



Department  
for International  
Development



Monitor **Deloitte.**

# Developing Agricultural Investment Opportunities in Northern Ghana

*Groundnut Aggregation*

April 2016 – Final



# Purpose of This Document

*This document outlines the salient features of an investment opportunity in a groundnut production and aggregation facility located in Northern Ghana*

## Objectives

- To present a greenfield investment opportunity for a groundnut production and aggregation enterprise in Northern Ghana outlining:
  - The business environment in Ghana
  - The market potential of the groundnut sector
  - A suitable business model for groundnut production and aggregation
  - 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

## Intended Audience

- Market Development 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

## Opportunity Description

- An opportunity exists to start a 120 - 150 metric ton (MT) groundnut aggregator for a Ghana Cedi (GHS) 1 million (m) investment in land rental, production equipment, vehicles and working capital
- Investment can take the form of debt or equity and has the potential to be paid back within four years

- **Executive Summary**

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

# Executive Summary (1/2)

*A good business environment in Ghana makes it easier to take advantage of the groundnut investment opportunity with its tailored business model*

| Executive Summary              |   |
|--------------------------------|---|
| <b>Doing Business in Ghana</b> | <ul style="list-style-type: none"> <li>• Ghana's economy ranks among the top four largest economies in West Africa alongside Nigeria, Cameroon and Cote d'Ivoire and is SSA's 7<sup>th</sup> largest economy</li> <li>• 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</li> <li>• Where investors are able to overcome infrastructural and interest rate constraints, opportunities in Ghana flourish due to the stable operating environment</li> <li>• 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</li> </ul>   |
| <b>Market Opportunity</b>      | <ul style="list-style-type: none"> <li>• An overall groundnut supply market gap of 177 355 MT worth approximately United States Dollar (USD) 320m exists in Ghana based on the high levels of aflatoxin contamination and a move towards processed foods</li> <li>• A scale of 120 –150 MT has been selected in order to minimise operational costs and business model complexity due to aflatoxin control requirements</li> <li>• A large potential market, healthy margins, a potential competitive advantage with aflatoxin control and government subsidies make this opportunity an attractive prospect</li> </ul>   |
| <b>Business Model</b>          | <ul style="list-style-type: none"> <li>• As a provider of high quality produce, market maker and aflatoxin manager, this business opportunity has the potential to serve large processors, informal traders, feeding programmes and individual farmers</li> <li>• These customers are served by the sale of groundnuts, provision of improved seeds, and extension services</li> <li>• Customers gain access to the products and services either directly on out-grower farm sites, through collection at a storage warehouse or via direct delivery from the business</li> <li>• Ninety three percent of the business's revenue is driven by groundnut sales with certified seed sales and extension services contributing 5% and 2% to revenue respectively</li> <li>• Costs in the business are driven by three major cost categories namely production, operating expenses and out-grower management costs</li> </ul> |

Source: Monitor Deloitte Analysis based on sources cited throughout the document

# Executive Summary (2/2)

*With an internal rate of return (IRR) of 32%, the investment opportunity is likely to generate solid returns provided that the identified constraints can be effectively mitigated*

| Executive Summary                 |   |
|-----------------------------------|---|
| <b>Financial Analysis</b>         | <ul style="list-style-type: none"> <li>• A total investment requirement of GHS 1m is expected to generate a net present value (NPV) of GHS 364 903 over the five year period with an IRR of 32% and a payback period of 4 years</li> <li>• Both revenue and earnings before interest tax depreciation and amortisation (EBITDA) show strong growth over the five year period, with the cash generated expected to cover working capital requirements from year one</li> <li>• Despite expected losses in year one, net margins are expected to steadily increase over the period offering healthy after tax returns of 39% in year five</li> <li>• Under the existing cost structure the potential business is able to generate positive net cash flows from year one which contributes to the relatively swift payback period of four years</li> </ul> |
| <b>Constraints and Mitigation</b> | <ul style="list-style-type: none"> <li>• Limited access to improved seeds and the lack of public aflatoxin testing facilities can be mitigated by multiplying seeds directly, private testing and forging strategic partnerships</li> <li>• Poor post-harvest handling and the lack of sufficient mechanisation services can be mitigated by self testing, sorting and the purchase of mechanised equipment for production</li> <li>• A large number of geographically dispersed out-growers and mind-sets of existing farmers can be mitigated by contracting on a block farm basis and refining service level agreements</li> <li>• The high cost of local debt and working capital constraints can be mitigated by obtaining alternative funding sources and employing sound financial management techniques</li> </ul>                              |

