



Department
for International
Development



Monitor **Deloitte.**

Developing Agricultural Investment Opportunities in Northern Ghana

Certified Seed Production

April 2016 – Final



Purpose of This Document

This document outlines the salient features of an investment opportunity in a certified seed producer located in Northern Ghana

<p>Objectives</p>	<ul style="list-style-type: none"> • To present a greenfield investment opportunity for a grain certified seed producer in Northern Ghana outlining: <ul style="list-style-type: none"> – The business environment in Ghana – The market potential of the certified seed sector – A suitable business model for certified seed production – The opportunity’s investment requirements and financial projections – Systemic, business model and financial constraints the opportunity is susceptible to and potential mitigations for these constraints
<p>Intended Audience</p>	<ul style="list-style-type: none"> • Market Development Programme for Northern Ghana (MADE) Team • Regional and international investors who are looking for strategic or financial agribusiness investments in Sub-Saharan Africa (SSA) • Agricultural private sector role players in Ghana
<p>Opportunity Description</p>	<ul style="list-style-type: none"> • An opportunity exists to start a 280 metric ton (MT) certified seed producer (rice, maize, sorghum, groundnut, soya, cowpea) for a Ghana Cedi (GHS) 1 million (m) investment in land rental, production equipment, vehicles and working capital • In the form of 20% debt and 80% equity, it has the potential to generate an internal rate of return (IRR) of 33% and pay back the investment within four years

- **Executive Summary**

- Doing Business in Ghana
- Market Opportunity
- Business Model
- Financial Analysis
- Constraints and Mitigations
- Appendix

Executive Summary (1 of 2)

A good business environment in Ghana makes it easier to take advantage of the investment opportunity for improved seeds with the appropriate business model applied

Executive Summary	
Doing Business in Ghana	<ul style="list-style-type: none"> • Ghana's economy ranks among the top four largest economies in West Africa alongside Nigeria, Cameroon and Cote d'Ivoire and is SSA's 7th largest economy • Favourable macroeconomic conditions and the highest Ease of Doing Business ranking amongst its peers in the Economic Community of West African States (ECOWAS) positions Ghana well as an ideal investment destination in the region • Where investors are able to overcome infrastructural and interest rate constraints, opportunities in Ghana flourish due to the stable operating environment • The agricultural sector remains the largest employer in the economy imbuing it with a significant role in overall economic development; therefore various government policies have been developed to support it
Market Opportunity	<ul style="list-style-type: none"> • An overall supply gap of 44 639 MT of improved seeds worth approximately United States Dollar (USD) 63.8m exists in Ghana based on the low levels of current improved seed cultivation and low yields • Despite the large market gap, existing seed cultivation companies produce conservatively in response to systemic constraints, a small scale of 278 MT has therefore been selected • Provided that existing demand can be captured, strong margins and the potential to be one of the largest seed producers nationally make this opportunity an attractive prospect
Business Model	<ul style="list-style-type: none"> • Improved seeds provide the potential for larger, higher quality and more consistent yields to various farmer segments and institutional buyers • Customer segments are served through seed production, seed processing, the leasing of production equipment and the provision of extension services • Other key activities include demand generation and out-grower scheme management • Key resource requirements include the use of agronomy specialists for quality control, land, farming equipment, access to a reliable power supply and certification for seed production • Seed sales account for the vast majority of revenue generation, with costs driven predominantly by production, operating expenses, out-grower management and demand generation

Sources: Monitor Deloitte Analysis; Multiple, cited throughout the document

Executive Summary (2 of 2)

With an IRR of 33%, the investment opportunity is likely to generate solid returns provided that the constraints identified can be effectively mitigated

Executive Summary	
Financial Analysis	<ul style="list-style-type: none"> • A total investment requirement of GHS 942 157 is expected to generate a net present value (NPV) of GHS 355 198 over the five year period with an IRR of 33% and a payback period of 4 years • Earnings before interest, tax, depreciation and amortisation (EBITDA) remains flat during the period despite 17% revenue growth due to similar cost and revenue growth rates; cash generated is expected to cover working capital requirements • Despite expected losses in Year 0, net margins remain relatively stable over the period offering healthy after tax returns of 33%
Constraints and Mitigation	<ul style="list-style-type: none"> • Low improved seed adoption driven by poor agronomic practices, amongst other factors, can be mitigated by targeted market development activities and strategic partnerships • Operational inefficiencies at Savannah Agricultural Research Institute (SARI) and Grains and Legume Development Board (GLDB) result in constrained supply, however this can be effectively mitigated through strategic partnerships with alternative organisations • Extensive market development costs and high costs associated with aggregating supply from seed growers can be mitigated by targeted marketing activities and block farms • The high cost of local debt and working capital constraints can be mitigated by obtaining alternative funding sources and employing sound financial management techniques

