



# Ghana's Private Sector Investment Plan for Agricultural Development

*May 2012*



### Objectives

- This document provides an overview of Ghana’s agricultural investment landscape, highlighting key opportunities for private sector investment by:
  - Offering insight into Ghana’s macroeconomic environment and the development of its agricultural sector
  - Identifying the forces and factors driving growth in its commercial food market
  - Exploring the landscape for private sector agribusiness investment in Ghana, particularly in the three northern regions marked as development priority areas by the Government of Ghana
  - Prioritizing seven value chains for private sector investment, identifying specific investment opportunities within each
  - Reviewing the barriers to private sector investment in Ghana—and what strategies and activities the Government of Ghana is considering or already implementing to mitigate them

### Disclaimer

- This document was prepared by Monitor Group, an independent global management consultancy with funding provided by the U.S. Agency for International Development as technical assistance to Ghana’s Ministry of Food and Agriculture
- This report’s findings are based on public and proprietary information, and information gathered by Monitor Group through field investigation and interviews with industry experts, private sector investors, agribusinesses, donors, and other key stakeholders
- Monitor Group does not make any representation or warranty, express or implied, as to the accuracy, completeness, or correctness of the information contained herein, nor does it accept any liability for any loss or damage, howsoever caused, arising from any errors, omissions, or reliance on any information or views contained in this document

# Context for Document

## Notes and Abbreviations



*For your reference, please find below a table of acronyms used in this document; unless otherwise noted, all dollar amounts are in USD*

AGRA	Alliance for a Green Revolution in Africa
ASWG	Agriculture Sector Working Group
BTC	Belgian Development Agency
CAADP	Comprehensive Africa Agriculture Development Programme
CPG	Consumer Packaged Goods
DFID	Department for International Development (UK)
DG	Director General
ECOWAP	ECOWAS Agricultural Policy
ECOWAS	Economic Community of West African States
EDIF	Export Development and Investment Fund
FAO	Food and Agriculture Organization of the United Nations
FASDEP II	Food and Agriculture Sector Development Policy
FBO	Farmer based organization
FDI	Foreign Direct Investment
FtF	Feed the Future
GAF	Grow Africa Forum
GCAP	Ghana Commercial Agriculture Project
GDP	Gross domestic product
GEPC	Ghana Export Promotion Council

GGC	Ghana Grains Council
GIDA	Ghana Irrigation Development Authority
GIPC	Ghana Investment Promotion Centre
GoG	Government of Ghana
GSGDA	Ghana Shared Growth and Development Agenda
ha	Hectare
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFDC	International Fertilizer Development Center
IFPRI	International Food Policy Research Institute
IRR	Internal Rate of Return
JICA	Japanese International Cooperation Agency
KfW	German Development Bank
MD	Managing Director
MDAs	Ministries, Departments, and Agencies
METASIP	Medium Term Agriculture Sector Investment Plan
METSS	Monitoring, Evaluation & Technical Support Services
MoFA	Ministry of Food and Agriculture
MoFEP	Ministry of Finance and Economic Planning
MoTI	Ministry of Trade and Industry



*For your reference, please find below a table of acronyms used in this document; unless otherwise noted, all dollar amounts are in USD*

MT	Metric ton
NAFCO	National Buffer Stock Company
NDPC	National Development Planning Commission
NEPAD	New Partnership for African Development
PEF	Private Enterprise Foundation
PIU	Project Implementation Unit
PPMED	Policy Planning, Monitoring, and Evaluation Directorate (MoFA)
PPP	Public-private partnership
PSIP	Private Sector Investment Plan
PSDS II	Private Sector Development Strategy (MoTI)
SADA	Savannah Accelerated Development Authority
SHF	Smallholder farmer
SME	Small and medium enterprise
SRID	Statistics, Research and Information Directorate (MoFA)
VCTF	Venture Capital Trust Fund
USAID	United States Agency for International Development
WAAPP	West Africa Agricultural Productivity Programme
WATH	West Africa Trade Hub
WFP	World Food Programme

### Regional Comparisons

Except where noted, regional comparisons for Ghana include the other 14 member states of ECOWAS: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. These countries are proximate to Ghana and share trade linkages.

	Benin		Burkina Faso
	Cape Verde		Côte d'Ivoire
	Gambia		Guinea
	Guinea-Bissau		Liberia
	Mali		Niger
	Nigeria		Senegal
	Sierra Leone		Togo



## Executive Summary

Part 1: Ghana Macroeconomic Overview

Part 2: Growth of Ghana's Commercial Food Market

Part 3: Status of Ghana's Agricultural Sector and Landscape for Investment

Part 4: Investment Opportunities in Ghanaian Agriculture

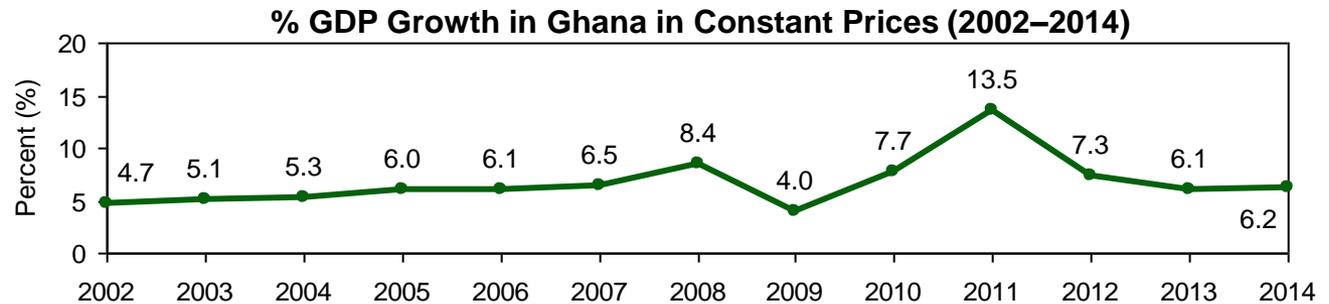
Part 5: Investment Challenges and Government Responses

Appendix



### Macroeconomic Outlook

- With a 2011 GDP of \$38.6 billion, Ghana is West Africa's second-largest economy
  - GDP grew by 5-8% per year in the last decade and is forecast to continue growing at 6-7% per year, according to the IMF
- Ghana ranks highest in West Africa on the World Bank's "Doing Business" index due to its strong, stable democratic traditions, rule of law, and investor protections



### Current Status of Ghana's Agricultural Sector

- Agriculture is a key driver of the economy, contributing 30% to GDP and more than 50% to national employment and growing at an annual rate of 4.5% from 2006-2010
- The sector offers unique agro-ecological and market advantages to investors, including the ability to produce a diverse range of commodities and proximity to export markets to Europe and the U.S.

### Drivers of Growth in Commercial Food Market

- Rapid urbanization and rising incomes in Ghana are driving significant increases in food consumption, particularly in high-value and processed foods
- While Ghana is self-sufficient in most key staple crops, supply deficits in rice and other high-value foods necessitate imports; there is therefore potential to scale up production to meet domestic demand as well as export to neighboring countries



### Overview of Investment Opportunities

- Short- and medium-term investment opportunities have been identified through analysis of a number of value chains based on their: (1) market potential for growth; (2) Ghana's competitiveness in production; (3) investor interest; (4) potential social impact; and (5) contribution to the development of northern Ghana
- While selected value chains were prioritized for their immediate attractiveness, there are opportunities in other value chains and investors are encouraged to explore these

### Short-Term Investment Opportunities



**Cassava**

- Cassava demand is growing due to its various uses as a key staple of the local diet, a beer input, and wheat flour replacement
- It is the most highly produced crop in the country (13 million MT in 2010 and yields are 20–30% higher than regional and global averages
- Opportunities exist to expand processing capacity to preserve the crop after harvest



**Rice**

- Local consumers' preference for rice over other grains is increasing
- Ghana currently produces ~50% of its demand (350,000 MT) and imports the remaining 50%
- Opportunities exist to invest in rice to stimulate local production, particularly for straight-milled, aromatic rice to meet tastes of more sophisticated consumers



**Maize**

- Maize is the most widely consumed staple crop (1.8 million MT in 2010) with population growth strengthening already high local demand from humans as well as the poultry sector for feed
- Illustrative opportunities include production of high-quality seed to improve yields



### Medium-Term Investment Opportunities

- Medium-term opportunities were identified in value chains with significant potential but which require some developments to become commercially viable
  - **Cashew:** Opportunities to expand processing capacity to serve local and export markets as West Africa has a competitive advantage in production
  - **Sorghum:** Production opportunities to meet demand from humans, animal feed producers, and breweries replacing barley with sorghum
  - **Soybean:** Opportunities to supply soybean meal to the local poultry industry and soybean oil to paint manufacturers, as well as meet global demand for biodiesel
  - **Poultry:** Opportunities to meet animal protein demand from growing middle class, if maize and soybean production can be increased to reduce feed costs and make Ghanaian poultry more competitive against imports

### Long-Term Investment Opportunities

- Government and donor initiatives will assist investors in scaling up inclusive business models as part of the long-term developmental priority to modernize commercial agriculture. Five such opportunities have already been identified:
  - Commercial nucleus farm and out-grower scheme for irrigated rice production and processing in Bamboi
  - Nucleus seed crop farm to provide extension, inputs, and processing to farmers in an existing irrigation scheme in Tono
  - Block irrigated rice farms in the Lower Volta
  - Gravity-fed irrigation for rice and banana plantations in the Accra Plains
  - Seed production and mechanized cultivation of maize and soy in Branam



### Investment Challenges and Government Responses

- Government has identified critical risks to investment and designed initiatives to ease these challenges and facilitate additional investment
  - Through collaborations with development partners, Government has launched various projects and programs to develop infrastructure, address the complexities associated with acquiring land, and improve agronomic practices employed by SHFs
  - Government has mandated a number of financial institutions to provide low-cost credit and/or concessionary finance to the sector
  - Plans are underway to strengthen the capacity of investment promotion functions and provide project implementation support to investors

### Contacts

- Investors interested in learning more about opportunities in Ghana's agribusiness sector should contact either:
  - the Ghana Investment Promotion Centre
  - the Trade and Investment Division of the Embassy of Ghana in their local country



Executive Summary

## **Part 1: Ghana Macroeconomic Overview**

Part 2: Growth of Ghana's Commercial Food Market

Part 3: Status of Ghana's Agricultural Sector and Landscape for Investment

Part 4: Investment Opportunities in Ghanaian Agriculture

Part 5: Investment Challenges and Government Responses

Appendix

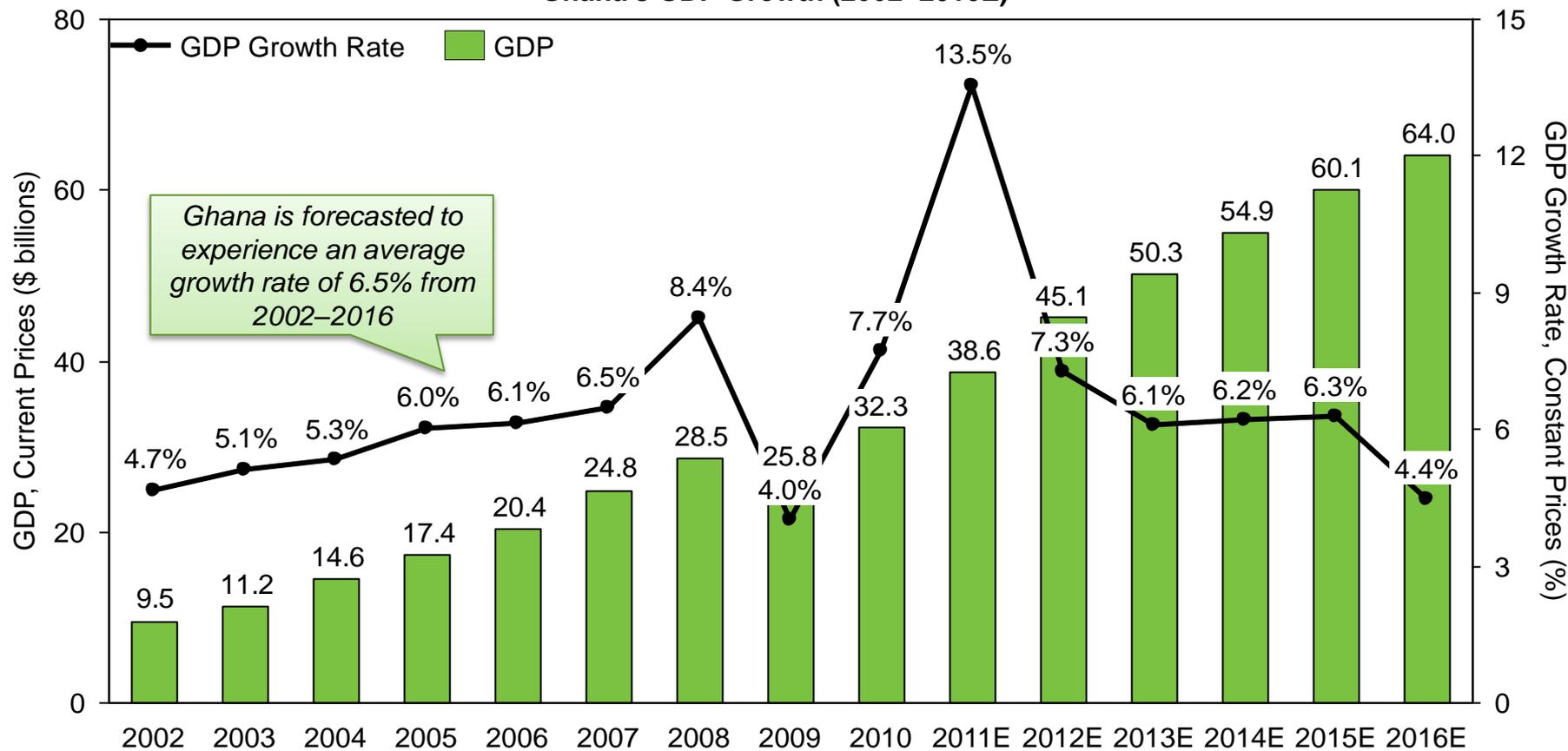
# Ghana Macroeconomic Overview

## GDP Growth and Economic Outlook



*Ghana has experienced strong and sustained economic growth over the last ten years and is forecast to continue to grow at 6% to 7% annually in the coming years*