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# 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 7<sup>th</sup> largest economy in sub-Saharan Africa*

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

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

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



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

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

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

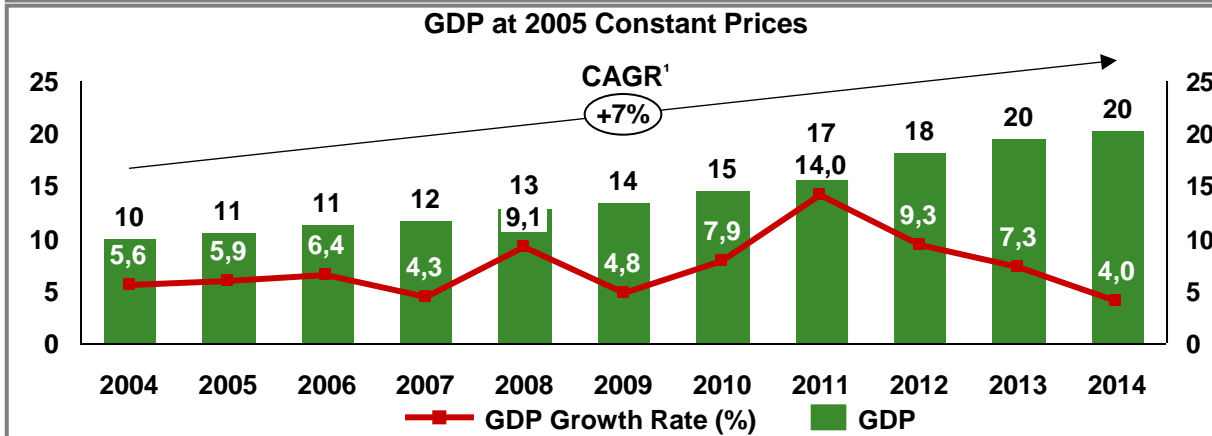
| Nigeria                             |           |
|-------------------------------------|-----------|
| GDP <sup>1</sup>                    | \$ 568 bn |
| GDP per capita <sup>1</sup>         | \$ 3203   |
| ODA <sup>2</sup> % GNI <sup>3</sup> | 0.5%      |
| Competitiveness                     | 124/140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

Note: \*Gross Domestic Product (GDP); \*\* billion (bn); <sup>1</sup>GDP and GDP per Capita at current prices (USD dollars), <sup>2</sup>Overseas Development Assistance (ODA), <sup>3</sup>Gross 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

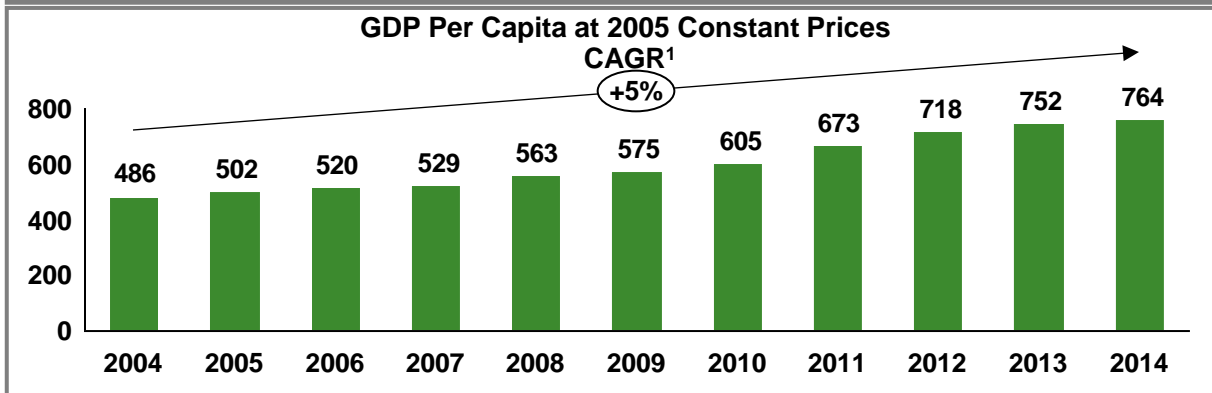
## Ghana's Economic Landscape

*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 (USD<sup>1</sup> 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: <sup>1</sup>Compound Annual Growth Rate