- Executive Summary
- **Doing Business in Ghana**
- Market Opportunity
- Business Model
- Financial Analysis
- Constraints and Mitigations
- Appendix

Doing Business in Ghana

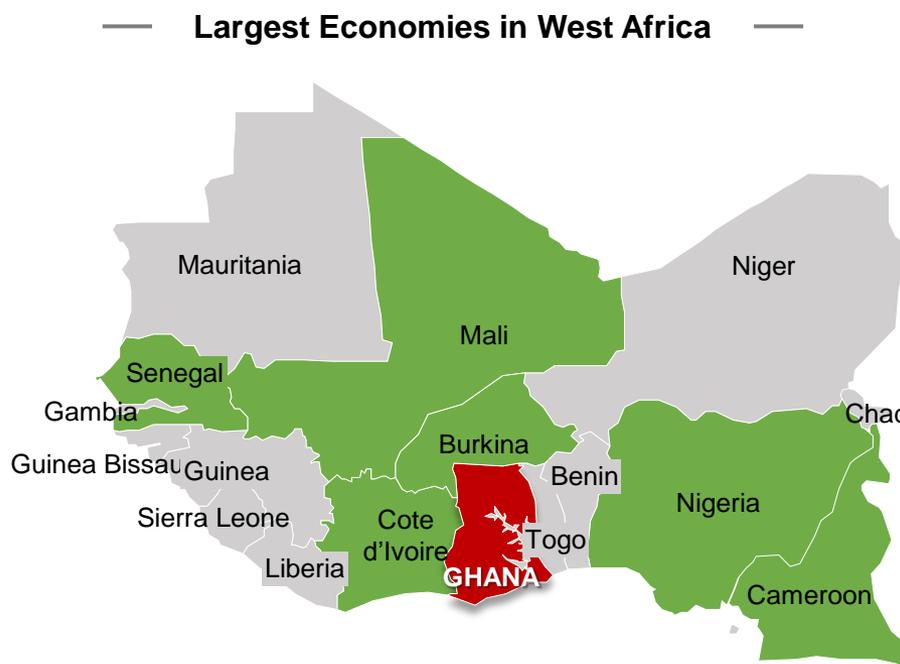
Country Comparative

Ghana's economy ranks among the top four largest economies in West Africa alongside Nigeria, Cameroon and Cote d'Ivoire and is the 7th largest economy in sub-Saharan Africa

Senegal	
GDP* ¹	\$ 15 bn**
GDP per capita ¹	\$ 1067
ODA ² % GNI ³	6.7%
Competitiveness	110/140
SSA Rank (GDP)	16/47

Mali	
GDP ¹	\$ 12 bn
GDP per capita ¹	\$ 705
ODA ² % GNI ³	13.5%
Competitiveness	127/140
SSA Rank (GDP)	25/47

Cote d'Ivoire	
GDP ¹	\$ 34 bn
GDP per capita ¹	\$ 1545
ODA ² % GNI ³	4.2%
Competitiveness	91/140
SSA Rank (GDP)	8/47



Cameroon	
GDP ¹	\$ 32 bn
GDP per capita ¹	\$ 1275
ODA ² % GNI ³	2.5%
Competitiveness	114/140
SSA Rank (GDP)	10/47

Burkina Faso	
GDP ¹	\$ 12 bn
GDP per capita ¹	\$ 713
ODA ² % GNI ³	8.7%
Competitiveness	NA
SSA Rank (GDP)	24/47

Ghana	
GDP ¹	\$ 38 bn
GDP per capita ¹	\$ 1441
ODA ² % GNI ³	2.9%
Competitiveness	119/140
SSA Rank (GDP)	7/47