**Ghana's GDP Growth (2002–2016E)**



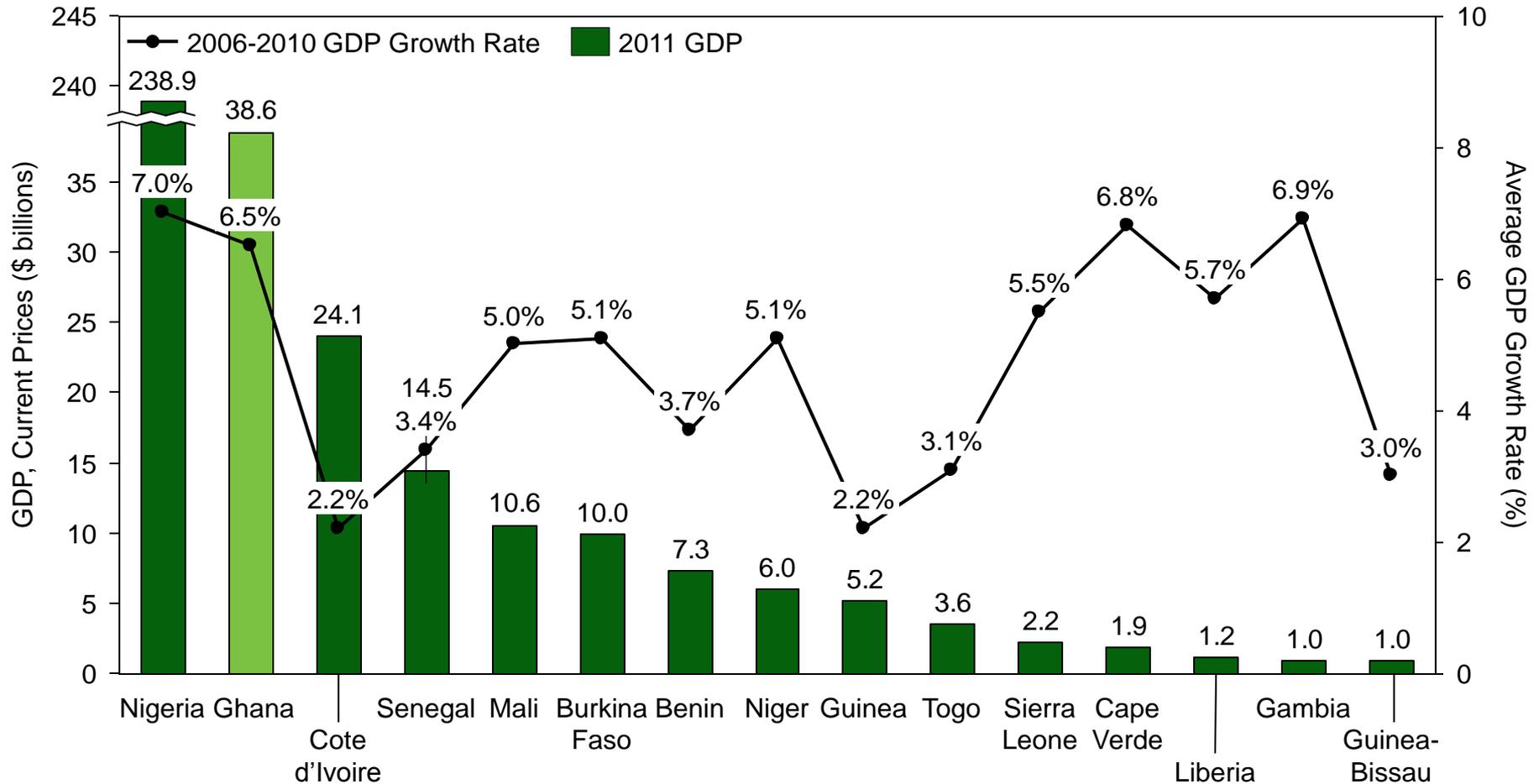
# Ghana Macroeconomic Overview

## GDP Growth and Economic Outlook



*With a 2011 GDP of \$38.6 billion, Ghana is the second-largest economy in West Africa and was the fourth-fastest growing economy in the region from 2006–2010*

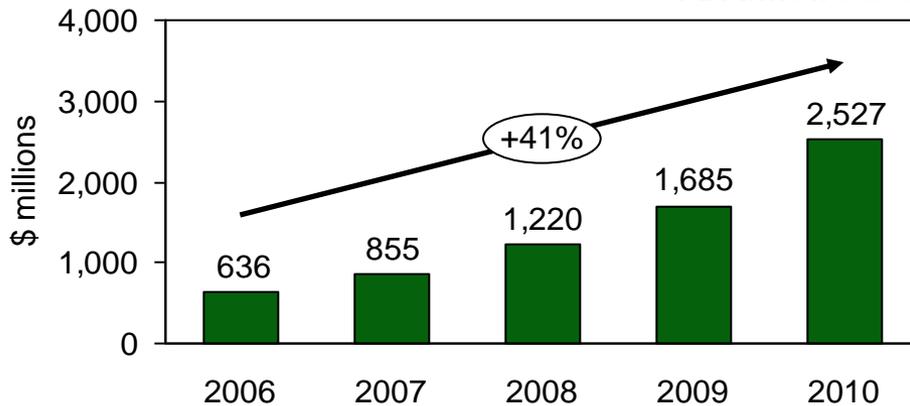
**GDP Growth in ECOWAS Countries (2006–2010)**





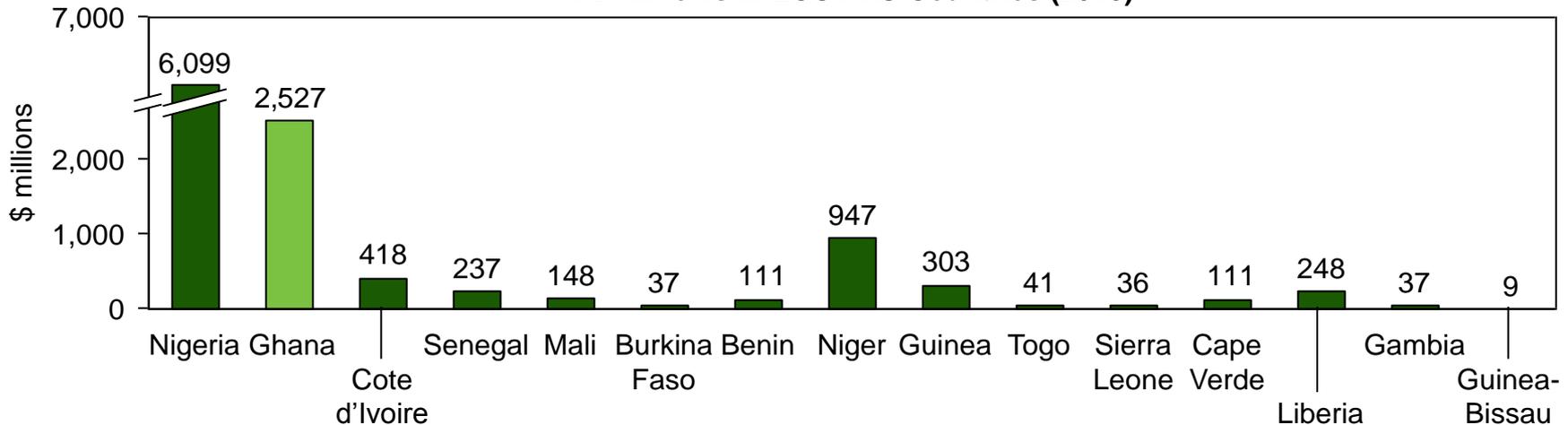
The strong economic growth has been accompanied by significant increases in FDI inflows with Ghana accounting for nearly one quarter of all FDI into ECOWAS in 2010

### FDI Inflows to Ghana (2006–2010)



- Ghana has been recognized by the World Bank's "Investing Across Borders" report as one of the **most open economies for foreign equity investment in sub-Saharan Africa**
- **Full foreign ownership of companies is permitted** in a number of sectors, including agriculture

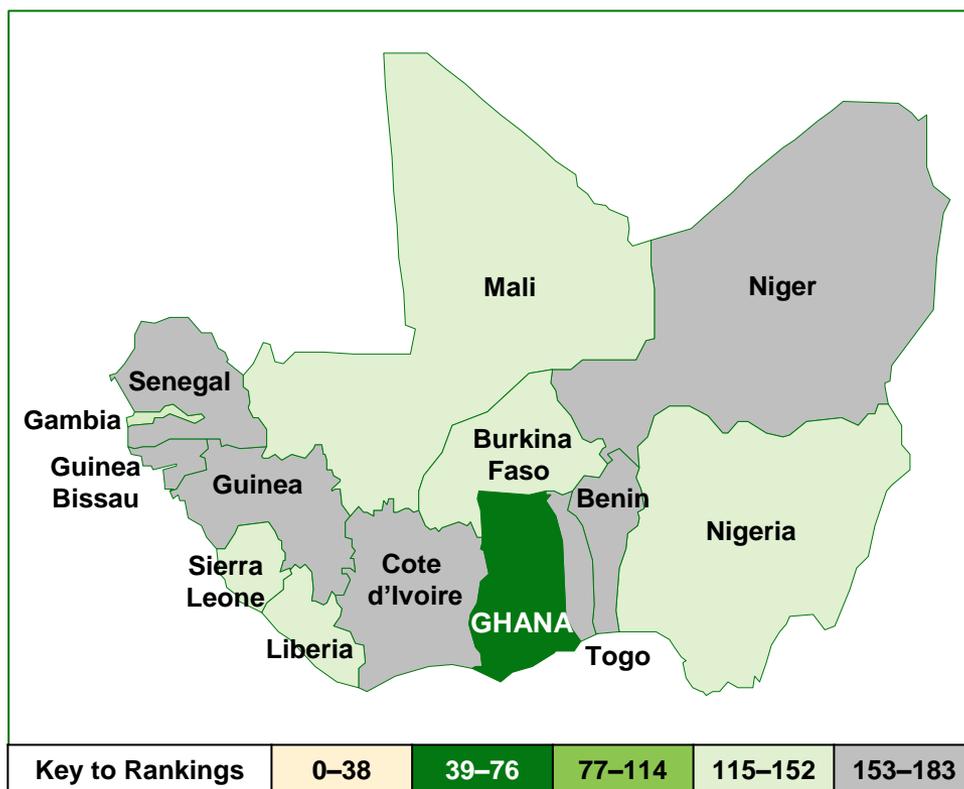
### FDI Inflows in ECOWAS Countries (2010)





*Ghana is recognized as having the most attractive investment and business environment in West Africa and has an overall ranking of 63 on the 'Ease of Doing Business' index*

**Ease of Doing Business Rankings (2012)<sup>1</sup>**



<b>Ghana Overall Ranking</b>	<b>63</b>
Registering Property	36
Enforcing Contracts	45
Protecting Investors	46
Getting Credit	48
Getting Electricity	68
Paying Taxes	90
Trading Across Borders	90
Starting Business	104
Resolving Insolvency	106
Construction Permits	156

*Ghana performs particularly strongly along the dimensions of **registering property**, **enforcing contracts**, **protecting investors** and **getting credit***



*Ghana's success in developing its financial sector can be attributed to well-sequenced policies, enhanced competition, and gradual capital account liberalization*

### Domestic Capital Markets

- The 2006 **Foreign Exchange Act** opened the financial sector to non-resident investors, accelerating development of domestic capital markets
- However, the **secondary government bond market and the Ghana Stock Exchange (GSE) remain illiquid**, with the total value traded on the GSE being less than 1% of GDP
- The **Government has prioritized broadening the local private investor base**

### Interest and Inflation Rates

- **Ghana follows an inflation-targeting framework** which has seen inflation reduced by half from 2006 to reach 8.5% in 2011 with forecasts to decline further to 5% in the medium term
- The Monetary Policy Committee which oversees this framework also makes decisions on the central bank interest rates, which are a key lever used to control inflation
  - Interest rates have fallen from levels of 28% in 2003 to 14.5% in 2012

### Public Debt

- **Ghana's recent transition to middle-income status means that concessional financing is expected to decline** and be replaced by commercial borrowing over the medium to long term
- Public debt is currently 40% of GDP, so the **Government remains vigilant to preserve its newfound debt sustainability** and macroeconomic policy is geared towards keeping both external and domestic debt sustainable

### Banking Sector and Private Debt

- **The banking sector accounts for 70% of the financial sector and has grown rapidly fueled by credit expansion**; in February 2010, private debt stood at \$5.6 billion driven primarily by the services, commerce, and finance sectors
- Total assets as of January 2012 were \$14 billion and the banking industry showed healthy capital adequacy ratios of ~18%, well above prudential requirements of 10%



Executive Summary

Part 1: Ghana Macroeconomic Overview

**Part 2: Growth of Ghana's Commercial Food Market**

Part 3: Status of Ghana's Agricultural Sector and Landscape for Investment

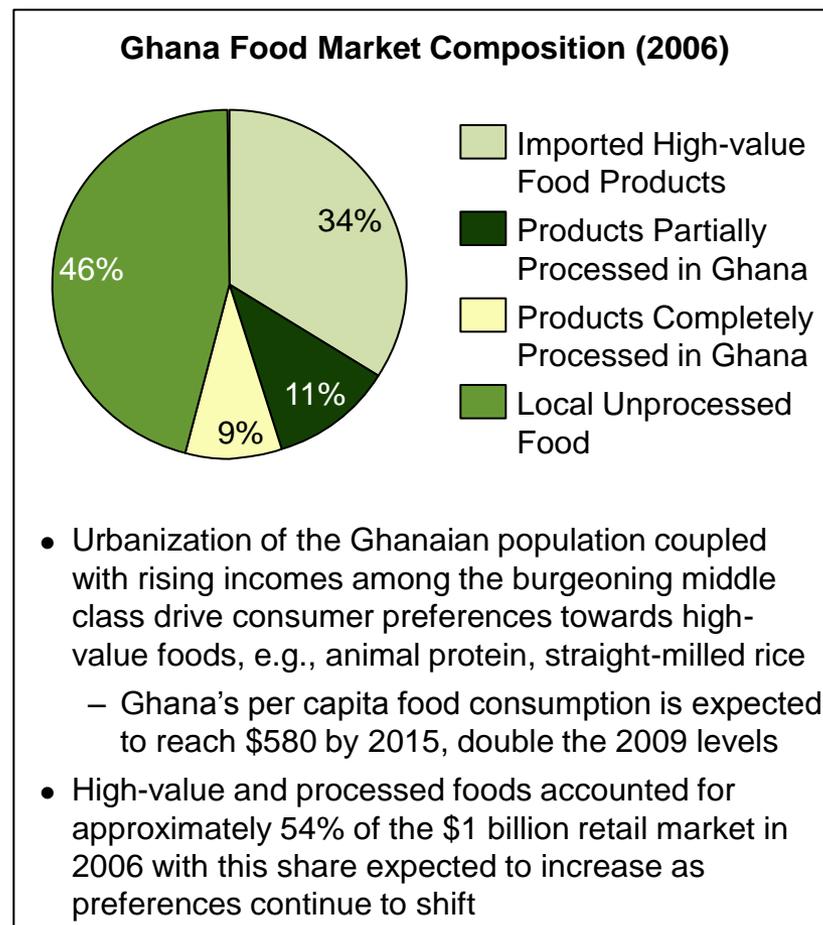
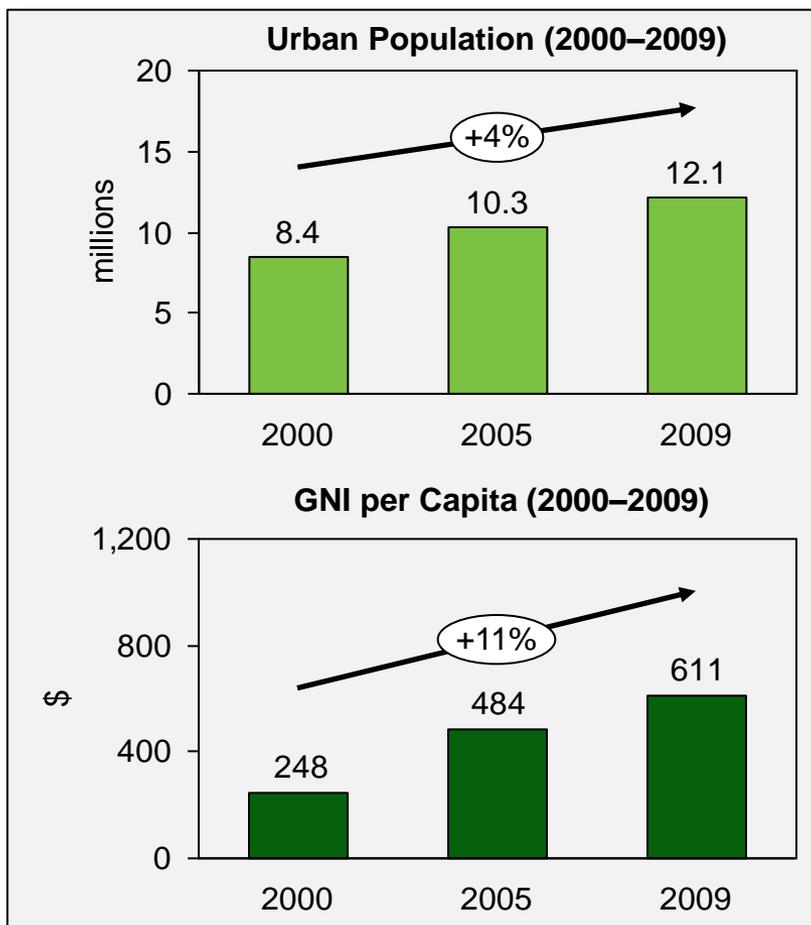
Part 4: Investment Opportunities in Ghanaian Agriculture

