



Agriculture

SECTOR

CROPS
PRODUCTION



1.0 INTRODUCTION

Agriculture has a greater impact on poverty reduction than other sectors in Ghana's economy and is critical for rural development and associated cultural values, social stabilization, environmental sustainability and buffer during economic shocks. The sector currently employs about 48% of the total workforce. Although its share of GDP has decreased in recent years, it continues to be vital to growth.

Low levels of mechanisation and the effects of drought and climate change are threatening to slow or curtail sector growth. The government's commitment to investing in technologies and establishing new policies to protect and support the industry are promising. With a number of crops and segments performing well below capacity, there is ample opportunity for greater investment and modernisation from private sector players.

Table 1.1-Facts and Figures at a glance

SECTOR	CONTRIBUTION	
Agriculture	Total Agricultural Land Area: 13,600,000Ha (MOFA, 2016) Area under cultivation(MOFA, 2016): 6,341,930Ha Total Area under irrigation (MOFA, 2016): 228,792Ha Others (forest reserves, savannah woodland, etc.)- 8,746,021Ha Main Sub-sectors: Crops Production: Food and cash crops Animal Production: Livestock, Poultry and Fisheries Forestry National Real GDP (2017 est.)-USD 46.6 Billion Agricultural Sector's Contribution to GDP: 19.5%	
YEAR	GDP GROWTH RATES IN AGRICULTURAL SUB-SECTORS	NATIONAL AGRIC

	CROPS	LIVESTOCK	COCOA	FISHERIES	FORESTRY	REAL GDP GROWTH RATE
2011	3.7	5.1	14.0	-8.7	0.8	-14.0
2012	0.8	5.2	-9.5	9.1	2.3	6.8
2013	5.9	5.3	2.6	5.7	5.7	4.6
2014	5.7	5.3	4.3	-5.6	4.6	3.8
2015	2.5	5.3	-8.0	4.3	2.8	1.4
2016	2.5	5.3	-7.0	5.7	3.0	2.5

(GSS, 2016)

Table 1.3- Bank Lending Rates (Minimum and Maximum) %

End of Period	2011	2012	2013	2014	2015	2016
Agriculture, Forestry & Fishing	25.93-27.63	24.65-25.72	25.56-27.41	16.87-37.08	19.00-36.00	18.15-47.84

2.0 AGRO-ECOLOGICAL ZONES

Ghana has five (5) distinct agro-ecological zones, which are defined by climate, natural vegetation and soil conditions. Table 2.1 shows agro-ecological conditions of each zone including mean annual rain, major growing period and minor growing period.

Table 2.1- Conditions of Agro-Ecological Zones

Agro-Ecological Zone	Mean Annual Rain (mm)	Major Growing Period (Days)	Minor Growing Period (Days)
Rain Forest	2,200	150-160	100
Deciduous Forest	1,500	150-160	90
Transitional	1,300	200-220	60

Coastal Savanna	800	100-110	50
Northern Savannah			
Guinea Savanna	1,100	180-200	N/A
Sudan Savanna	1000	150-160	N/A

Source: MOFA, 2016

The northern savannah zone is the largest agriculture zone. Most of the nation's supply of rice, millet, sorghum, yam, tomatoes, cattle, sheep, goat and cotton are grown in the region. In recent times, mangoes, cotton and commercial ostrich farms are also gaining footholds in the northern zone.

The coastal savannah is notable for rice, maize, cassava, vegetables, sugar cane, mangoes and coconut cultivation as well as livestock rearing. Sweet potato and soybean crops are also viable in this agro-ecological zone, under irrigation. The lower part of this zone is drained by the River Volta and other streams and lagoons. These water resources present opportunities for fish farming (aquaculture).

The forest vegetation zone consists of parts of Western, Eastern, Ashanti, Brong Ahafo and Volta Regions. The northern savannah vegetation zone includes the Upper East, Upper West and Northern Region while the coastal savannah includes mainly the Central, Greater Accra and parts of Volta Region.

In the forest zones where rainfall is very heavy, cocoa, coffee, oil palm, cashew, rubber, plantain, banana and citrus crops are mostly cultivated in these areas.

The major strengths of the agricultural sector include a diversity of commodities, well-endowed drainage basin, a well-established agricultural research system and a relative proximity to the European market.

Table 2.2 -Land Area by Region

Region	Area (000 sq. km.)	% of Total Area for Agriculture
Western	23.92	10.03
Central	9.83	4.12
Greater Accra	3.24	1.36
Volta	20.57	8.62
Eastern	19.32	8.10
Ashanti	24.39	10.23
Brong Ahafo	39.56	16.58
Northern	70.38	29.51
Upper East	8.84	3.71
Upper West	18.48	7.75
Total	238.53	100.00

Source: The Ghana Survey Dept. Accra (2016)

3.0 CLIMATE

The climate of Ghana is tropical. The eastern coastal belt is warm and comparatively dry. The south west corner is hot and humid, and the north is hot and dry. Annual average temperatures range from 26.1°C in places near the coast to 28.9 °C in the extreme north. It is usually breezy and sunny. Day time temperatures may rise above 40°C in the north.

