, the country's economy recovered strongly. GDP nearly quadrupled and GDP per capita tripled over the following decade. Mineral resources have been the chief driver. However, despite the natural advantages of iron ore, gold, rutile and diamonds, Sierra Leone remains among the bottom ten countries in the world in GDP per capita terms.

Agriculture accounts for approximately half of GDP. The service sector is the next major contributor. Apart from mining, there is no other major industrial activity. Mining is also the major contributor to trade. Diamonds are the country's principal export earner. Although Sierra Leone possesses abundant natural resources, the country has failed to exploit them in a manner beneficial to the wider population. However, improved governance in recent years has corrected this imbalance to an extent and formal exports have increased dramatically.

International aid and debt relief under the HIPC programme and the Multilateral Debt Relief Initiative (MDRI) have alleviated debt levels significantly over the past decade. The country's current account deficit increased dramatically between 2010 and 2012 mainly due to higher machinery imports related to iron ore mining – a situation similar to Mozambique where capital imports for the mining industry had a short-term impact on the current account. As iron ore exports commenced, the current account deficit declined.

**Figure 72:** Economic indicators

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP change, constant prices (%) | 6.6 | 4.5 | 4.2 | 8.0 | 5.3 | 3.2 | 5.4 | 6.0 | 15.2 | 20.1 | 6.0 |
| GDP, current prices (US$bn) | 1 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 4 | 5 | 5 |
| GDP per capita, current prices (US$) | 292 | 322 | 357 | 398 | 454 | 435 | 448 | 500 | 634 | 803 | 808 |
| Inflation, end of period (%) | 14.4 | 13.1 | 8.3 | 13.8 | 12.2 | 10.8 | 18.4 | 16.9 | 12.0 | 8.5 | 10.0 |
| General government gross debt (% of GDP) | 151.6 | 130.9 | 103.1 | 42.2 | 42.4 | 48.1 | 46.8 | 44.9 | 36.9 | 34.4 | 38.8 |
| Current account balance (% of GDP) | -6.9 | -6.4 | -5.0 | -7.4 | -9.0 | -13.3 | -22.7 | -65.3 | -22.0 | -10.4 | -7.6 |
| Exchange rate (US$/SLL) | 2 719 | 2 892 | 2 963 | 2 985 | 2 975 | 3 386 | 3 978 | 4 350 | 4 344 | 4 345 | 4 655 |

**Source:** IMF: World Economic Outlook Database April 2015

Higher iron ore production from these new mines was also responsible for the high real GDP growth witnessed throughout 2012 and 2013. Iron ore production increased dramatically from 137,000 tonnes in 2011 to 6.6m tonnes in 2012. However, with iron prices almost halving in 2014, the two major iron ore companies – London Mining and African Minerals – halted production. The latter fell into administration in the summer of 2015. These events, coupled with the impact of the Ebola outbreak, will have a negative effect on the economy in 2015. The IMF expects GDP to shrink by nearly 13% in 2015. Offshore oil licences awarded in the last two years have also failed to become operational with the slide in the oil price.

## *Political snapshot*

After the civil war ended in 2002, the first Presidential elections were won by the incumbent Ahmad Tejan Kabbah, while his party, the Sierra Leone People's Party (SLPP) won the parliamentary elections. Kabbah played a leading role in disarming the different parties involved in the civil war and bringing relative stability to Sierra Leone.

In the 2007 elections, Ernest Bai Koroma of the All People's Congress Party (APC) defeated the SLPP's presidential candidate, while the APC won the parliamentary elections. The 2012 General Election was held on 17 November 2012, and the incumbent Ernest Bai Koroma retained the Presidency. In common with the recent trend of past elections, the 2012 election was relatively violence-free and deemed free and fair by international observers.

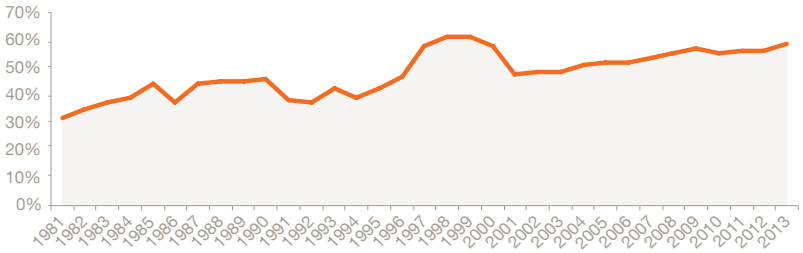
Ernest Bai Koroma has focused on fighting corruption by strengthening the country's anti-corruption laws and repairing war-ravaged infrastructure. He has also shown a willingness to adopt free-market policies to attract private capital.