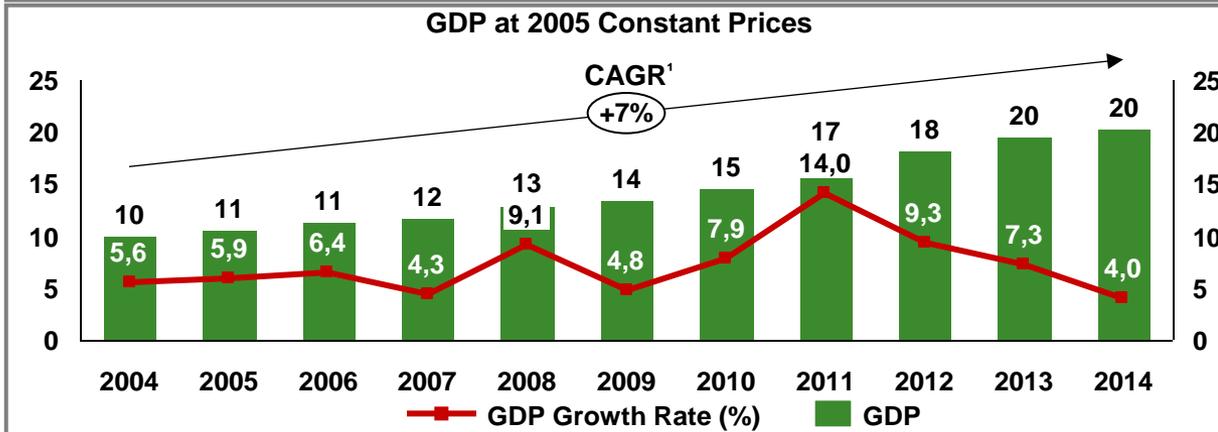
Nigeria	
GDP ¹	\$ 568 bn
GDP per capita ¹	\$ 3203
ODA ² % GNI ³	0.5%
Competitiveness	124/140
SSA Rank (GDP)	1/47

Note: *Gross Domestic Product (GDP); ** billion (bn); ¹GDP and GDP per Capita at current prices (USD dollars), ²Overseas Development Assistance (ODA), ³Gross National Income (GNI). Sources: World Economic Forum (WEF) Competitiveness Report 2015; World Bank (WB) Doing Business Report 2015; WB Development Indicators 2015; Monitor Deloitte Analysis

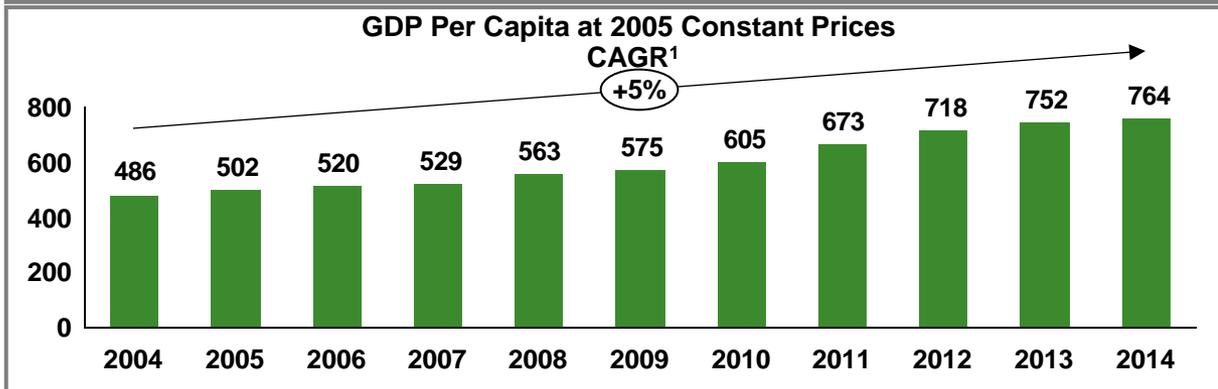
Ghana's Economic Landscape

Ghana's steady GDP growth and rising per capita income has contributed to increased buying power and a shift in consumer preferences towards premium tier goods and services