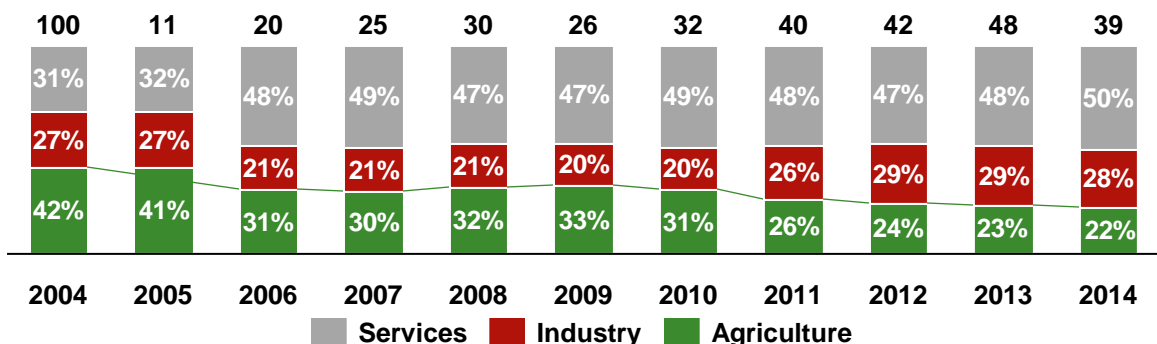
Sources: Monitor Deloitte Analysis; World Bank Economic Indicators 2016; World Economic Outlook Database; World Bank Forecasts and Analysis, MADE Market Diagnostics, 2014



*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*

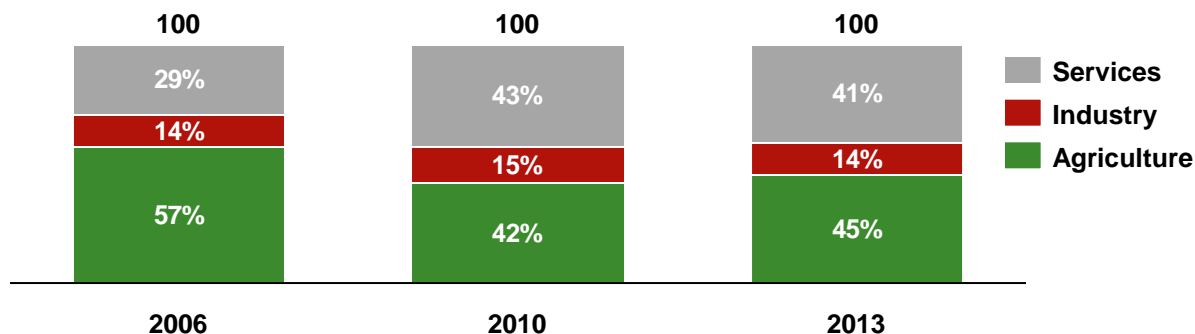
**GDP Distribution by Sector, 2004-2014**

**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

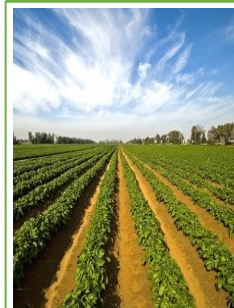
- Improving the productivity and efficiency of Ghana's economy and building a thriving private sector
- Increasing rural incomes by 20%, particularly in Northern and central Ghana, through more productive and efficient agriculture

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 4<sup>th</sup> PARLIAMENT OF THE 4<sup>th</sup> 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