## *Agricultural profile*

Located on the west coast of Africa, slightly north of the equator, Sierra Leone has varied terrain including mangroves on the coast, wooded hill country, upland plateau and mountains in the east. The climate is tropical with high annual rainfall. Agriculture contributes about half of Sierra Leone's GDP and employs about two-thirds of the total workforce. The contribution was higher in the 1990s, when the civil war restricted most other economic activities. With the mining sector set to grow rapidly in the future, agriculture's contribution to GDP is expected to decline.

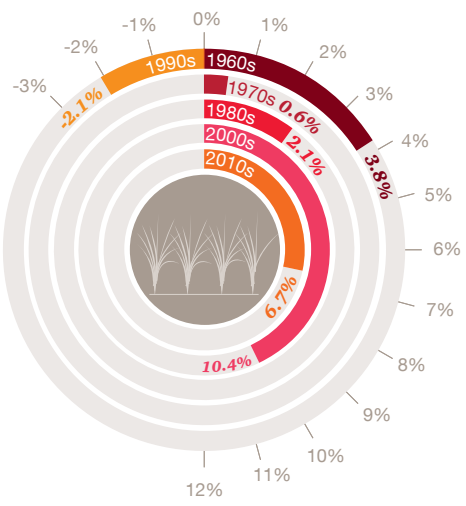
Agriculture also suffered throughout the 1990s. An annualised decline of 2.1% throughout that decade was followed by a sharp rebound over the past decade. Some 57% of the total land (4.1m ha) is agricultural. About half of this (1.9m ha), is under cultivation. The rest is under pasture.

**Figure 73**: Agriculture value added (% of GDP)




**Source:** The World Bank: World Development Indicators

**Figure 74**: Annual growth in agricultural productivity




**Source:** FAO

Sierra Leone's chief crops are rice, vegetables, cassava, citrus fruits and pulses. Its chief export crops are cocoa and coffee, while its major imports are rice, palm oil and wheat. In 2014/15, the USDA estimates that the country will import a quarter of its rice requirement, nearly half of its palm oil consumption and its entire wheat needs.

Sierra Leone's agricultural trade deficit widened in the early 1990s, mainly due to the civil war, and has been high since.

Rice is Sierra Leone's staple, with citizens consuming over 100kg per year. This places the country as one of the highest consumers in sub-Saharan Africa. However, the country lacks self-sufficiency in rice. While imports, as a percentage of domestic consumption, have decreased in recent years, it is still substantial. Higher planted area and increased yields have helped, but the gap between domestic production and consumption still remains. Similar to efforts in Nigeria and Ghana, the government is trying to encourage people to replace some of the rice in their diets with other locally produced crops such as yams, cassava and sweet potato.

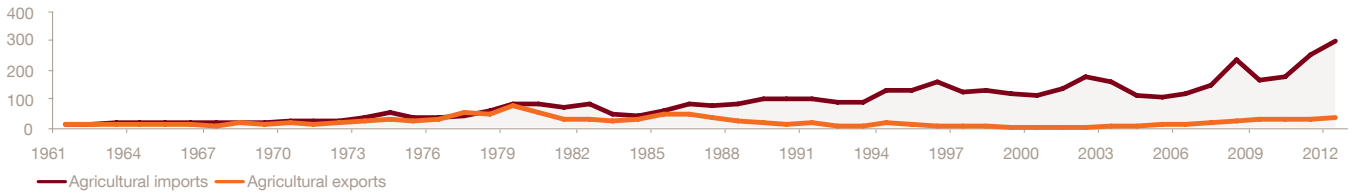
While agro-ecological conditions in Sierra Leone are favourable for rice, production is constrained by fragmentation of land, diseases, pests, soil fertility, the use of low-yielding local varieties, poor extension services and an absence of drying and storage facilities which lead to high post-harvest losses. The government has tried to address these issues through various policies. There has been some improvement but problems remain considerable. The government is also trying to promote cash crops such as cocoa and coffee where the country has had some past success.

## *Government support*

Sierra Leone has the potential to expand its agricultural sector significantly. Given that the country is heavily dependent on agricultural imports to satisfy domestic demand, especially for staples such as rice, any local production will find a ready market. Many, if not most, neighbouring countries are also food importers, and so are potential markets for Sierra Leone's farmers.