Ghana GDP (USD¹ Billions) and Growth, 2004-2014



Ghana GDP Per Capita, 2004-2014



Notes

- Ghana has experienced steady 7% growth in GDP over last decade
- Declines in growth rates in recent years can largely be attributed to the impact of the decline in commodity prices, predominantly gold and cocoa
- Nonetheless, incomes have been rising throughout the period providing a burgeoning middle class with newfound buying power
- The increased income levels have led to a change in consumer preferences in favour of premium tier, higher quality goods and services

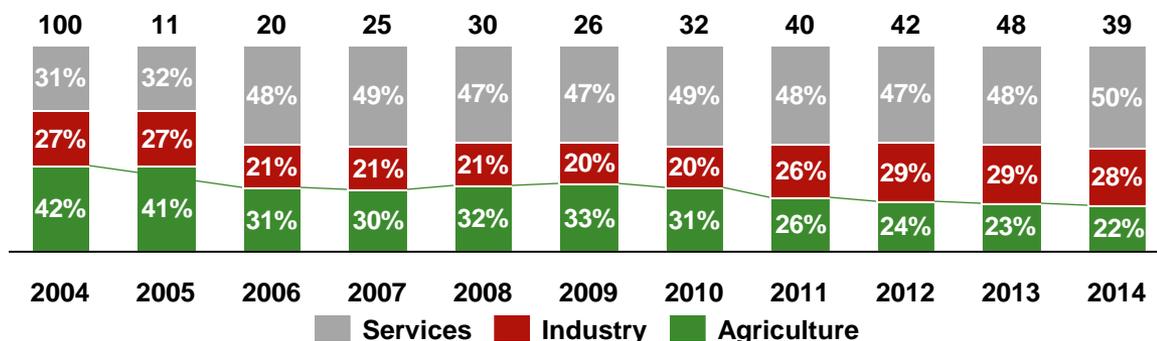
Note: ¹Compound Annual Growth Rate

Sources: Monitor Deloitte Analysis; World Bank Economic Indicators 2016; World Economic Outlook Database; World Bank Forecasts and Analysis, MADE Market Diagnostics, 2014

Despite its declining share of GDP, the agricultural sector remains the largest employer in the economy imbuing it with a significant role in overall economic development

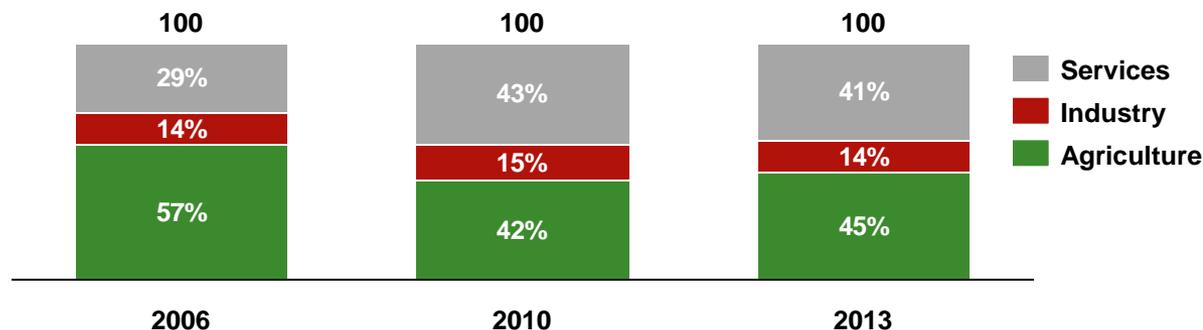
GDP Distribution by Sector, 2004-2014

GDP Distribution by Sector, Percent (2004-2014)



Employment Distribution by Sector, 2006-2013

Employment Distribution by Sector, 2006-2013



Notes

- Agriculture's share of GDP has been steadily declining over the period 2004-2014
- Contrary to the 7% growth rate of GDP over the period, the agricultural sector has contracted by 6%, predominantly driven by the economy's structural shift towards a more advanced economy
- Despite this structural shift, the agricultural sector has remained the largest employer
- The sector is characterised by a large amount of smallholder farmers producing on a small to medium scale

Doing Business in Ghana

Agriculture Sector Policy Support

In recognition of the importance of agriculture, the Government of Ghana has developed a set of policies intended to foster growth and development in the agricultural sector

Policy Summary

- Despite the agriculture sector's declining contribution to GDP over the past decade, the Government of Ghana (GoG) recognises the sector's role in achieving sustained economic growth and development in the country,
- Various policy objectives and investment incentives exist to foster agricultural led growth, many of which are geared towards attracting private sector investment in the sector