Part 5: Investment Challenges and Government Responses

Appendix

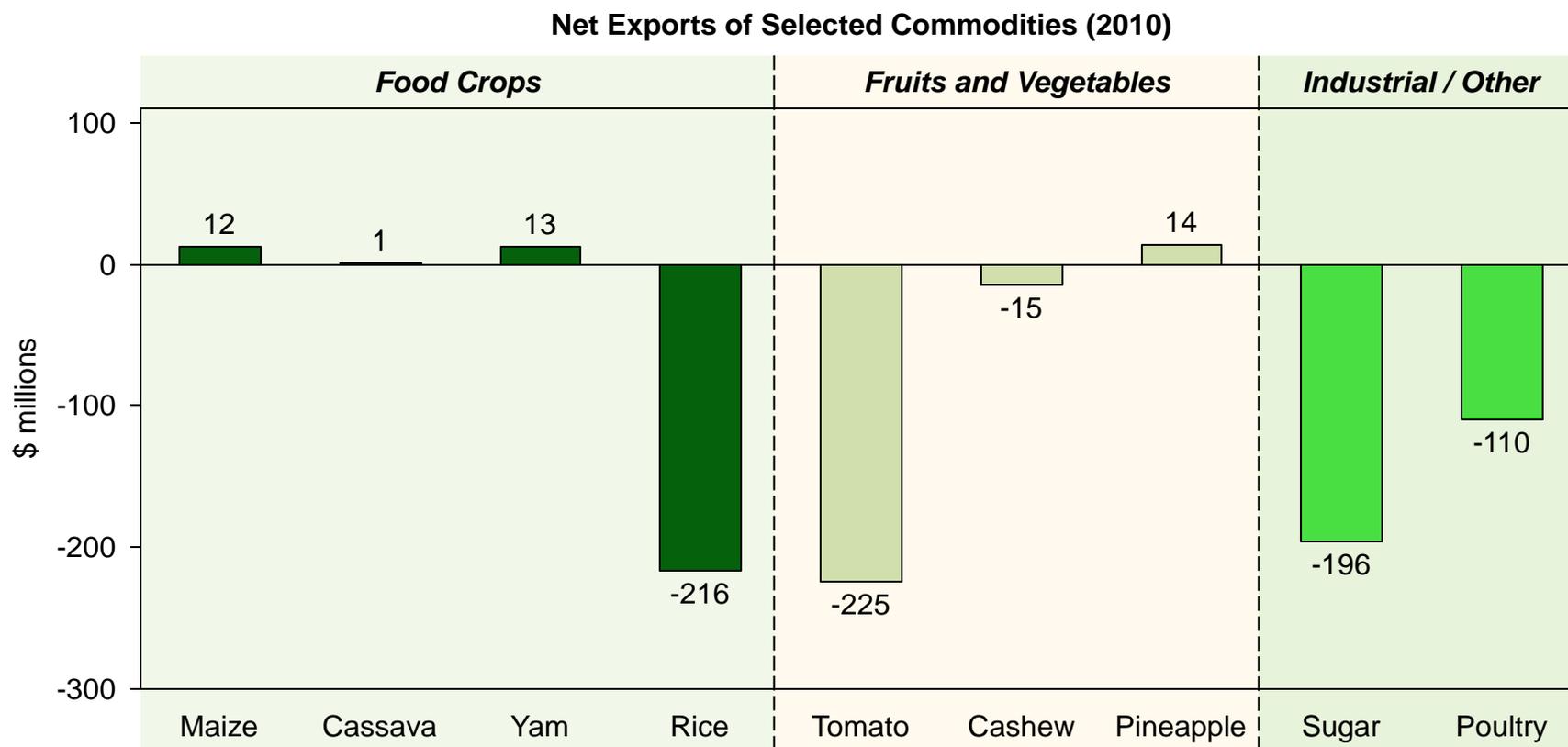


*The commercial food market in Ghana is poised for steady growth in coming years with the increasingly urbanized population showing a strong preference for high-value, processed foods*





*Ghana is unable to meet its own growing and diversifying demand for food, producing less than 30% of the raw materials needed by its agro-based industries*



*Ghana is currently self-sufficient in many key staple crops, however excess demand in other critical crops such as rice, tomato, sugar, and poultry has to be met by imports*

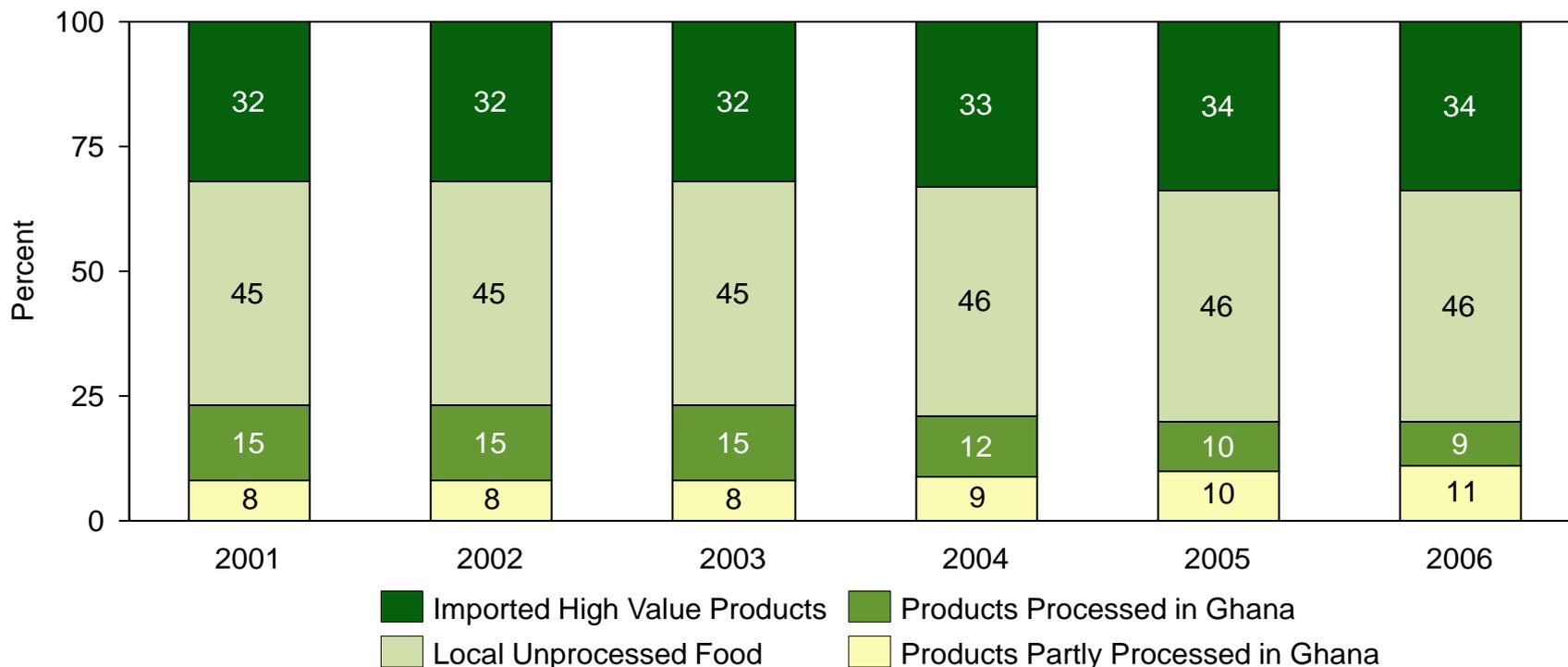
# Growth of Ghana's Commercial Food Market

## Trends in Production



*Similarly, local agro-processing capacity is too small to meet increasing demand, presenting opportunities to increase Ghana's production and processing ability*

**Ghana Food Retail Market Sales Trends (2001–2006)**



*The share of products processed in Ghana declined from 15% to 9% from 2001 to 2006 while imported products experienced slight growth from 45% to 46% during this time period, highlighting the existence of opportunities for local processing*



*As the food industry continues to shift towards more formal retail and distribution channels, agricultural investors will increasingly be able to secure off-take for increased production*

### Retail Food Market

- Increasing sophistication of Ghana's middle class, including Ghanaians returning home from abroad, is better-suited to the formal shopping experience offered by supermarkets/ grocery stores
  - The growing expatriate community also prefers the pricing transparency offered
- As of 2006, the Ghanaian retail food market was still dominated by traditional markets (68% market share) although grocery stores and large supermarkets are becoming more prominent (30% and 2% market share respectively)
  - The organized retail sector is expanding, with shopping malls such as the Accra Mall becoming more popular and a number of property groups looking at additional developments

### Distribution Channels

- Importers, distributors, and wholesalers have also organized themselves to better serve the growing food market as in the rice value chain
  - Ghana has six major rice importers with robust distribution networks throughout the country.
  - Key rice distributors are strategically and predominantly located in Accra, Kumasi, and Takoradi and are supported by wholesalers in some of the major urban centers in the respective regions

### ***The development of formal market structures provides a positive signal to prospective investors:***

- *Organized marketing and distribution systems simplify the identification of customers for agricultural produce*
- *The consolidation and modernization of Ghana's food distribution enables larger transactions*
- *Marketing tactics employed will continue to increase consumer preferences for high-value, processed goods*



Executive Summary

Part 1: Ghana Macroeconomic Overview

Part 2: Growth of Ghana's Commercial Food Market

**Part 3: Status of Ghana's Agricultural Sector and Landscape for Investment**

Part 4: Investment Opportunities in Ghanaian Agriculture

Part 5: Investment Challenges and Government Responses

Appendix

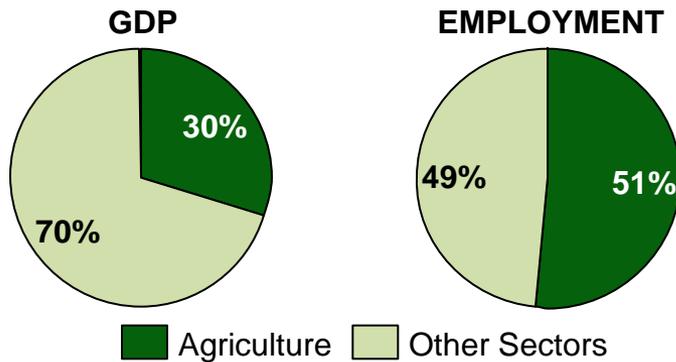
# Status of Ghana's Agricultural Sector and Landscape for Investment

## Agricultural Sector Growth

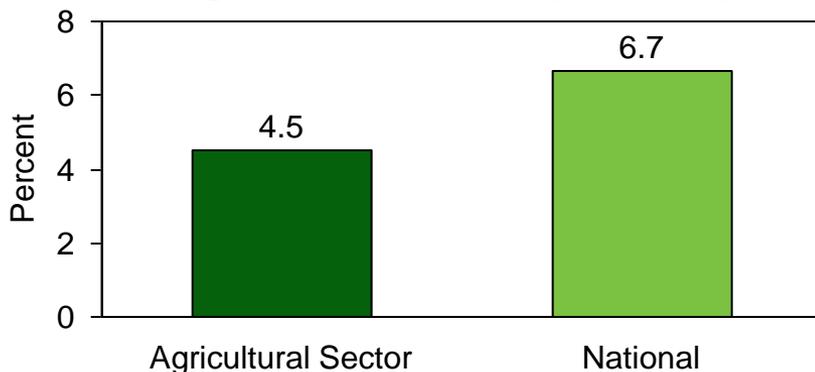


*Agriculture is a key driver of the Ghanaian economy, although recently, agricultural growth has declined as the economy has developed and labor has shifted to more productive sectors*

**Agricultural Sector Contribution to Economy (2010)**



**Average GDP Growth Rates (2006–2010)**



**Agricultural Sector Growth**

- The agricultural sector accounts for 30% of national GDP and 51% of national employment
- From 2006 to 2010, Ghana's national economic growth averaged 6.7% a year while the agricultural sector grew at 4.5%, partially due to the rapid relative growth of other sectors in the economy, chiefly the services sector
  - This aligns with trends exhibited by many developing economies: agricultural growth declines as the economy becomes more developed and labor shifts from the agricultural sector to the manufacturing and services sectors