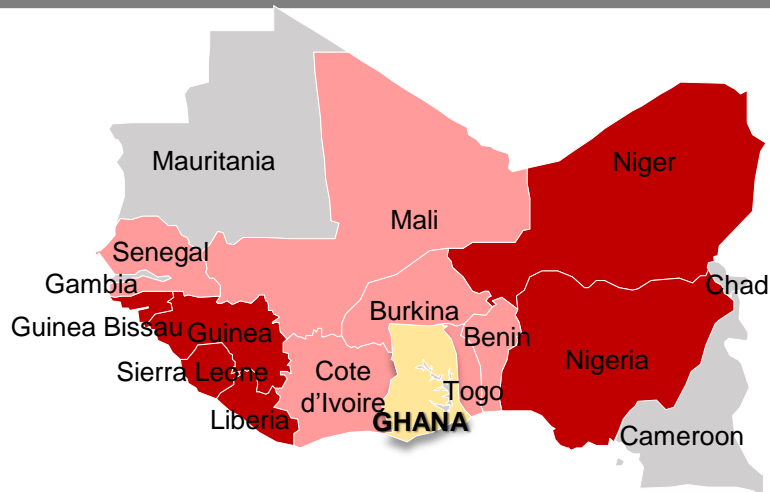
#### Agro-Processing

- 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*

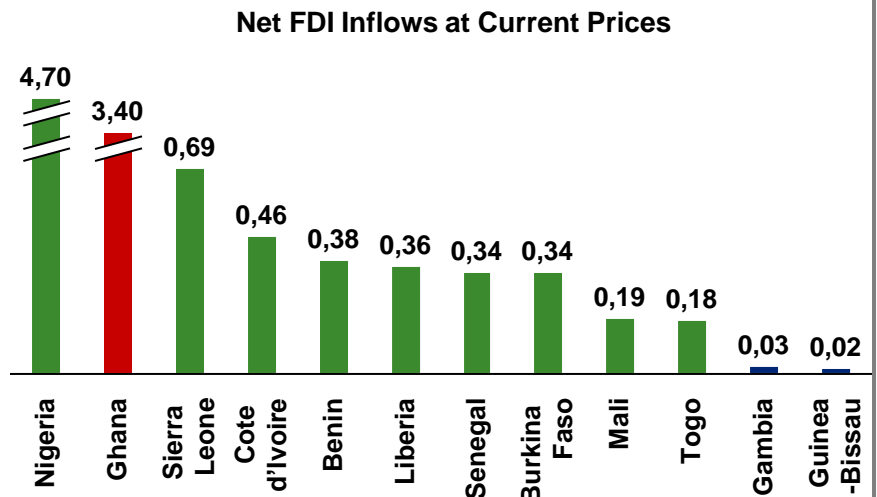
**Ease of Doing Business Ranking, 2014**



| Ranking <sup>1</sup> | 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: <sup>1</sup>183 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  |  |
|---|--|
| <b>Political and Legal</b>                   | <ul style="list-style-type: none"> <li>• Ghana is a relatively peaceful and stable country owing to:                             <ul style="list-style-type: none"> <li>- A track record of largely free and fair elections</li> <li>- A strong constitutional framework</li> <li>- A history of broad policy continuity</li> </ul> </li> </ul>  |
| <b>Economic</b>                              | <ul style="list-style-type: none"> <li>• 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</li> <li>• 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</li> </ul> |
| <b>Social</b>                                | <ul style="list-style-type: none"> <li>• With rising incomes, demand for premium and processed food is increasing</li> <li>• If supply does not increase at the same pace, an increase in imports is likely</li> <li>• It is challenging to process food within Ghana due to deficient transport links and power constraints, particularly in rural areas</li> </ul>   |
| <b>Technological</b>                        | <ul style="list-style-type: none"> <li>• Though agricultural production remains highly labour intensive, GoG realises the need to drive agricultural productivity and growth through mechanised production</li> <li>• To this end the government has established agricultural mechanisation service centres nationally and distributed combined harvesters and tractors to SHFs</li> <li>• Ghana has relatively fast internet connectivity due to its connection to the high speed SEACOM cable</li> </ul>     |
| <b>Agricultural Investment Incentives</b>  | <ul style="list-style-type: none"> <li>• Various policy objectives and investment incentives exist to foster growth of the sector and to attract private sector investment to industries in the sector</li> <li>• Incentives include three to ten year tax holiday's, specific tax exemptions and significant rebates and subsidies on machinery in key product sectors</li> </ul>   |

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## Market Gap

*A groundnut supply gap of 177 355 MT worth approximately USD 320m exists in Ghana based on the high levels of aflatoxin contamination and a move towards processed foods*

### Market Dynamics



#### Demand Dynamics

- As a staple crop and cost effective source of energy and protein, groundnuts are found in many local Ghanaian dishes
- Processed groundnuts are used for peanut oil, peanut butter, condiments and animal feed
- Rising per capita incomes and a shift in consumer preferences towards processed goods has increased groundnut demand
- Based on an estimated 12 kilogram (kg) annual per capita groundnut consumption total demand is estimated at 300 000 MT <sup>1</sup>

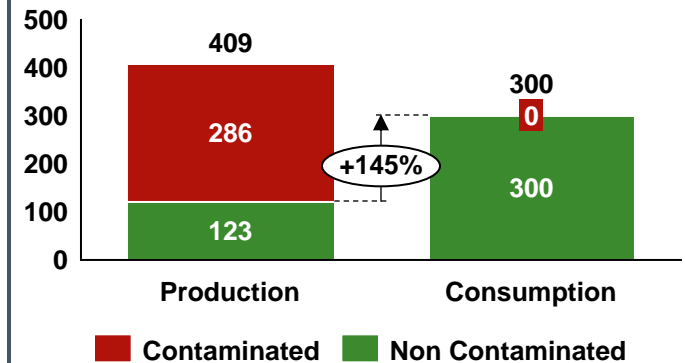


#### Supply Dynamics

- Groundnut production is estimated at 408 814 MT
- Supply has been growing at CAGR of 5.5% over the period 1993 to 2013 due to increases in both area cultivated and yields
- Despite the increased production, producers in Ghana have been unable to control aflatoxin contamination
- As much as 70% of total production contains levels of aflatoxin not safe for human consumption per European Union standards