Policy Objectives

Ministry of Food and Agriculture



Republic of Ghana

Food and Agriculture Sector Development Policy
(FASDEP II)

Food and Agriculture Sector Development Policy I and II

- Increasing growth in incomes
- Improving competitiveness of sector and better integrating it into domestic and international markets
- Promoting science and technology in food and agriculture development

Private Sector Development Strategy

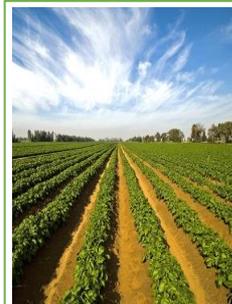
- Improving the productivity and efficiency of Ghana's economy and building a thriving private sector
- Increasing rural incomes by 20%, particularly in Northern and central Ghana, through more productive and efficient agriculture

THE COORDINATED PROGRAMME OF ECONOMIC AND SOCIAL DEVELOPMENT POLICIES 2014-2020



An Agenda for Transformation
PRESENTED BY
H.E. JOHN DRAMANI MANU
PRESIDENT OF THE REPUBLIC OF GHANA
TO THE 4th PARLIAMENT OF THE 4th REPUBLIC
DECEMBER 2014

Investment Incentives



Production

- Custom duty exemptions on imports of agricultural plant, machinery and equipment
- 5-10 year tax holidays on cash crop production
- Income tax exemptions for select farming activities and ~90% corporate tax exemptions for farmers outside of Accra



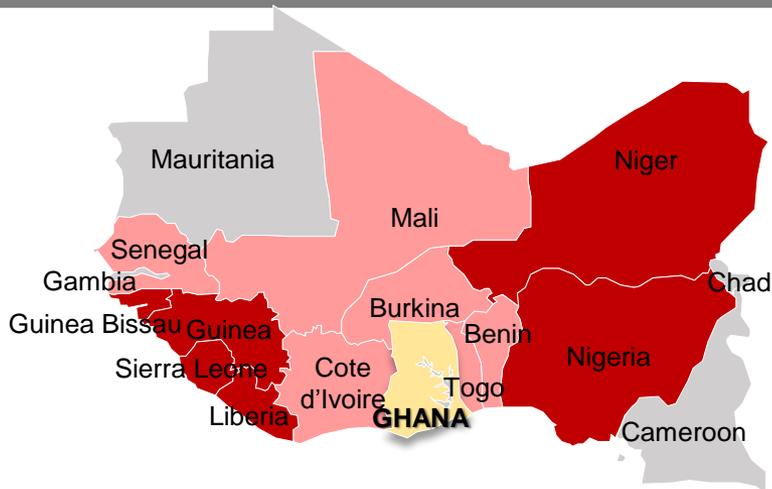
Agro-Processing

- 5-year tax holiday from the establishment of the business and a 3-year corporate tax freeze
- 50% tax rebates for agro-processing and manufacturing industries located in regional capitals and districts outside of Accra

Ease of Doing Business and FDI

Favourable macroeconomic conditions and the highest ease of doing business ranking in ECOWAS positions Ghana well as an ideal investment destination in the region

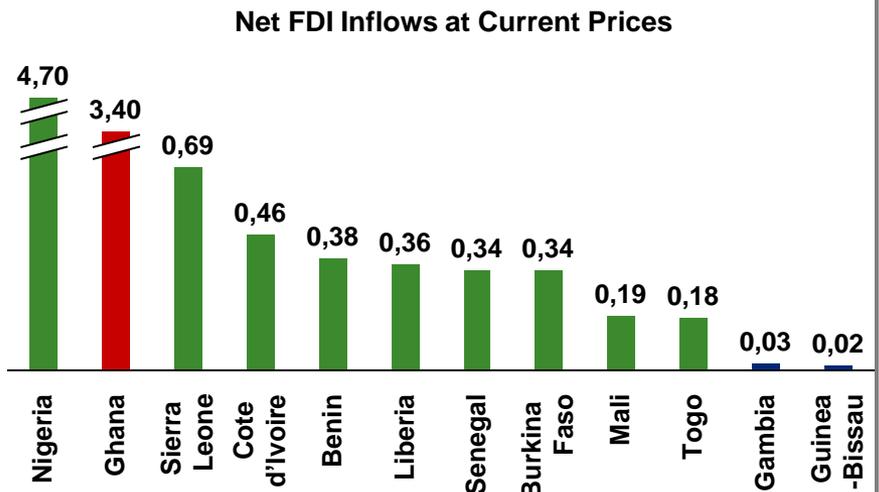
Ease of Doing Business Ranking, 2014



Ranking ¹	0 - 38	39 - 76	77 - 114	115 - 152	153 - 183
----------------------	--------	---------	----------	-----------	-----------