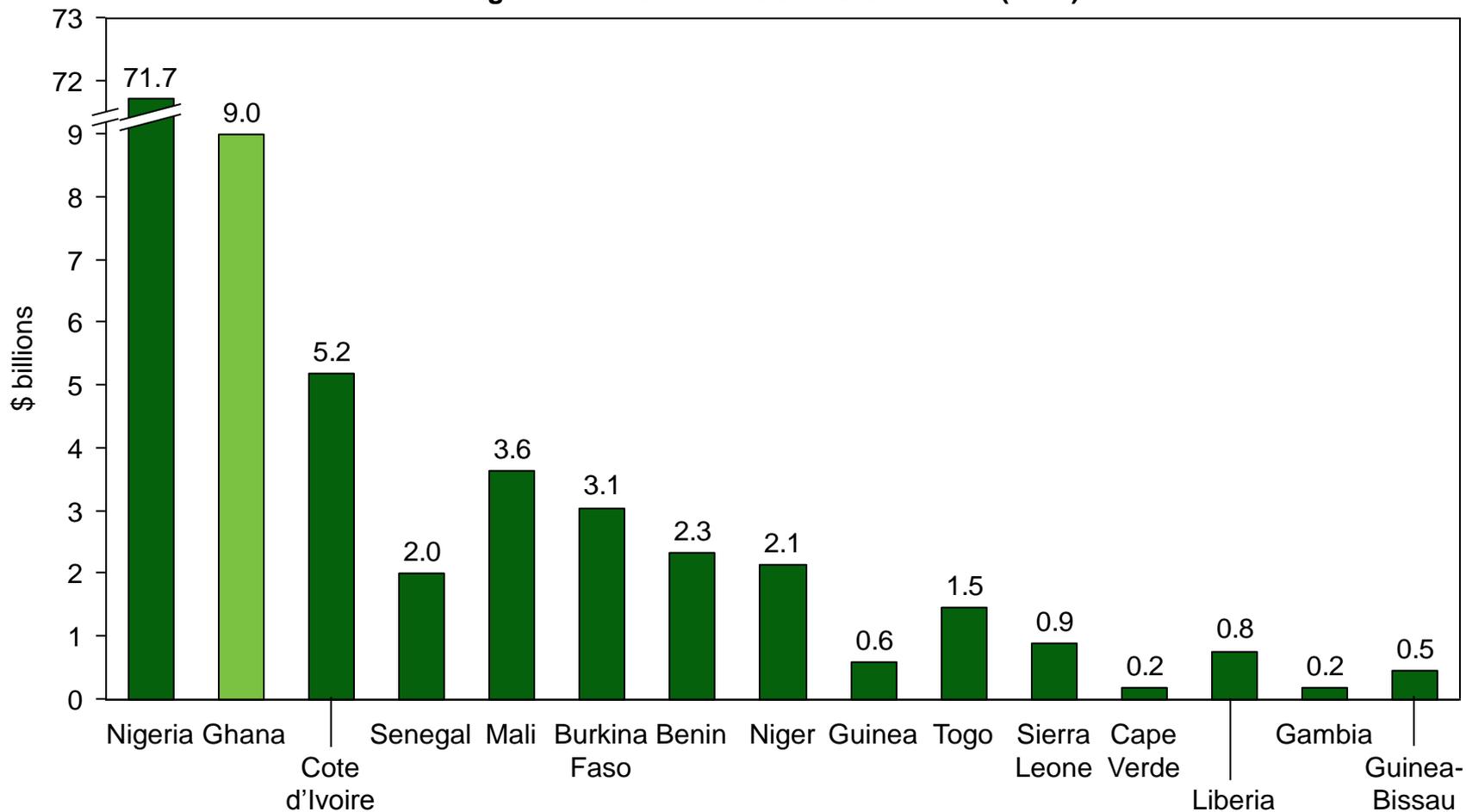
# Status of Ghana's Agricultural Sector and Landscape for Investment

## Agricultural Sector Growth



*In spite of the recent declines in agricultural growth, Ghana's agricultural GDP is the second largest within the ECOWAS group of countries*

**Agricultural GDP in ECOWAS Countries (2009)**





*The Food and Agriculture Sector Development Policy shapes agricultural development while the Private Sector Development Strategy focuses on increasing private activity across all sectors*

### Food and Agricultural Sector Development Policy (FASDEP II)

- FASDEP II, together with the implementation plan and investment framework for the strategy, METASIP, outline the Government's priorities regarding the agricultural sector's growth
  - Food security and emergency preparedness
  - Increased growth in incomes
  - Increased competitiveness and enhanced integration into domestic and international markets
  - Sustainable management of land and environment
  - Science and technology applied in food and agriculture development
  - Improved institutional coordination.
- Other strategy principles include reducing poverty, attention to economic balance between northern and southern Ghana, gender inclusion, and environmental and social sustainability
- Within these frameworks, the Government has defined a commercial agriculture agenda focused on **increasing incomes** and **increased competitiveness and market integration**

### Private Sector Development Strategy (PSDS II)

- PSDS II is a 5-year strategy (2010–2015) spanning all sectors with the following objectives
  - Improve the productivity and efficiency of Ghana's economy
  - Build a thriving private sector that creates jobs and enhances livelihoods
  - Improve Ghana's competitiveness internationally
  - In the agricultural sector specifically: increase rural incomes by 20%, particularly in northern and central Ghana, through more productive and efficient agriculture
- A PSDS II board, chaired by the private sector and including representatives from the private sector, government and development partners oversees the smooth implementation of the strategy

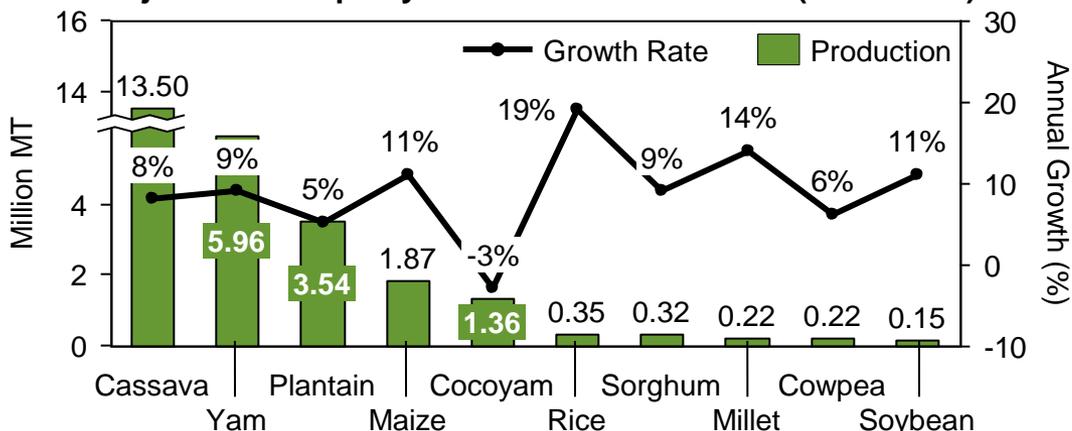
# Status of Ghana's Agricultural Sector and Landscape for Investment

## Agricultural Production

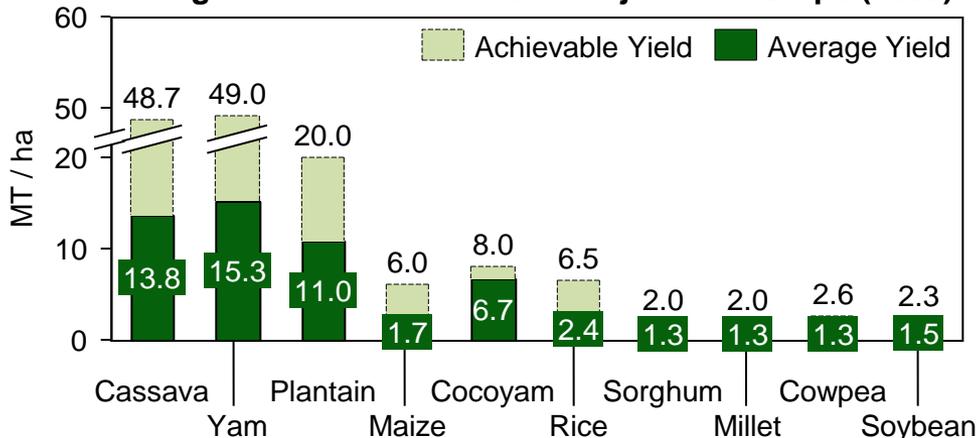


Food crops account for the greatest utilization of Ghana's arable land and the majority of Ghana's agricultural production

**Major Food Crops by Production and Growth (2005–2011)**



**Average / Achievable Yields of Major Food Crops (2009)**



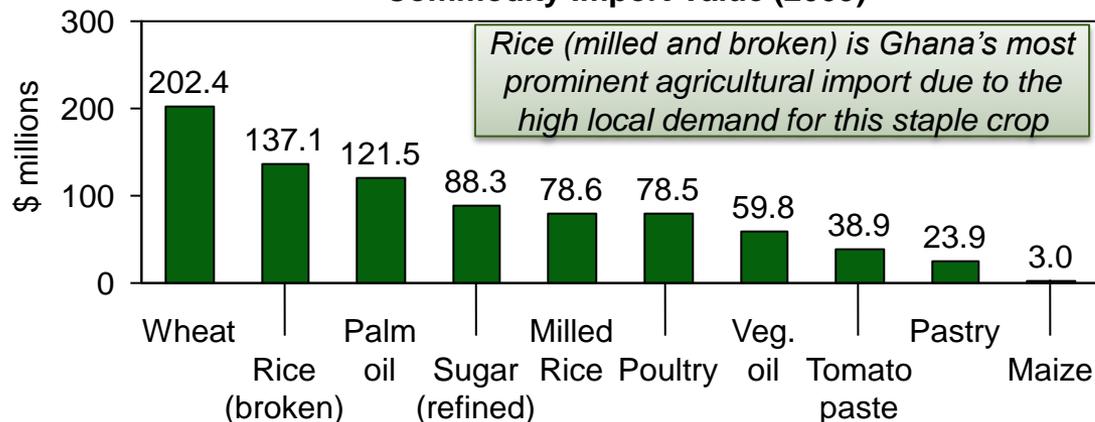
### Agricultural Production

- Maize and cassava are by far the two most widely grown crops and together with yam and plantain, account for the majority of agricultural production
  - These crops are produced primarily for domestic consumption
- Most key staples – excluding millet, sorghum, cocoyam and plantain, recorded strong increases in production in 2010, averaging 13.7% growth
  - This was in part due to adoption of new technologies and use of improved seeds by farmers
- Nonetheless, nearly all food crops in Ghana demonstrate significant potential for yield improvements through greater adoption of irrigation, better agronomic technologies and effective extension services

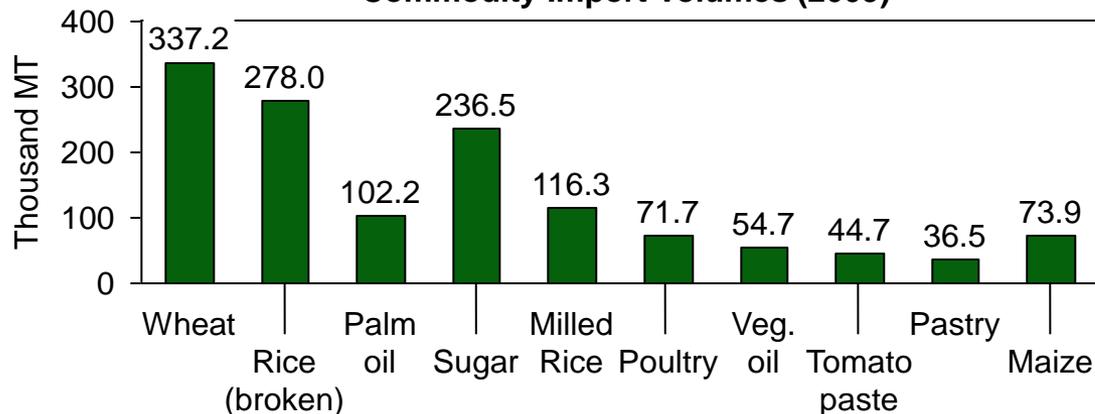


While Ghana is nearly fully self-sufficient in most staple crops, it remains a significant importer of rice, sugar, palm oil, wheat and poultry

**Commodity Import Value (2009)**



**Commodity Import Volumes (2009)**



- Ghana's leading import sources are the U.S., China, France, Belgium, the UK, South Korea and South Africa
- Southeast Asia is the primary source for imported rice
  - While rice is widely grown in Ghana, demand far exceeds supply with average imports of 300,000 to 400,000 MT per year
  - Given growing local demand for rice, import volumes will continue to increase unless local production is scaled up significantly
  - Reducing the country's dependence on imported rice is therefore a key focus of the GoG's development strategy

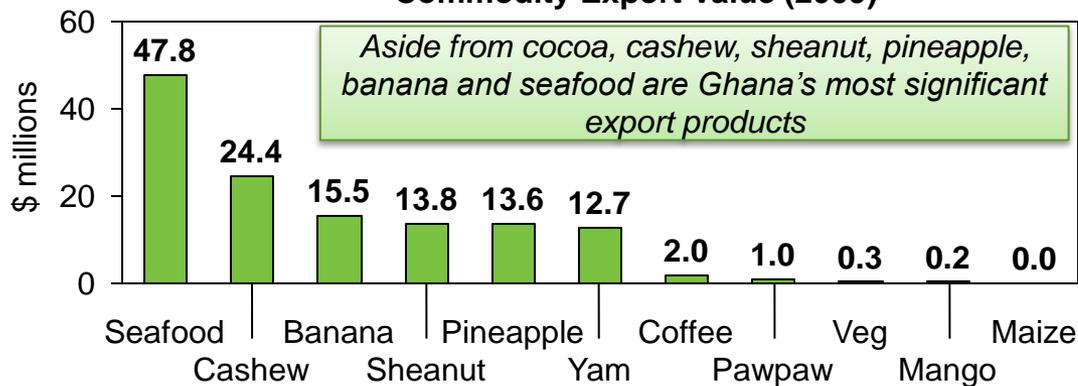
# Status of Ghana's Agricultural Sector and Landscape for Investment

## Agricultural Production: Exports

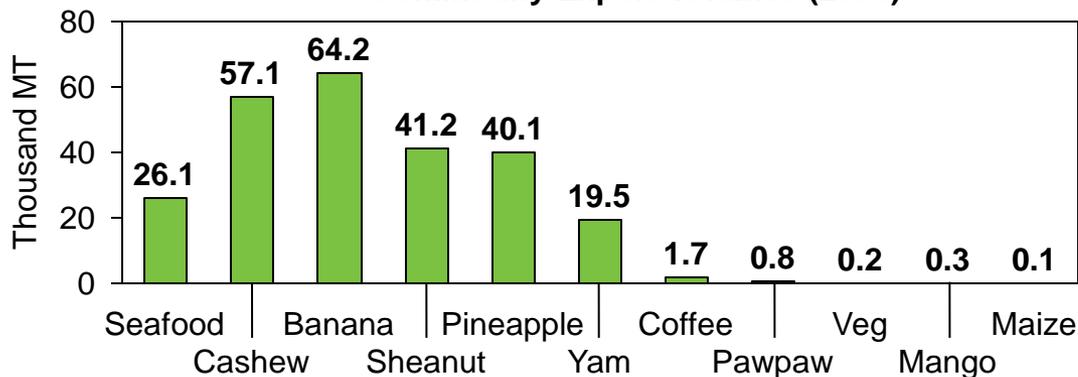


Horticulture and industrial crops constitute the majority of Ghana's agricultural exports, which totaled \$131 million in 2010

**Commodity Export Value (2009)**



**Commodity Export Volumes (2009)**



- From 2009 to 2010, exports declined in both volume and value by 13.6% and 0.8% respectively
- Increasing export crops' competitiveness and improving Ghana's integration into domestic and international markets are key areas of focus for the Government of Ghana
- MoFA has introduced a number of strategic initiatives in collaboration with other partners to increase export quantities and ensure that Ghana's horticulture is competitive on a global scale