The government has focused heavily on the promotion of agriculture. It became a priority under the 'Agenda For Change' (AFC) initiative, which ran between 2008 and 2012. Some of the objectives were: to increase agricultural productivity; promote diversified commercial agriculture through the private sector; improve agricultural research and extension service delivery; promote efficient and effective resource management systems; improve agricultural output through value addition, post-harvest loss reduction, agro-processing, packaging and building rural market infrastructure; and manage and exploit Sierra Leone's fishery and marine resources.

**Figure 75**: Agricultural trade (US$m)




**Source:** FAO

**Figure 76:** Rice statistics

| | 2000/01 | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area harvested (000 ha) | 185 | 275 | 400 | 440 | 540 | 650 | 742 | 432 | 476 | 499 | 549 | 604 | 620 | 650 | 625 |
| Milled production (000 tonnes) | 120 | 186 | 253 | 267 | 325 | 443 | 669 | 370 | 428 | 559 | 648 | 679 | 719 | 791 | 693 |
| Imports (000 tonnes) | 100 | 125 | 125 | 135 | 150 | 85 | 105 | 175 | 70 | 90 | 115 | 260 | 275 | 280 | 220 |
| Consumption (000 tonnes) | 220 | 311 | 378 | 402 | 475 | 528 | 774 | 545 | 498 | 649 | 763 | 939 | 994 | 1 071 | 913 |
| Yield (paddy) (tonnes/ha) | 1.1 | 1.1 | 1.1 | 1.0 | 1.0 | 1.1 | 1.4 | 1.4 | 1.4 | 1.8 | 1.9 | 1.8 | 1.8 | 1.9 | 1.8 |
| Imports / consumption | 45% | 40% | 33% | 34% | 32% | 16% | 14% | 32% | 14% | 14% | 15% | 28% | 28% | 26% | 24% |

**Source:** US Department of Agriculture

To further its agricultural agenda, the government developed the National Sustainable Agriculture Development Plan (NSADP, 2010-2030). One of the key programmes under this was the Smallholder Commercialisation Scheme (SCS) to ensure the effective provision of services to all farmers nation-wide and also encourage them to work under organised Agriculture Business Centres (ABCs).

Some of the major results of the AFC initiative, according to the government, are:

- The SCS brought together 10,000 farmers, who were provided with packages of subsidised inputs, machinery and training;
- Nearly 500 farmer-based organisations and around 300 ABCs are now in place and thousands of kilometres of feeder roads now link ABCs to production centres and markets;
- Over 4,000 inland valley swamps were rehabilitated between 2008 and 2012;
- By end-June 2013, more than 1,350kms of feeder roads had been completed to support agricultural production; and
- Around 60 Financial Services Associations (FSAs) and 20 community banks were established throughout the country to help with financial intermediation.

As a successor to the AFC, the government launched the 'Agenda For Prosperity' (AFP) initiative for the period between 2013 and 2018. In agriculture, the aim was to create a "sustainable, diversified and commercial agriculture sector which primarily ensures food security and increased jobs for Sierra Leonean men and women and, in addition, begins to maximise opportunities for value addition and export of 'cash' crops". Key priorities were:

- To increase the productivity and output of rice, cassava and livestock, by continuing the activities started under AFC such as increased access to inputs, the establishment of more ABCs, the rehabilitation of inland valley swamps and so on;
- To promote and increase private sector-driven value addition activities on agricultural goods; and
- To increase the production and export of cash crops such as cashew, cocoa, coffee, palm oil, rubber, and sugarcane.

Subject to certain eligibility conditions based on land cultivated and capital invested some of the incentives offered by the government include:

- Complete exemption from corporate income tax up to 2020; plus 50% exemption from withholding taxes on dividends paid by agribusiness companies;
- Complete exemption from import duties on farm machinery, agri-processing equipment, agri-chemicals and other key inputs; three-year exemption from import duties on any other plant and equipment; reduced rate of 3% import duty on any other raw materials;
- 100% loss carry-forward can be used in any year;
- 125% tax deduction for expenses on R&D, training and export promotion; and
- Three-year income tax exemption for skilled expatriate staff where bilateral treaties permit.

The government has also identified suitable sites for the cultivation of rice, cocoa, sugar and palm oil.

**Figure 77**: Farm sites

| Crop | Location | District | Size (ha) |
|---|---|---|---|
| Rice (mechanised, with irrigation) | Torma Bum | Bonthe | 51,300 |
| | Gbondapi | Pujehun | 41,100 |
| | Kumrabai Mamilla | Tonkolili | 35,500 |
| Cocoa | Luawa | Kailahun | 12,000 |
| | Small Bo | Kenema | 8,000 |

**Source:** Government of Sierra Leone

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