- Ranked 114, Ghana has the most favourable Ease of Doing Business score amongst its peers in ECOWAS
- The ranking remains middle tier due to issues concerning contract enforceability, access to electricity and international trade

ECOWAS FDI Net Inflows (USD Billions), 2014



- Stable GDP growth, rising incomes and a good ease of doing business score all contribute to Ghana being the second largest attractor of foreign direct investment (FDI) among ECOWAS member states
- The amount of FDI Ghana is able to attract is particularly significant considering the size of Ghana's economy vis-à-vis that of Nigeria

Notes: ¹183 countries, globally, are ranked according to the relative favourability of their business environments.

Sources: Monitor Deloitte Analysis; World Bank Ease of Doing Business Study, World Bank Development Indicators, 2016

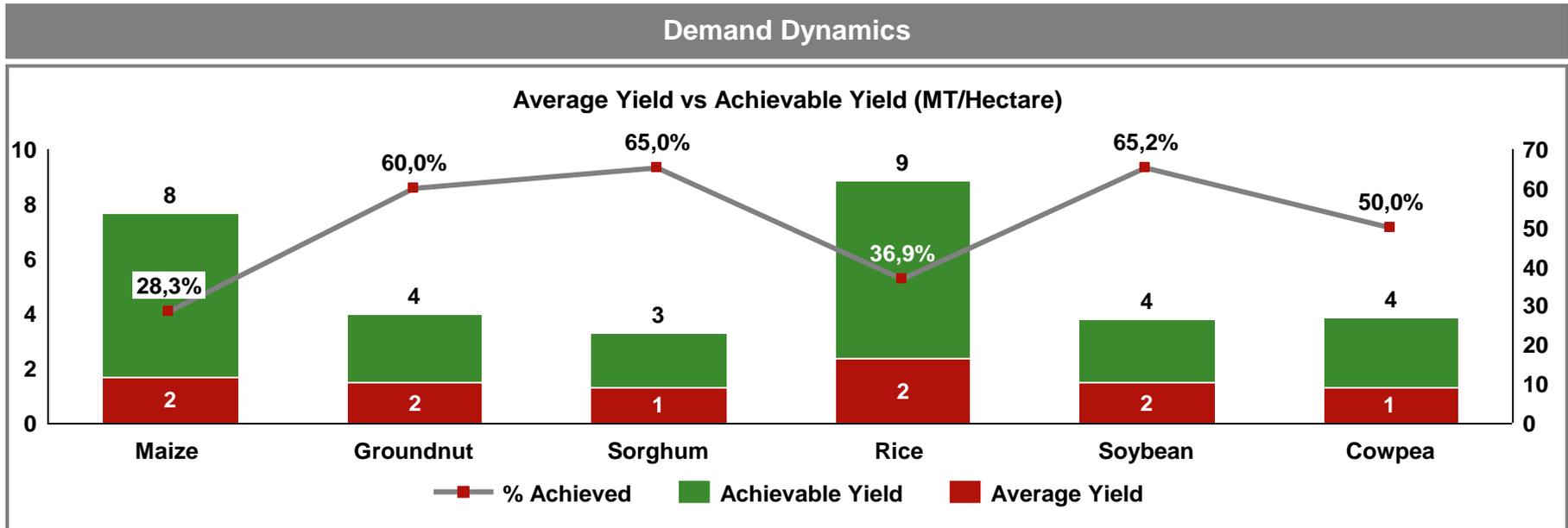
Operating Environment Assessment

Where investors are able to overcome infrastructural and interest rate constraints, opportunities in Ghana flourish due to the overall stable operating environment