### Market Gap

#### Groundnut Market Gap, Thousand MT (2013)



- Local production exceeds local consumption by 108 814 MT
- Despite this surplus however 286 170 MT (70%) are not fit for human consumption due to aflatoxin contamination
- A market gap of 177 355 MT of uncontaminated groundnuts therefore exists in the domestic market
- At a price of USD 1 802 per ton, this represents a total market gap worth USD 320m

Notes: <sup>1</sup>Based on a population estimate of 25 million people in Ghana

Source: Monitor Deloitte Analysis; MADE Market Diagnostics, 2014; FAOSTAT 2016; Comprehensive Assessment of the Peanut Value Chain for Nutrition Improvement in Ghana, GAIN, 2013; Aflatoxin Control Strategies in the Groundnut Value Chain in Ghana, IFPRI, 2013

*A scale of 120 – 150 MT has been selected to design the opportunity in order to minimise operational costs and business model complexity given aflatoxin control requirements*

### Drivers of Scale



#### Identified Demand

- Total market gap identified of 177 355 MT
- Large processor with 1440 MT capacity, is currently looking to source 1 200 MT locally; but unable to find a reliable supplier able to control aflatoxin contamination



#### Economies of Scale

- Every GHS 490 000 invested in production equipment requires 120ha of land to produce 120 - 150 MT of groundnuts
- Existing producers in the north produce at yields of 1MT/ha, achievable yields are 2.5MT/ha
- This limits production potential



#### Market Structure

- The market is dominated by SHFs producing 0.8 MT with no aflatoxin control processes
- No publically provided test labs exist, testing must be done privately
- Producers able to control aflatoxin produce approximately 120 -150 MT to minimise monitoring and evaluation costs



#### Complexity

- Business model depends on aggregated SHF production
- Managing out-grower yields becomes more costly and complex with aflatoxin testing
- A complex out-grower management model would be required for a scale greater than 100 SHFs

*Despite the large market potential and identified demand from a large processor, the lack of publically available aflatoxin testing facilities and complexity of out-grower management (due to private testing) hinders large scale production. To minimise operational costs and ensure a focus on yield improvements, a 120 – 150 MT scale of production has been selected*

## Opportunity Attractiveness

*A large potential market, healthy margins, a potential competitive advantage with aflatoxin control in place and government subsidies make this opportunity an attractive prospect*

| Opportunity Attractiveness      |            |   |
|---------------------------------|------------|---|
| Key Criteria                    | Rating     | Rationale   |
| Overall Market Potential        | Green      | <ul style="list-style-type: none"> <li>Large potential market with guaranteed off-take potential from large processor if requisite quality can be produced</li> </ul>   |
| Potential Margins               | Green      | <ul style="list-style-type: none"> <li>The opportunity has the potential to generate healthy margins with gross margins at 68% and net margins at 39% in year five</li> </ul>   |
| Potential Competitive Advantage | Dark Green | <ul style="list-style-type: none"> <li>Few competitors able to control aflatoxin exists in the market</li> <li>Potential to carve out niche in market with aflatoxin-testing and production monitoring due to shortage of high quality aflatoxin-free groundnuts in market</li> </ul>   |
| Incentives                      | Green      | <ul style="list-style-type: none"> <li>Five-year tax holiday for cash crop producers</li> <li>Ministry of Food and Agriculture (MoFA) offers subsidized land preparation-, irrigation-, and processing equipment to promote mechanised production</li> </ul>  |
| Policy Support                  | Yellow     | <ul style="list-style-type: none"> <li>No specific policy has been developed for groundnut as for other staple crops</li> <li>However, the Food and Agriculture Sector Development Policy II (FASDEP II) makes provision for groundnuts (as a cash crop) in its first objective which is aimed at reducing income variability for farming homesteads</li> </ul> |
| Barriers to Entry               | Yellow     | <ul style="list-style-type: none"> <li>Relatively low barriers to entry for production</li> <li>However, costs of aflatoxin test-kits and monitoring devices are high which prevents access to off-takers, and limit income-earning potential</li> </ul>  |

Sources: Monitor Deloitte Analysis; Stakeholder Interviews 2016; Food and Agriculture Sector Development Policy II (FASDEP II), Ministry of Food and Agriculture

**Legend** Attractive Unattractive



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