Note: Ghana's cocoa production is overseen by the Ghana Cocoa Board and is not included in the agenda for development of the agricultural sector  
Source: FAOSTAT

# Status of Ghana's Agricultural Sector and Landscape for Investment

## Appeal of Ghana Agricultural Sector: Market Conditions



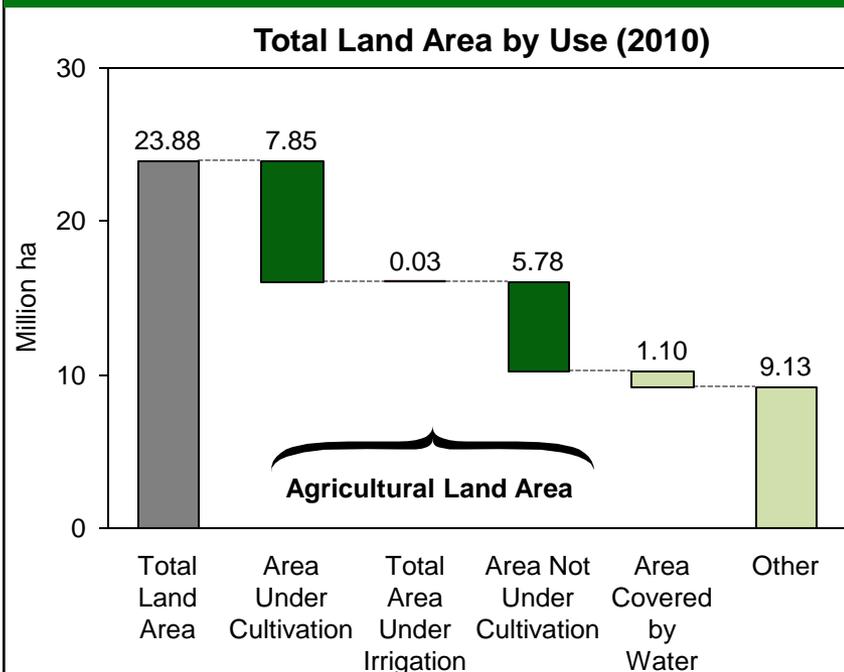
*The favorable market forces in Ghana make the country one of the most attractive destinations for agribusiness in sub-Saharan Africa*

<b>1</b> <b>Ease of Doing Agribusiness</b>	<ul style="list-style-type: none"><li>● Ghana performs well on the USAID's Agriculture Climate Legal and Institutional Framework (AgCLIR) which assesses the quality of the regulatory environment<ul style="list-style-type: none"><li>– The country scores positively on six of 10 indicators, and strongest on “protecting investors”</li></ul></li></ul>
<b>2</b> <b>Recognized Advantage in Cocoa Production</b>	<ul style="list-style-type: none"><li>● Along with gold and timber, cocoa is one of Ghana's “traditional exports,” accounting for two-thirds of all agricultural exports from the country</li><li>● It offers interested agribusiness investors a proof point of the agricultural sector's capacity for large-scale production, even through smallholder farmers</li></ul>
<b>3</b> <b>Proximity to Growing Export Markets</b>	<ul style="list-style-type: none"><li>● Situated on West Africa's coast, Ghana provides easy access to export markets in Europe at a lower cost than elsewhere in Africa</li><li>● The international airport in Accra as well as good and improving air freight connections to Europe, USA and the Middle East mean goods can be shipped in less than a day</li><li>● Ghana's two major seaports in Tema and Tekoradi enable transportation of products by sea</li></ul>
<b>4</b> <b>Investment Incentives for Agribusiness</b>	<ul style="list-style-type: none"><li>● GIPC provides information on incentives available to agribusiness investors<ul style="list-style-type: none"><li>– 5-year tax holiday for agro-processing businesses, from business' commencement</li><li>– 5-year assessment period for carrying farming losses</li><li>– Custom duty exemptions for machinery imported for investment purposes</li><li>– Corporate tax rates of 25% for the first three years of operations</li><li>– Location-based tax rebates for manufacturing industries located in regional capitals</li></ul></li></ul>



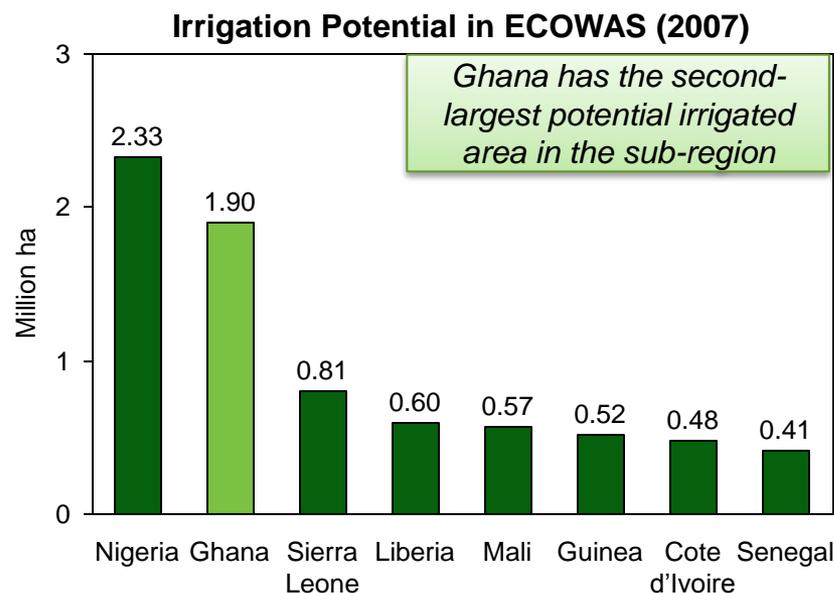
*Ghana's agricultural sector enjoys a number of ecological and climatic advantages that compound its attractiveness as a destination for agribusiness investment*

### 1. Large Tracts of Arable Land



- Ghana has more than 13 million ha of agricultural land, accounting for 57% of the country's total land area
- Of this, only 58% is under cultivation, leaving 5.7 million ha of arable land for development / cultivation

### 2. Access to Water in Lake Volta



- Lake Volta is the world's largest reservoir by surface area and fourth largest by water volume, containing 30 trillion gallons of water
- It forms the basis for Ghana's developing irrigation system and fisheries industry

# Status of Ghana's Agricultural Sector and Landscape for Investment

## Appeal of Ghana Agricultural Sector: Agro-Ecological Advantages



Ghana's consists of six agro-ecological zones defined by distinct climates, vegetation and soil profiles which allow multiple harvesting seasons

### 3. Diverse Agro-Ecological Zones

Zone	1	2	3	Suitable Crops
Rain Forest	2,200	155	100	Cocoa, coffee, oil palm, cashew
Deciduous Forest	1,500	155	90	
Transitional	1,300	210	60	
Coastal Savanna	800	105	50	Soybean, sweet potato, maize, veg, cassava, coconut, rice, sugarcane, live-stock, mango
<b>Northern Savanna</b>				Rice, maize, soybean, millet, sorghum, yam, tomato, mango, cotton, cattle, sheep, goat
Guinea Savanna	1,100	190	n/a	
Sudan Savanna	1,000	155	n/a	

1. Mean Annual Rainfall (mm)

3. Minor Growing Period (days)

2. Major Growing Period (days)

### 4. Multiple Harvesting Seasons & Intercropping

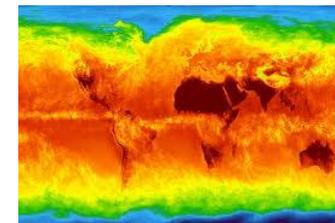


- Rain patters in the rain forest, deciduous forest, transitional and coastal savanna zones allow for two growing and harvesting seasons per year, providing greater crop yields
- Increasing use of irrigation in the northern savanna also creates potential for multiple growing seasons

- Additionally, intercropping of food crops by SHFs has allowed for diverse production

### 5. Favorable Agro-Climatic Conditions

- Ghana's climatic conditions are well-suited for commercial agriculture with temperatures relatively constant throughout the year owing to its near-equatorial location
- The topography is predominantly undulating with slopes of less than 1%



# Status of Ghana's Agricultural Sector and Landscape for Investment

## Appeal of Ghana Agricultural Sector: Agro-Ecological Advantages



*Climate change may pose a threat to Ghana's agro-ecological advantages; however, a number of mitigating actions can be employed to minimize the impact and many are already in place*

### Climate Change Risks

- Climatic projections indicate warming in all regions in Ghana with temperature increases ranging from 1.7 to 2.4 degrees Celsius by 2050
- Precipitation forecasts predict cyclical patterns across the country with high rainfall levels followed by droughts
  - Given Ghana's reliance on rain-fed agriculture and the lack of irrigation facilities, losses in agriculture could reach as much as \$122 million per year by 2050 without precautionary interventions

### Mitigating Actions

- Private sector investors are well-positioned to take advantage of mitigating initiatives being implemented by the Government and its development partners that will address the consequences of climate change as well as other agricultural challenges:
  - **Increased investment in agricultural research and development** to produce adapted crop varieties and livestock breeds, coupled with extension services to increase adoption of these varieties by farmers
  - **Improvements in water storage capacity** to allow excess water in wet seasons to be used in dry seasons as well as the construction of small- to mid-size irrigation facilities to extend water access to dry areas
  - **Increased access to loans and credit for farmers** to support the above-mentioned developments

# Status of Ghana's Agricultural Sector and Landscape for Investment

## Landscape for Agricultural Investment in Northern Ghana



*The Northern Savanna is receiving increasing Government attention due to its food crop production potential and provides a compelling market rationale for private investors*

**Agricultural Contribution to National Total by Agro-Ecological Zone**

Commodity	Coastal Zones	Forest Zones	Southern Savanna	Northern Savanna
<i>Cereals</i>	13.2	24.5	28.3	34.0
<i>Roots</i>	3.8	31.8	32.6	31.8
<i>Other staples</i>	8.9	29.9	31.6	29.6
<i>Fruit (domestic)</i>	8.8	36.5	8.7	46.0
<i>Vegetable (domestic)</i>	8.5	25.7	44.5	21.3
<i>Non-traditional exports</i>	30.4	33.9	25.1	10.6
<i>Cocoa</i>	2.6	68.9	28.5	0.0
<i>Livestock</i>	12.1	35.1	14.2	38.6
<i>Forestry</i>	1.0	68.6	29.1	1.4
<i>Fishing</i>	61.5	10.7	24.4	3.4

MARKET RATIONALE

Comparative Advantage in Crop Production

- Ghana's Northern regions are responsible for the majority of the country's total production of many key commodities, including rice, sorghum, millet, yam, cassava, groundnut, cowpea, soybean, and livestock which are integral to domestic consumption
- With private sector investment in modernization, northern Ghana has potential to feed the country

Existence of Market-Development Nucleus

- The Integrated Tamale Fruit Company (ITFC) is a large horticulture producer headquartered in Tamale and active throughout northern Ghana
- It serves as an anchor for the development of smallholder production and a source of knowledge for developing agribusiness support services

# Status of Ghana's Agricultural Sector and Landscape for Investment

## Landscape for Agricultural Investment in Northern Ghana



*The Northern Savanna is receiving increasing Government attention due to its food crop production potential and provides a compelling market rationale for private investors*

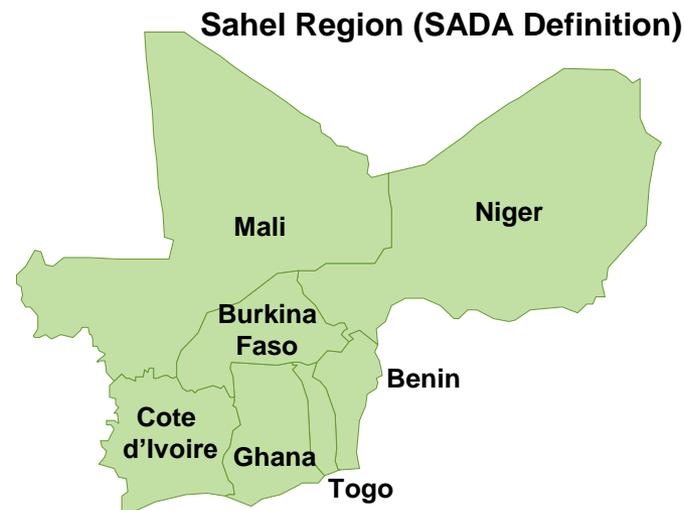
### MARKET RATIONALE

#### Availability of Arable Land

- Northern Ghana has large tracts of well-endowed land that can support intensified agriculture modernization and at 100,000km<sup>2</sup>, it accounts for ~40% of the country's land area
  - Of this, 6.1 million ha is agricultural land but only 25% was under cultivation as of 2007
  - A network of river basins (surrounding the Volta and Sissili rivers) and fertile valleys (Fumbisi, Nasia, Tamme, Katanga, Naboggu, and Soo) increase the potential of this land
- Low population density enables production growth through land expansion and production intensification.
- Typical SHF landholdings in Ghana are ~2 ha but this increases to 2.7–5.6 ha in the north

#### Access to Sahel Markets

- In addition to producing key staple crops for domestic consumption, northern Ghana has the potential to serve as a center for commercial agriculture to export to the markets of the Sahel region
  - The regions had a combined 2011 GDP of over \$62 billion (excluding Ghana)
  - Northern Ghana is well suited for trade with these countries due to proximity, a better climate for production, and similarities in food culture





*Through the Government's commitment to the development of the SADA zone, private sector investors can expect significant government support for investment in northern Ghana*

### The Savannah Accelerated Development Authority Strategy

- **There is a wide gap in economic development between southern and northern Ghana** due to high economic activity in the south, which has been spurred by development across all sectors
  - In agriculture specifically, modernization<sup>1</sup> in the south is far ahead of what has been seen in northern Ghana
- **In response, the Government and its development partners are emphasizing development of the north** through the SADA strategy which is based on a vision of a “Forested and Green North,” and identifies two critical pillars
  - 1. Modernization of agriculture**, which encompasses six entry points for poverty reduction in the SADA zone:
    - Marketing-based out-grower systems to propel the private sector and engage producers to respond to demand
    - Tree crop production as a source of income to empower the poor and enhance their capacity to invest in production activities; intercropping with legumes will ensure productivity while waiting for tree crops to mature
    - Staple crop productivity improvement to increase competitiveness in supplying the sub-regional market
    - Horticulture production to diversify into export agriculture and realize significant poverty reduction
    - Semi-intensive production of livestock to diversify farm income sources in areas where land for crops is scarce
    - Development of agro-processing as a source of demand for raw materials and to contribute to gender equity since this is typically a women-centric activity
  - 2. Private sector development**
    - Positioning the SADA zone as a competitive economic zone in the Sahel region
    - Encouraging private sector firms investing in value-addition to export and market high-value fruits and vegetables
    - Empowering northern Ghanaians to participate in commercial agriculture through training and business development services, including the creation of a venture capital facility
- **Private sector investors can therefore expect to receive Government support for developments in the region**