Operating Environment Assessment	
Political and Legal 	<ul style="list-style-type: none"> • Ghana is a relatively peaceful and stable country owing to: <ul style="list-style-type: none"> - A track record of largely free and fair elections - A strong constitutional framework - A history of broad policy continuity
Economic 	<ul style="list-style-type: none"> • The country has a high prime lending rate driven by large budget deficits and a central bank with limited autonomy when it comes to monetary policy setting and implementation • Despite these structural weaknesses, local oil production is likely to reduce the risks of macroeconomic instability (due to reliance of oil imports) and provide a substantial boost to growth over the long term through associated export and fiscal revenues
Social 	<ul style="list-style-type: none"> • With rising incomes, demand for premium and processed food is increasing • If supply does not increase at the same pace, an increase in imports is likely • It is challenging to process food within Ghana due to deficient transport links and power constraints, particularly in rural areas
Technological 	<ul style="list-style-type: none"> • Though agricultural production remains highly labour intensive, GoG realises the need to drive agricultural productivity and growth through mechanised production • To this end the government has established agricultural mechanisation service centres nationally and distributed combined harvesters and tractors to SHFs • Ghana has relatively fast internet connectivity due to its connection to the high speed SEACOM cable
Agricultural Investment Incentives 	<ul style="list-style-type: none"> • Various policy objectives and investment incentives exist to foster growth of the sector and to attract private sector investment to industries in the sector • Incentives include three to ten year tax holiday's, specific tax exemptions and significant rebates and subsidies on machinery in key product sectors

- Executive Summary
- Doing Business in Ghana
- **Market Opportunity**
- Business Model
- Financial Analysis
- Constraints and Mitigations
- Appendix

Demand for improved seeds in Ghana is driven by a desire to close the significant gap between current average vs achievable yields prevalent across the entire agricultural sector



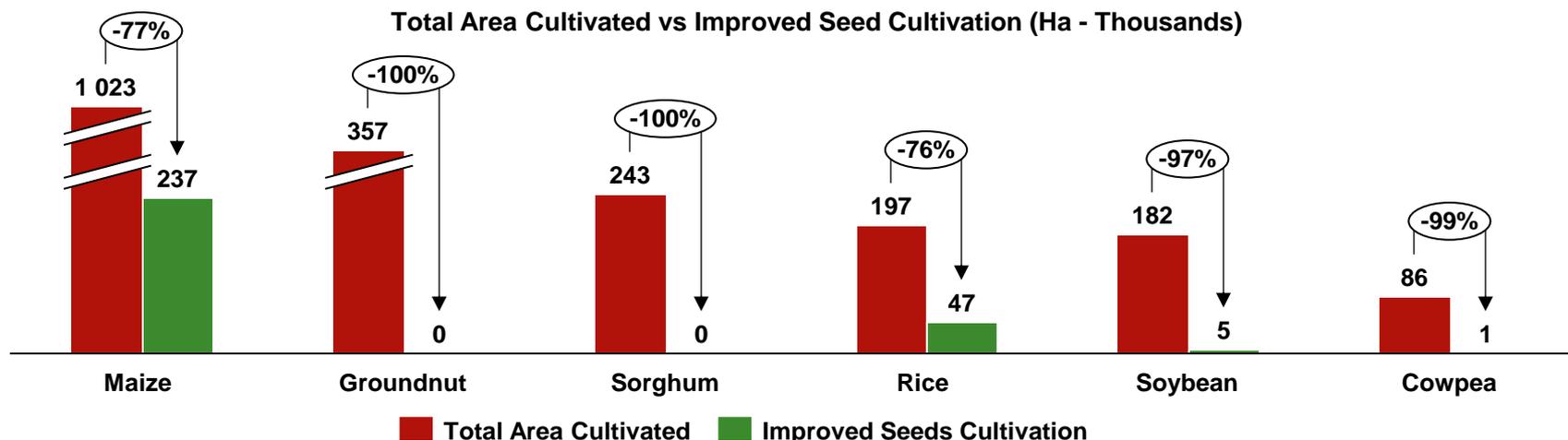
- Demand for improved seeds is predominantly driven by the desire to increase yields
- Agricultural yields are very low across all product segments selected for this opportunity, with maize and rice possessing significant achievable yield gaps
- Yield improvements are achieved through a combination of improved seeds and seed use, appropriate agrochemical use and good agronomic practices (GAP)
- This opportunity focuses on the production and sale of improved seeds