Note: <sup>1</sup> Improved agronomic practices, increased access to quality inputs, mechanization, and irrigation

Source: SADA Strategy and Work Plan, December 2010, citing Millennium Development Goals progress; World Bank Poverty Assessment



Executive Summary

Part 1: Ghana Macroeconomic Overview

Part 2: Growth of Ghana's Commercial Food Market

Part 3: Status of Ghana's Agricultural Sector and Landscape for Investment

**Part 4: Investment Opportunities in Ghanaian Agriculture**

Part 5: Investment Challenges and Government Responses

Appendix



Value chains that offer strong investment opportunities in the short, medium, and long term were identified in the Ghanaian agricultural sector

### Investment Opportunities in Ghanaian Agriculture<sup>1</sup>

SHORT  
TERM

Cassava



Rice



Maize



MEDIUM  
TERM

Soybean



Poultry



Cashew



Sorghum



LONG  
TERM

Rice Nucleus Farm,  
Bamboi



Maize, Soybean &  
Rice Farm, Tono



Rice Block Irrigated  
Farms, Lower Volta



Rice & Banana Farms,  
Accra Plains



Maize & Soybean  
Farm, Branam



Note: <sup>1</sup> The methodology that was employed to identify short and medium term opportunities is detailed in the appendix  
Source: Monitor Analysis; AgDevCo



*Cassava presents attractive investment opportunities due to its role as a key carbohydrate for households throughout sub-Saharan Africa and, more recently, as an ingredient for breweries*

Cassava



### MARKET POTENTIAL

- In sub-Saharan Africa, ~500 million people per day consume cassava as a source of carbohydrate; breweries are also beginning to use processed cassava as a beer input
  - From 2005 to 2009, **local and regional consumption of cassava increased by 6.4% and 0.3% per year**, respectively
  - Given its adaptability to a variety of climate conditions, the crop has the potential to play an important role in food security on the continent in the future
- **Global consumption has grown steadily at 3.4% per year**, driven by the use of cassava as a starch substitute for crops such as potatoes and wheat

### COMPETITIVENESS

- Ghanaian cassava **shows strong competitiveness with yields that are 20–30% higher than regional and global averages** and at \$144/MT, Ghanaian prices are much lower than regional (**\$231/MT**) and global (**\$406/MT**) averages

### INVESTOR OUTLOOK

- Investors showed **moderate interest** in this value chain with their focus primarily on processing

### SOCIAL IMPACT

- Cassava investments stand to **improve incomes of ~170,000 SHFs who cultivate the crop** by providing a market for their produce and preventing post-harvest losses of this perishable root
- Cassava **accounts for ~20% of agricultural GDP**



*~10% of SHFs involved in cassava production are based in the North; investment opportunities in this value chain involve processing to increase the shelf-life of this perishable crop*

### **NORTHERN LINKAGE**

- **Direct linkage to ~17,000 SHFs in the Northern region**, primarily in the cassava-growing districts of Damango, Mbimbila, Yene, Ankwanta, and Salaga

### **ILLUSTRATIVE INVESTMENT OPPORTUNITIES**

- Installation of mobile autonomous processing units that enable intermediary processing of cassava into cake at harvesting sites to prevent post-harvest losses
- Introduction of flash-drying technology to improve efficiency of domestic processing methods and subsequently reduce costs of production

**Cassava**





*Growth in rice consumption is expected to continue as increasing urbanization and income levels drive consumer preferences from maize to rice as a source of starch*

### Rice



#### MARKET POTENTIAL

- **Ghanaians consume ~862,000 MT of rice per year** and from 2005 to 2009, total annual domestic consumption of rice grew 3.6% per year while regional and global demand grew 6.2% and 1.9% per year respectively
  - More affluent consumers prefer aromatic, straight-milled rice, while local, non-aromatic, parboiled rice is considered to be of inferior quality and consumed by poorer households
- Rice imports, primarily from Southeast Asia and the United States, account for more than 50% of total consumption as domestic supply is not yet able to meet demand

#### COMPETITIVENESS

- Ghanaian rice **yields are 26% higher than regional averages but lag behind global yields**, which are at least 1.5 times higher
- At \$507 per metric ton, **local prices are 2% higher than global prices even though local rice is of an inferior in quality**
  - 60% of local rice is parboiled to repair cracked and brittle grains and reduce breakage during milling, creating additional costs to processors without providing a premium over straight-milled rice imports from Southeast Asia
- From a regional perspective, **Ghanaian farm-gate prices are ~20% higher than those found in other West African countries** partly due to the fact that local rice is generally of a better quality than the rice produced throughout the West African region



*Rice provides investment opportunities in import substitution and has potential for significant social impact in the north*

Rice



### INVESTOR OUTLOOK

- **High interest** in rice production due to the potential for import substitution in the domestic market
  - The Indian group Avnash Industries Ghana Ltd. has plans to set up three rice mills in Tamale, Bolga, and Pombussi over the next 2 years, with a combined capacity of 5.4 million MT/year
    - The company is looking to contract out-growers to supply rice to their processing facilities

### SOCIAL IMPACT

- Investments in rice have the **potential to increase incomes for the 80,000 farmers** who currently cultivate this crop as well as the thousands of women in northern Ghana who take part in the paddy parboiling process
- Female empowerment is also expected as women are reported to dominate the trade and on-farm labor of rice.

### NORTHERN LINKAGE

- With **northern Ghana accounting for 60 to 70% of rice production**, investments in this value chain stand to play a role in alleviating poverty in these regions

### ILLUSTRATIVE INVESTMENT OPPORTUNITIES

- Commercial production of rice, soybean, and maize on a 3,000 ha nucleus farm with accompanying out-grower scheme involving 6,000 SHFs on 10,000 ha of land in Ejura, Brong-Ahafo



*Growing domestic consumption and the use of maize as feed stock for the poultry market point to a number of opportunities for investment in this value chain*

### Maize



#### MARKET POTENTIAL

- Total annual domestic maize consumption grew at **8% per year from 2005 to 2009** and **currently stands at 1.8 million MT** which is met almost entirely by local production
  - 63% is consumed by humans: decreases in per capita consumption due to urban households' preference for rice have been offset by population growth
  - 23% serves as a key input into the animal feed market: the poultry industry, dominated by 'layers' is the largest consumer of animal feed maize
    - While white maize is more widely produced, yellow maize is preferred in this market segment as it contributes to a more pronounced yolk color
  - The remaining 14% is used in industrial processing, e.g. beverages, flour
- Regional and global consumption is growing by 6.6% and 3.6% per year, respectively
  - Stringent export policies in times of food shortage limit access to export markets.

#### COMPETITIVENESS

- Ghanaian maize competes favorably within the West African region: **yields are on par with regional yields** at 1.9 MT/ha and farm-gate prices, at \$384/MT are only 2.7% higher
- **It has not yet achieved global competitiveness:** global yields are approximately three times higher than domestic yields, while local farm-gate prices exceed global averages by 22%
  - There is potential to improve yields by more than 20% and reduce costs of production through use of improved seeds and fertilizers



*Investors in this value chain are primarily involved in processing and cultivation; there is significant potential for social impact with 320,000 SHFs cultivating this crop*

### Maize



#### INVESTOR OUTLOOK

- **High interest** in the maize value chain with interest / activity concentrated in processing, primary production and less so in the supply of improved seeds

#### SOCIAL IMPACT

- Investments in maize cultivation stand to improve incomes of the ~320,000 smallholder farmers involved in maize production
  - Includes female farmers who manage their own fields and resulting harvests

#### NORTHERN LINKAGE

- Approximately 25% of maize produced in Ghana comes from the SADA zone

#### ILLUSTRATIVE INVESTMENT OPPORTUNITIES

- Import substitution of yellow maize for poultry feed through the expansion of commercial yellow maize production to 10,000 ha in the Volta Region
- Expansion of operations of high-yield maize seed producers in northern Ghana
- Intercropping of maize with cotton to optimize innovative cultivation techniques that have been developed to rehabilitate soil that has hardened due to inefficient plowing practices



*Rising incomes have seen an increase in demand for animal protein such as poultry although the high prices of soybean, a key poultry feed input, make local production uncompetitive*

### Soybean



#### Positive Rationale

- **Market Potential:** Domestic consumption grew by 26% from 2005–2009, while regional and global consumption followed with 2.3% and 0.7% growth p.a. respectively
- **Competitiveness:** Ghana's yields are 46% higher than regional average of 1.3MT/ha
- **Social Impact:** About 110 thousand farmers are involved in the production of soybean
- **Investor Outlook:** High Interest
- **Northern Linkage:** ~94% soybean production is from the northern regions

#### Negative Rationale

- **Competitiveness:** Production volumes in Cote d'Ivoire (688,000 MT) and Nigeria (3.4 million MT) are much higher, suggesting potential scale benefits; Government purchase of soybean via NAFCO has led to higher prices in Ghana than region and corresponded with increase in imported soybean cake from Brazil

### Poultry



- **Market Potential:** With rising incomes, local consumption has grown by ~13.9% p.a. while regional and global grew at 6.9% and 4.1% respectively. Imports are ~62% of consumption so there is high potential for import substitution
- **Competitiveness:** Ghana's farm gate prices (~\$2600/MT) are 27.8% lower than region
- **Investor Outlook:** Moderate Interest
- **Northern Linkage:** Indirect linkage as soybean and maize are feed components

- **Competitiveness:** Ghana's prices are uncompetitive against global markets (with Brazil prices of \$1,327/MT and USA prices of \$1,380/MT). Ghanaian broiler chicken is not as tender as imports. High costs of feed ingredients make domestically produced chicken costly



While there is high demand for cashew and sorghum, Ghanaian farm gate prices are much higher than regional averages, hindering the country's competitiveness

### Positive Rationale

### Negative Rationale

#### Cashew



- **Market Potential:** Positive growth in consumption and production (with marginally higher growth in consumption over production)
- **Social Impact:** 170,000 SHFs are involved in cultivation of cashew
- **Investor Outlook:** Moderate Interest
- **Northern Linkage:** Direct linkage through northern production

- **Market Potential:** Recent decline in consumption with significant volatility year to year
- **Competitiveness:** Ghana's farm-gate prices cannot compete regionally; Ghanaian prices are ~44% higher than West African average
- **Social Impact:** Potentially negative environmental impact from high increases in cultivation; e.g., loss of habitat and reduction in biodiversity

#### Sorghum



- **Market Potential:** Ghanaian sorghum consumption has increased by ~17% p.a.
- **Social Impact:** Mainly cultivated by SHF's
- **Investor Outlook:** Moderate Interest
- **Northern Linkage:** ~98% of sorghum is produced from northern regions

- **Market Potential:** Regional and global consumption is on the decline, and Ghana's production is growing faster than domestic consumption
- **Competitiveness:** Ghana's sorghum prices (\$470/MT) cannot compete with those of regional markets (\$334/MT) especially as neighboring Burkina Faso's prices (\$218/MT) are less than 50% of Ghanaian prices



*A number of opportunities have been identified in these value chains either in serving the domestic market primarily through import substitution, or serving the export market*

### Illustrative Investment Opportunities

#### Soybean

- Soybean cultivation coupled with processing to produce soybean meal and soybean oil to substitute imports of raw and processed soybean products

#### Poultry

- High potential for import substitution of broilers, as imports currently account for roughly 62% of consumption
  - Costs of production would need to be reduced significantly in order for locally produced poultry to compete with imports; this will require scaling up production of maize and soybean-based animal feed

#### Cashew

- Development of efficient cashew sourcing networks across Ghana in order to supply processors in local and export markets

#### Sorghum

- Expansion of sorghum production in order to meet demand from local breweries and animal feed manufacturers



*In addition to promoting opportunities in specific value chains, the Government and donors have identified locations where conditions are ripe for commercial agriculture production*

### Details of Investment Opportunity

#### Rice Nucleus Farm, Bamboi



- 4,000 ha commercial nucleus farm engaging 600 out-growers for irrigated rice production and processing
- Expected to yield 44,000 MT of paddy and 33,000 MT of milled rice per year, generating average local farmer incomes of \$2,000 per year
- **Project Cost:** \$46 million

#### Maize, Soybean & Rice Farm, Tono



- Establishment of a 2,600 ha nucleus farm hub to provide extension services, inputs, and processing to farmers in an existing Government irrigation scheme
- Expected to generate \$2,500 per farmer for ~585 SHFs through annual production of 20,000 MT of maize, soybean, and rice, as well as 720 MT of seed crops.
- **Project Cost:** \$22 million

#### Rice Block Irrigated Farms, Lower Volta



- 500 SHFs will receive flood irrigation facilities and a rice mill on a 1,400 ha site in order to grow rice in collaboration with commercial rice farmers in the area
- Expected to generate \$1,600 per ha for the farmers involved, through production of 14,000 MT of paddy and 9,000 MT of milled rice per year
- **Project Cost:** \$19 million



*In addition to promoting opportunities in specific value chains, the Government and donors have identified locations where conditions are ripe for commercial agriculture production*

### Details of Investment Opportunity

#### Rice & Banana Farms, Accra Plains



- The Accra Plains Gravity-Fed Irrigation Project (APGIP) will provide irrigation to 7,200 ha of land to increase production of rice by 44,000 MT per year
  - 600 ha of this land would be used for bananas.
- Initial projections suggest that SHFs will earn \$1,700 per ha in income
- **Project Cost:** \$96 million

#### Maize & Soybean Farm, Branam



- 3,500 ha of land will be used for the mechanized cultivation of maize and soybean in rotation for Ghana's largest oilseed processor, which will in turn supply the poultry industry
  - 500 ha of this land will be used for seed crops under a center pivot irrigation system
- Expected to achieve annual production of 21,000 MT and increase the incomes of 300 farmers by roughly 200% to \$1,000 per ha
- **Project Cost:** \$22 million

- *In addition to the projects detailed above, interventions through the Ghana Commercial Agriculture Project (GCAP) will be leveraged to support investments in the Accra Plains and SADA zone*
  - *PPPs, complementary public investments, and technical assistance*
  - *Matching grants for startup agribusinesses and enterprises that demonstrate strong commercial viability and are founded on inclusive business models involving SHFs*



Executive Summary

Part 1: Ghana Macroeconomic Overview

Part 2: Growth of Ghana's Commercial Food Market

Part 3: Status of Ghana's Agricultural Sector and Landscape for Investment

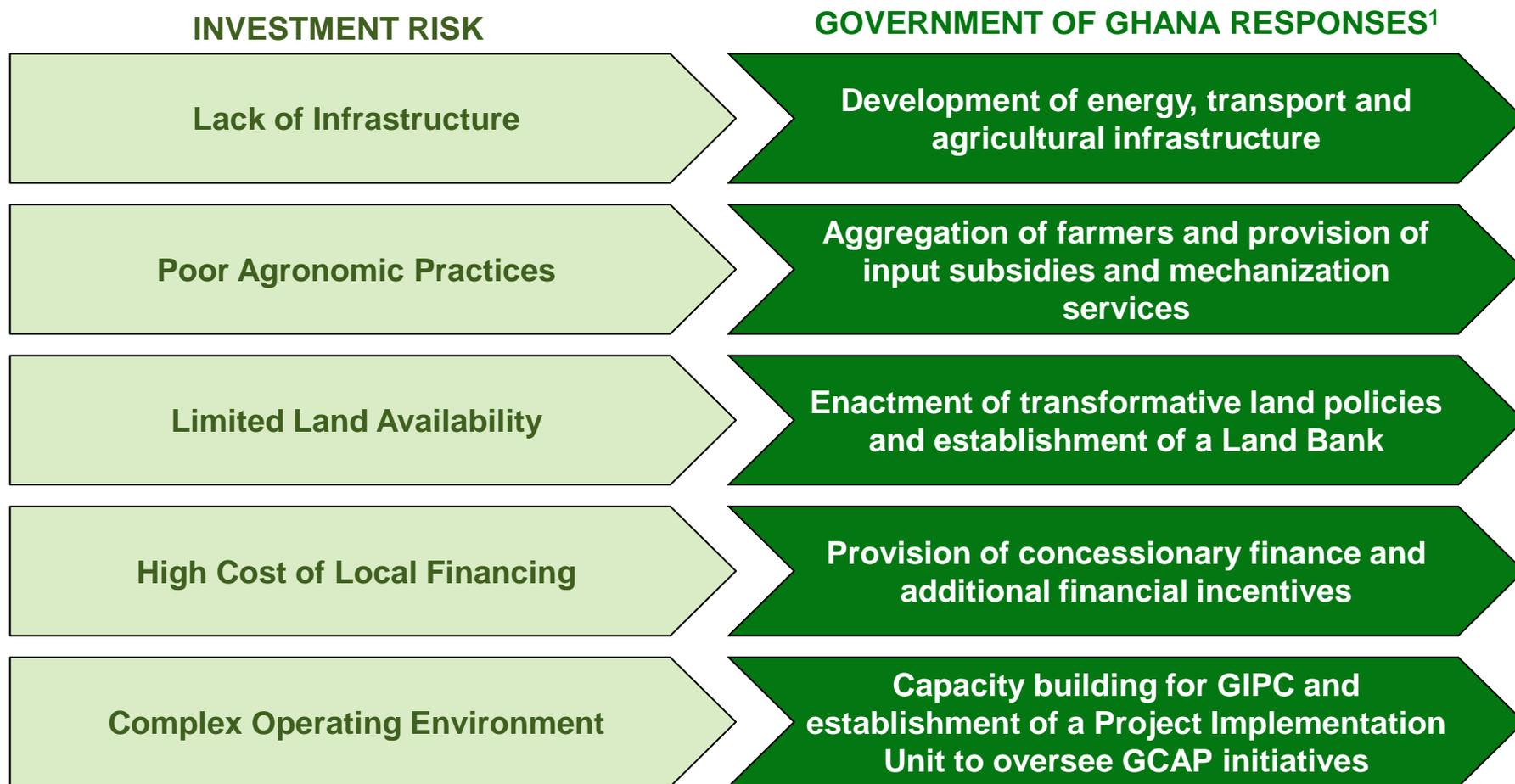
Part 4: Investment Opportunities in Ghanaian Agriculture

**Part 5: Investment Challenges and Government Responses**

Appendix



*Either independently or in collaboration with development partners, the Government has taken steps to identify critical investment risks and develop strategies and programs to address them*



Note: <sup>1</sup> Projects cited are illustrative of Government of Ghana efforts and are not intended to provide a comprehensive view of all projects that are currently underway



*The Government is currently engaged in a number of projects to develop energy, transport and agricultural infrastructure to address the constraints that the absence of these facilities present*

### Investment Challenges

- **Energy:** Electricity in Ghana is at least 30% more expensive than in the Euro region, USA and South Africa; sporadic power outages also cause significant productivity losses which had a value equivalent to 2% of GDP in 2006
- **Transport:** Limited road networks linking production opportunities with markets increase the cost of transportation
- **Ports:** Congestion and inefficiencies at ports result in considerable delays in clearing goods
- **Agricultural infrastructure:** Underdeveloped irrigation facilities create a dependency on inefficient rain-fed production while a lack of community storage facilities results in increased post-harvest losses

### Illustrative Government of Ghana Responses

Focus Area	Description of Initiatives
<b>Energy</b>	\$850 million has been allocated to the Western Corridor Gas Infrastructure Project through a \$3 billion facility from China Development Bank (CDB)
<b>Transport</b>	\$274 million has been allocated to developing highways, feeder roads and trunks roads through a GoG-MiDA partnership; the Accra-Tema sub-urban railway and the Western railway line are being rehabilitated; a Takoradi Port Expansion project is being undertaken through the CDB facility
<b>Agricultural</b>	(i) Under GCAP, \$90.8 million has been committed to expanding irrigation to 7,000 ha in the Accra Plains while a portion of the \$64.3 million investment in the SADA zone will be used for storage infrastructure; (ii) Contracts have been awarded to develop two dams at Ave-Afiadenyegba and Dawa; (iii) AFD and the GoG have allocated \$36.1 million to develop irrigation in the Afram Plains



*Government initiatives targeted at improving the often poor agronomic practices employed by SHFs include input subsidies, farmer aggregation and mechanization*

### Investment Challenges

- Ghana's agricultural sector relies on SHFs for 80% of total production; SHFs operate on less than 2 ha each, limiting the scale available, increasing the cost of securing inputs, and reducing the reliability of produce quality
- Unsophisticated farming practices employed by many of these farmers, e.g., limited adoption of improved inputs and mechanization, result in low yields and high costs of production
  - As a result, SHFs are not always able to guarantee supply of produce in the required quality and quantity

### Illustrative Government of Ghana Responses

Initiative	Description
<b>Seeds</b>	(i) New seed laws permit private investors to import certified seed through the appropriate regulations; (ii) MoFA is working with the IFDC to strengthen Ghana's agro-input dealer network; (iii) Future seed subsidies are being considered and formulated
<b>Fertilizer</b>	The GoG has spent more than \$150 million on fertilizer subsidies since 2008, increasing participating farmers' yields by an average of 131%
<b>Mechanization</b>	At least 84 Agricultural Mechanization Service Centers have been established with financial support from the GoG to serve 194 farmers on 786 acres
<b>SHF Aggregation</b>	Under the Block Farms Program, at least 14,400 farmers have been aggregated on blocks of ~50 acres with 25 farmers each



*The Land Administration Project and the Land Bank under GCAP are examples of Government responses to the complexities associated with acquiring land for commercial production*

### Investment Challenges

- Identifying and acquiring large tracts of land suitable for commercial production is difficult due to the fragmented nature of landholdings as well as unclear ownership
- Once land has been acquired, clearing cannot commence until local and customary rulers have been consulted
- Investors also fear land disputes and unfavorable land policies (e.g., nationalization) that could result in investment losses

### Illustrative Government of Ghana Responses

Initiative	Description
<b><i>Land Administration Project</i></b>	LAP is a 15–20 year project that is being undertaken to establish land policy and institutional reforms that lay a foundation for a sustainable, decentralized land administration system. The first phase was conducted in partnership with the World Bank; some key achievements were: initiation of land titling, enabling land owners to develop their land and use it as collateral; decentralization of the deeds registry, making it easier to access land and reducing registration time from three years to two months; compilation of 58,000 land records by 38 new Customary Land Secretariats
<b><i>Land Bank</i></b>	Under GCAP, a Land Bank is being established to assist investors in identifying, acquiring, and registering land



*A number of vehicles that provide concessionary financing to the agricultural sector have been established to address the high costs of financing that local investors face*

### Investment Challenges

- High costs of the limited financing available for agriculture are a significant limitation for local investors who do not always have access to foreign capital
  - Commercial banks typically provide short-term loans (<3 years) at interest rates as high as 25%–35%
- Investors cite financiers' lack of technical agricultural expertise as the cause for high levels of risk being associated with agribusinesses while financiers attribute it to investors' inability to prove the viability of their business, e.g., through robust business plans, historic financial records or demonstration of capable management teams

### Illustrative Government of Ghana Responses

Initiative	Description
<b><i>Provision of Concessionary Finance</i></b>	The Government has mandated a number of financial institutions to provide concessionary finance: <ul style="list-style-type: none"> <li>• Export Development &amp; Agriculture Investment Fund collects revenues from export excises and lends money to commercial banks at ~2% to enable on-lending to agribusinesses at 12%–15%</li> <li>• Venture Capital Trust Fund was tasked with providing equity financing to SMEs</li> <li>• Out-Grower Value Chain Fund is operated through a partnership with KfW and makes financing available to FBOs, technical operators, and financial operators</li> </ul>
<b><i>Financial Incentives</i></b>	Additional incentives include tax holidays, duty exemptions on capital goods and accelerated depreciation for plants and machinery



*The establishment of a Project Implementation Unit as well as the capacity-building of the GIPC will go a long way towards simplifying the process of investing in agriculture*

### Investment Challenges

- Investors face difficulty in locating reliable information to evaluate the attractiveness of opportunities in the agricultural sector (e.g., demand and pricing data)
- Where opportunities have been identified, high levels of bureaucracy make it difficult to determine the rules related to pursuing investments (e.g., policies around company, tax, and duty registrations)
- Slow execution of processes by the relevant agencies makes opportunities less attractive to investors

### Illustrative Government of Ghana Responses

Initiative	Description
<b>GCAP</b>	Component 1 of GCAP will commit funds to improve the enabling environment for agriculture investment, including strengthening the capacity of the Ghana Investment Promotion Centre as well as establishing a Project Implementation Unit to provide support to investors interested in the Ghanaian agricultural sector



Executive Summary

Part 1: Ghana Macroeconomic Overview

Part 2: Growth of Ghana's Commercial Food Market

Part 3: Status of Ghana's Agricultural Sector and Landscape for Investment

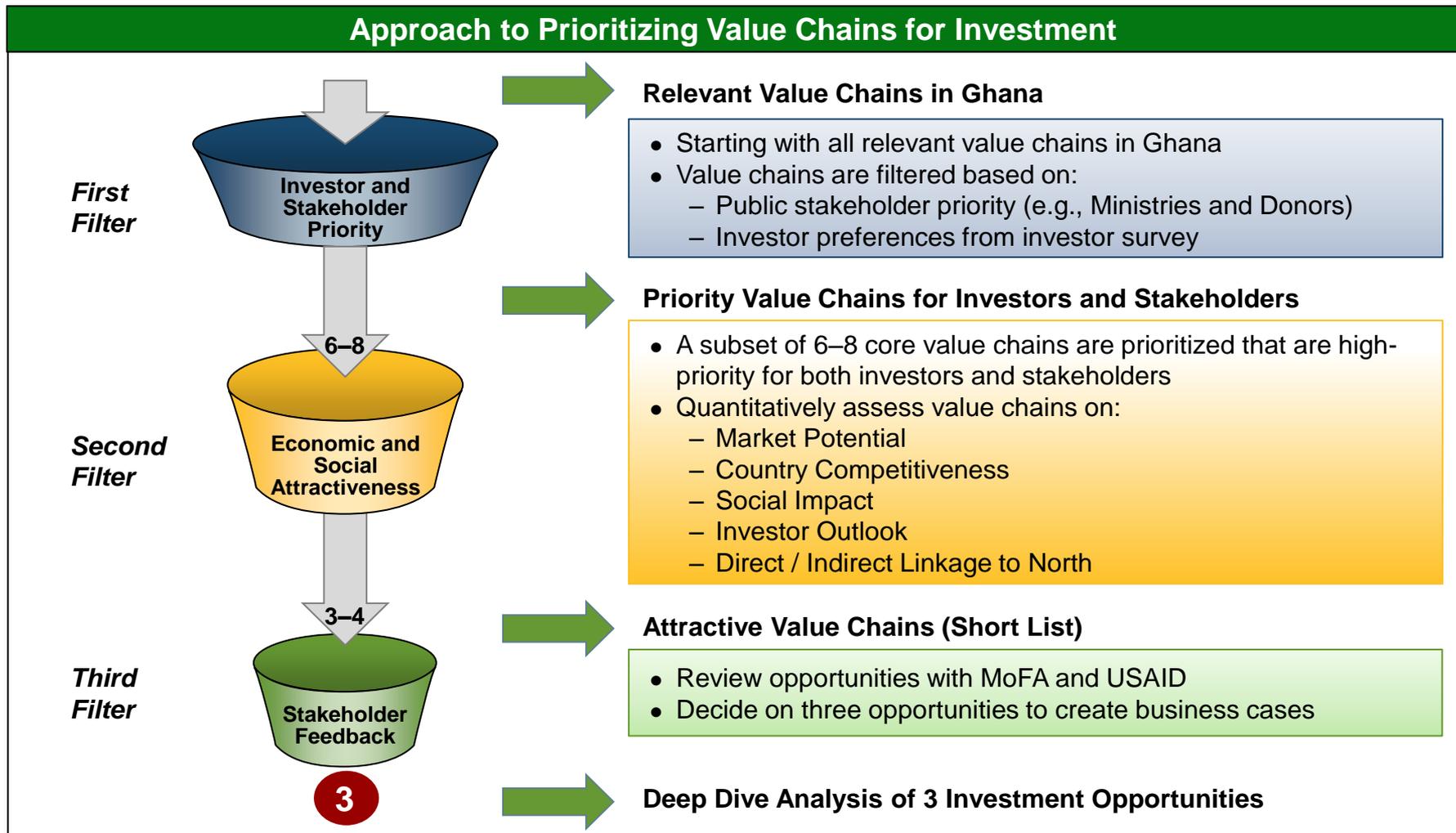
Part 4: Investment Opportunities in Ghanaian Agriculture

Part 5: Investment Challenges and Government Responses

## Appendix



Short and medium term opportunities were identified by filtering value chains through three sets of criteria



Filter One Prioritization: Methodology



The first filter of analysis incorporated perspectives from the public and private sectors to determine value chains that are attractive to both groups of stakeholders

**Filter One Methodology**

<b>Investor Preference</b>	<i>High</i>	▲ Yes	▲ Yes	▲ Yes
	<i>Medium</i>	▼ No	▲ Yes	▲ Yes
	<i>Low</i>	▼ No	▼ No	▼ No
		<i>Low</i>	<i>Medium</i>	<i>High</i>
		<b>Stakeholder Priority</b>		

65 agribusinesses and investors were surveyed and an additional 12 donors and government agencies were interviewed to obtain an understanding of where their priorities lie. Value chains that passed this filter of analysis were those that received medium-high interest from private sector investors as well as donors and government agencies

## Filter One Prioritization: Results



Based on investors' expressed preferences, seven of the initial 22 value chains were selected for further analysis

### Filter One Results

	Value Chains	Investor Priority	Stakeholder Priority	Selected for Next Stage
Food Crops	Maize	HIGH	HIGH	▲ Yes
	Rice	HIGH	HIGH	▲ Yes
	Soybean	HIGH	HIGH	▲ Yes
	Sorghum	MID	MID	▲ Yes
	Cassava	MID	HIGH	▲ Yes
	Plantain	LOW	MID	▼ No
	Yam	LOW	LOW	▼ No