Supply Dynamics and Market Gap

An overall market gap of 44 639 MT of improved seeds worth approximately USD 63.8m exists in Ghana based on the low levels of current improved seed cultivation and low yields

Supply Dynamics

Total Area Cultivated vs Improved Seed Cultivation (Ha - Thousands)



- Currently a total of 5 241 MT of improved seeds are produced in the product segments selected for this opportunity
- When converted to area cultivated utilising seeding rates (kilogram/hectare) and assuming all the seeds produced are used for the purposes of cultivation, the 5 241 MT represents 290 158 hectare (ha) of cultivation or 14% of the total area currently cultivated
- If 100% of the land currently cultivating these products utilised improved seeds, a production quantity of 49 880 MT of improved seeds would be required
- The difference of 44 639 MT at a weighted average cost per ton of USD 1 429 represents a USD 63.8m market opportunity

Sources: Monitor Deloitte Analysis; “Impact Investing In Ghana: Opportunities, Prospects And Challenges”, GIMPA 2013; “Agribusiness Indicators: Ghana” – World Bank, 2012; “Analysis of the Seed System in Ghana”, Etwire, 2013; FAO Ghana Country Stats, 2011; “Ghana’s Commercial Seed Sector” – IFPRI

Despite the large market gap, existing seed cultivation companies produce conservatively in response to systemic constraints, a small scale of 278 MT has therefore been selected

Drivers of Scale



Identified Demand

- A total market gap of 44 639 MT has been identified
- The gap is partially attributable to low adoption rates, which are in turn driven by perceptions of cost effectiveness
- Despite the large potential market gap, the low adoption rate requires extensive demand generation activities to capture a large share



Economies of Scale

- Every GHS 1m invested in land, machinery and equipment has a potential achievable yield of 450 MT per 270 acres cultivated
- A 1 acre SHF farmer is currently able to produce approximately 1.03 MT of seed
- At full out-grower production, this results in managing 180 SHFs (assuming 1.5 acres per SHF)



Market Structure

- Existing seed businesses produce between 120 and 300 MT in response to systemic constraints
- These constraints include breeder seed supply constraints and perceived demand



Complexity

- Increasing scale requires adding additional smallholder farmers to out-grower scheme
- A complex out-grower management model would be required for a scale greater than 1000 SHFs, i.e., 1030 MT of production

A GHS 1m investment at an output of 278 MT has therefore been selected for this opportunity to minimise business complexity and facilitate the management of systemic constraints

Opportunity Attractiveness

Provided that existing demand can be captured, strong margins and the potential to be one of the largest seed producers nationally make this opportunity an attractive prospect

Opportunity Attractiveness		
Key Criteria	Rating	Rationale
Overall Market Potential	Yellow	<ul style="list-style-type: none"> The improved seeds market displays relatively large market potential, however accessing the market requires targeted demand generation activities to change perceptions pertaining to costs
Potential Margins	Dark Green	<ul style="list-style-type: none"> The opportunity has the potential to generate healthy margins with gross margins at 66% and net margins at 33%
Potential Competitive Advantage	Light Green	<ul style="list-style-type: none"> Should demand generation activities prove successful and the business is able to increase scale, it will become one of the largest producers nationally with the potential to secure exclusivity agreements on the back of production volume
Incentives	Red	<ul style="list-style-type: none"> No tax or production incentives exist to attract investment into seed production, however, Ministry of Food and Agriculture (MoFA) offers subsidised processing equipment to stimulate production
Policy Support	Light Green	<ul style="list-style-type: none"> The Plants and Fertilizer Act 803 of 2010 allows private sector to produce their own foundation seed for certified seed production, however, it provides no indication of whether intellectual property (IP) relating to development of new varieties can be protected
Barriers to Entry	Yellow	<ul style="list-style-type: none"> Entry barriers are relatively low as the market is unorganised and fragmented, however certified seed producers need to be registered and approved by the Plant Protection and Regulatory Services Department (PPRSD)

Legend Attractive ■ ■ ■ ■ Unattractive

- Executive Summary
- Doing Business in Ghana
- Market Opportunity
- **Business Model**
- Financial Analysis
- Constraints and Mitigations
- Appendix