	Value Chains	Investor Priority	Stakeholder Priority	Selected for Next Stage
Fruit and Vegetable	Cashew	MID	MID	▲ Yes
	Pineapple	LOW	MID	▼ No
	Citrus	LOW	MID	▼ No
	Banana	LOW	LOW	▼ No
	Mango	LOW	HIGH	▼ No
	Tomato	LOW	MID	▼ No

	Value Chains	Investor Priority	Stakeholder Priority	Selected for Next Stage
Industrial Crops	Poultry	MID	MID	▲ Yes
	Oil palm	HIGH	MID	▼ No
	Sugar	LOW	LOW	▼ No
	Cotton	LOW	LOW	▼ No
	Jatropha	LOW	LOW	▼ No
	Sheanut	MID	LOW	▼ No
	Livestock	LOW	LOW	▼ No
	Fisheries	LOW	LOW	▼ No

	Agro-Inputs	LOW	MID	▼ No
--	-------------	-----	-----	------

Note: <sup>1</sup> Oil palm not considered relevant for opportunity identification due to lack of contribution to food security

Source: Private Sector Interviews; Stakeholder Discussions; Monitor Analysis



*Under filter two each of the seven value chains was examined in terms of market potential, country competitiveness, investor perspective, social impact and linkage to the North*

### Filter Two Methodology

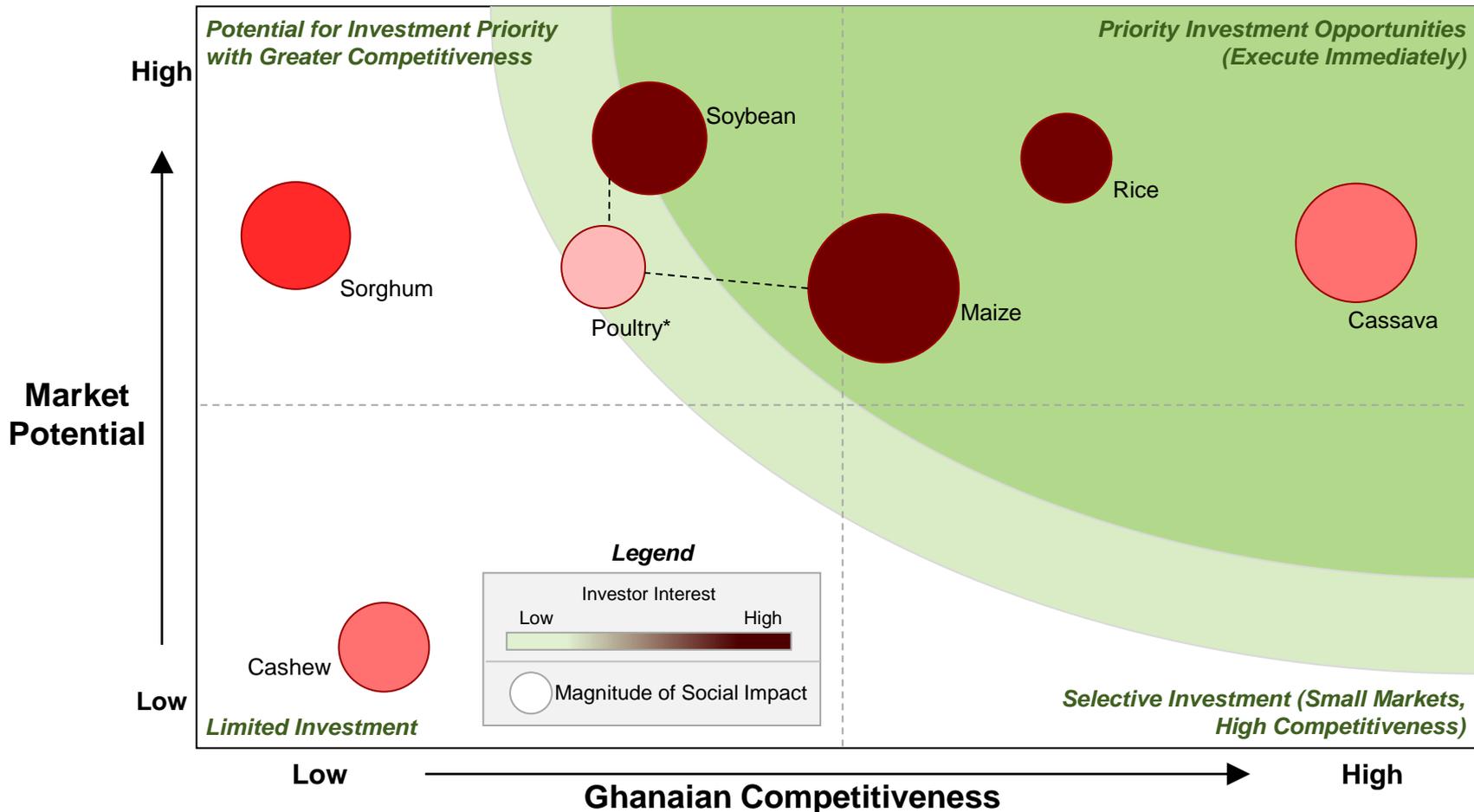
Criteria	Indicators	Methodology
<b>1</b> <b>Market Potential</b>	<ol style="list-style-type: none"> <li>Local Market Potential</li> <li>Regional Market Potential</li> <li>Global Market Potential</li> </ol>	<ul style="list-style-type: none"> <li>Calculate consumption indicator: <math>Consumption = Productions + Imports - Exports</math></li> <li>Project additional production volume required by 2015 (above 2011 estimate) by determining average growth between 2005–2009 and using 2009 production as baseline</li> <li>Use production and export data to calculate and assign weights to domestic, regional, and global figures</li> </ul>
<b>2</b> <b>Ghana's Competitiveness</b>	<ol style="list-style-type: none"> <li>Ghana's relative productivity (yield, MT/ha)</li> <li>Ghana's indicative cost efficiency (producer prices, \$/MT)</li> </ol>	<ul style="list-style-type: none"> <li><b>For all value chains:</b> Evaluate yields and rank relative competitiveness within the regional and global markets</li> <li><b>For domestic-market oriented value chains:</b> acquire farm gate prices per unit (e.g., MT) and calculate percentage difference (Ghana and region)</li> <li><b>For export-market oriented commodities:</b> acquire export prices per unit and calculate percentage difference (Ghana, region and global)</li> </ul>
<b>3</b> <b>Social Impact</b>	<ol style="list-style-type: none"> <li>Estimated impact on smallholder farmers and gender equity</li> </ol>	<ul style="list-style-type: none"> <li>From value chain analyses and interviews with private sector actors and GoG / donor stakeholders, evaluate number of farmers impacted in value chain, importance of commodity to local diet, and impact on gender equity</li> <li>Assess social impact on 1–4 rating: 1) None / marginal; 2) Low; 3) Moderate; 4) High</li> </ul>
<b>4</b> <b>Investor Outlook</b>	<ol style="list-style-type: none"> <li>Preferences shared with current or potential private sector players</li> </ol>	<ul style="list-style-type: none"> <li>Sum up commodity preferences from private sector interviews and separate into three groups by low, moderate, and high investor interest</li> </ul>
<b>5</b> <b>Linkage to North</b>	<ol style="list-style-type: none"> <li>Direct or indirect linkage to Northern Savannah Region</li> </ol>	<ul style="list-style-type: none"> <li>Identify number of farmers in Northern Savannah growing commodity and proportion of national production</li> </ul>

## Filter Two Prioritization: Results (Criteria 1-4)



Soybeans and rice emerged as having the greatest market potential while cassava had the highest competitive advantage; investors were most interested in soybean, rice and maize

**Filter Two Results**

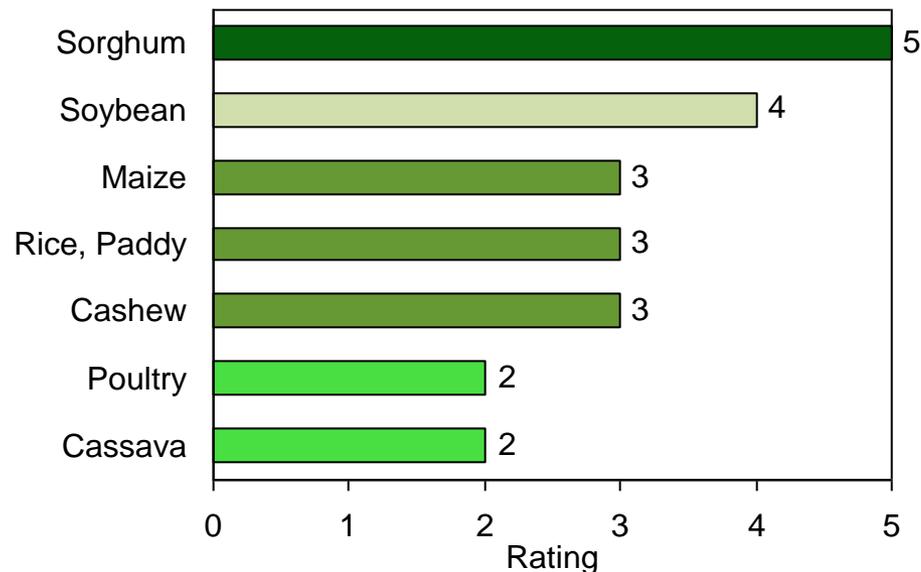


Note: Soybean competitiveness is affected by Government farm-gate price floor; All seven listed value chains have direct and/or indirect impact on SHF's in the North; Poultry is based on chicken meat and has strong linkages to maize and soybean value chains as these are primary components in poultry feed  
 Source: FAOSTAT; Various Value Chain Analyses; Investor Interviews and Stakeholders; Monitor Analysis



*Sorghum, soybeans, maize and rice had the highest ratings in terms of their contribution to economic development in the North*

### Linkage to the North



- Commodities were rated high, medium, and low for their compatibility with the Northern Savanna
- Data was acquired on production area or volumes per region for each value chain and the proportion attributable to the north was determined
- The number of farmers in the northern region was then estimated for each value chain and a rating was determined by comparing the estimated number of northern farmers in each value chain to the value chain with the highest number

Overall, through the analysis of market potential, country competitiveness, investor interest, social impact and linkage to the North, **maize, rice and cassava were prioritized as value chains that present attractive opportunities for investment in the short-term** while leveraging the development of the North. Opportunities in **soybean, sorghum, cashew and poultry present opportunities in the medium-term**: while attractive, they will require various developments in order to improve competitiveness and become viable.



*Cassava, maize, and rice emerged as offering the strongest investment opportunities in the short-term while soybean, poultry, cashew and sorghum offer opportunities in the medium-term*

Short-Term

### Cassava



Selected for Further Analysis

### Rice



Selected for Further Analysis

### Maize



Selected for Further Analysis

Medium-Term

### Soybean



Not Selected for Further Analysis

### Poultry



Not Selected for Further Analysis

### Cashew



Not Selected for Further Analysis

### Sorghum



Not Selected for Further Analysis



*Under filter three, a long list of investment opportunities in maize, rice and cassava were identified through discussions with 50+ stakeholders in the private and public sectors*

Value Chain	Investment Opportunity	Geographic Focus	Greenfield / Current	Investment Required (est.)
Cassava	Installation of mobile autonomous processing units for intermediary cassava processing	Throughout northern regions	Current business operating in Nigeria, looking to enter Ghana	<b>\$5–6 million</b>
Maize, Soybean	Expansion of commercial maize and soybean production farm to add 4,100ha of irrigated production, with SHFs organized in out-grower scheme	Near Tamale	Current business seeking capital for expansion	<b>\$15–20 million</b>
Maize, Rice	Maize, rice, soybean SHF aggregator seeking private investment for 65% equity stake in company	Tamale	Current business seeking equity investment	<b>\$2–3 million</b>
Maize	Processor looking to backward integrate into commercial production of 60-65K MT of soybean and 100K MT of yellow maize	Near Techiman	Current business seeking capital for backward integration into production	<b>~\$5 million</b>
Rice	Expansion of rice production near Kumasi and establishment of mechanization services business	Near Kumasi	Current business seeking capital for expansion	<b>\$3–5 million</b>



*Under filter three, a long list of investment opportunities in maize, rice and cassava were identified through discussions with 50+ stakeholders in the private and public sectors*

Value Chain	Investment Opportunity	Geographic Focus	Greenfield / Current	Investment Required (est.)
Maize	Expansion of commercial maize production in Volta Region, with 10,000 ha currently under lease	Volta Region	Startup business seeking capital	<b>\$7–10 million</b>
Maize, Rice, Soybean	Commercial production of soybean, maize, and rice on 3,000 ha nucleus farm with accompanying out-grower scheme involving 6,000 SHFs on 10,000ha	Ejura, Brong Ahafo (Transitional Belt)	Startup business seeking capital	<b>\$5 million</b>
Maize	Input supplier seeking to forward integrate into maize processing for human consumption and animal feed	Source raw materials from northern regions	Current input supplier seeking capital for forward integration	Investment opportunity still in conceptual design phase
Maize	Expansion capital for high-yield maize seed producers in northern Ghana	Production in Tamale	Current seed companies looking for expansion capital	<b>~\$0.6 million</b>
Maize, Rice	Establishment of Grains Development Bank to provision low-interest financing to SHFs	HQ in Tamale, serving SHFs throughout SADA	Current initiative being established in Tamale	<b>~\$25 million</b>



*Involvement of SHFs, access to markets, management capability, and investment readiness were used to select three highest-priority opportunities from the long-list*

Criteria	Description
<b>1</b> <b>Involvement of Smallholder Farmers</b>	<ul style="list-style-type: none"><li>• Number of smallholder farmers that are to be directly involved in the investment opportunity<ul style="list-style-type: none"><li>– This includes consideration of potential improvements to SHFs' farming practices / knowledge</li></ul></li></ul>
<b>2</b> <b>Access to Markets</b>	<ul style="list-style-type: none"><li>• Availability of ready and willing buyer(s) to off-take production and ease of access to these buyers, including consideration of market risks</li></ul>
<b>3</b> <b>Management Capability</b>	<ul style="list-style-type: none"><li>• Assessment of experience of business and management in particularly opportunity – with consideration of scale of such operations</li><li>• Assessment of level of alignment with (or deviation from) current business model</li></ul>
<b>4</b> <b>Investment Readiness</b>	<ul style="list-style-type: none"><li>• What steps have been taken to get opportunity ready for investment? E.g., business plan creation, financial modeling, etc.<ul style="list-style-type: none"><li>– If not immediately ready for investment, how soon can this opportunity be ready for investment?</li></ul></li></ul>



*Based on the final filtering exercise, three opportunities were identified as being of the highest potential; these however, are merely illustrative of the opportunities available in Ghana*

### **Cassava Processing**

*Investment in intermediary cassava processing to produce cassava cake and flour, for use as a brewery input and as a replacement for wheat flour*



### **SHF Aggregation**

*Investment in SHF aggregators to organize and purchase smallholder rice production for sale in the domestic market*



### **Production of Improved Seeds**

*Investment in production of high-quality and certified maize seed for sale to SHFs and FBOs to improve maize yields*



End of Document