There are two rainy seasons in the south from March to July and from September to October (bimodal rainfall system). The northern part of the country, on the other hand, has only one rainy season, from July to September (mono-modal rainfall system). These thus define the farming seasons of Ghana (Major and Minor seasons).

4.0 TOPOGRAPHY

The topography is predominantly undulating, with slopes less than 1%. Even though the slopes are gentle, about 70% of the country is subject to moderate to severe sheet and gully erosion.

5.0 SOILS

The soils have predominantly light textured surface horizons in which sandy loams and loams are common. Lower soil horizons have slightly heavier textures varying from coarse sandy loams to clays. Heavier textured soils occur in many valley bottoms and in parts of the Accra Plains. Many soils contain abundant coarse material either gravel and stone, or concretionary materials which affect their physical properties.

Table 5.1- Fertility Status of Soils in Some Regions

Region	Soil pH	% Organic matter	%Total Nitrogen	Available Phosphorus (mg/kg soil)	Available Calcium (mg/kg soil)
Ashanti: 1. Offinso-Ejura	5.3-7.8	1.5-3.0	0.2-0.3	0.12-12	50-100
2. Kwadaso Juaso, Obuasi	4.3-7.0	1.5-3.0	0.1-0.2	0.12-12	50-100
Western	3.8-7.1	1.03-5.7	0.06-5.4	0.35-11.25	28-420
Brong Ahafo	3.5-6.7	0.34-1.69	n.a	0.12-64.25	16-140.3
Greater Accra	5.4-8.2	0.1-1.7	0.05-0.9	0.8-144	14-470
Upper East	5.1-6.8	1.1-2.5	0.06-0.14	1.75-14.75	43.5-151.5
Upper West	6.0-6.8	0.5-1.3	0.01-0.07	2.0-7.4	52-151.5
Northern	4.5-6.7	0.6-2.0	0.02-0.05	2.5-10.0	45-90

Source: Soil Research Institute, CSIR-Kumasi

6.0 FARMING SYSTEMS

Agriculture is predominantly on a smallholder basis in Ghana. 90% of farm holdings are less than 2 hectares in size, although there are some large farms and plantations, particularly for rubber, oil palm and coconut and to a lesser extent, rice, maize and pineapples.

7.0 CROP PRODUCTION

Agriculture in Ghana consists of a variety of agricultural products grown in wide range of climatic zones from dry savannah to wet forest. The main staple food crops are maize, yams, cassava, rice, taro (cocoyam), plantain and other root crops.

Table 7.1- Principal Crops

Industrial Crops	Cocoa, Oil Palm, Coconut, Coffee, Cotton, Kola, Rubber, Tobacco, Shea Butter, Cashew, Kenaf, Sugar cane etc.
Starchy, Tuber and Roots crops	Cassava, Cocoyam, Yam, Sweet Potatoes and Plantain
Cereals	Maize, Rice, Millet, Sorghum
Legumes	Cowpea, Soybean, Groundnut, Melon and seeds
Fruits	Pineapple, Citrus, Banana, Cashew, Pawpaw, Mangoes, Avocado etc.
Vegetables	Tomato, Pepper, Okro, Egg Plant, Onion, Asian Vegetables, Carrots, Cucumber, Lettuce,

7.2 STAPLE CROPS

7.2.1 Maize

Maize is the most important cereal crop on the domestic market in Ghana. It is one of the largest agricultural commodities in terms of production volume. It accounts for 3.3% of total agricultural production volume.

Maize accounts for 55% of grain output followed by paddy rice (23%), sorghum (13%) and millet (9%). Maize is also important for poultry feed as well as a substitute for the brewing industry. Maize is cultivated under traditional production methods and rain-fed conditions. Average yield of maize (on farm) for the year 2016 was 1.99mt/ha but the potential yield was 5.50mt/ha.

Maize is grown throughout Ghana. However, the leading producing areas are mainly in the middle-southern part (Brong Ahafo, Eastern and Ashanti regions) where 84% of the maize is grown, with the remaining 16% being grown in the northern regions of the country (Northern, Upper East and Upper West). The Government through MOFA provides fertilizer subsidy as well as tractors and agriculture equipment to producers of maize to improve on production and commercialization.

Table 7.2.1a Annual Production of Maize ('000MT)

Year	Production Volume
2014	1,769
2015	1,692
2016	1,722

7.2.2 Cassava

Cassava is a starchy root crop and is Ghana's most highly produced crop and one of the main staple foods contributing to 22% of Ghana's agricultural GDP.

Apart from Upper East and Upper West regions which have no cassava production presumably due to its vegetation, cassava is cultivated in all the eight regions especially in the Eastern (27%), Brong Ahafo (20%), Ashanti (18%), Central (14%) and the Northern regions.

Ghana previously exported small quantities of cassava starch to neighbouring countries, but it stopped since the starch processing factory shut down due to low supply from farmers against commoditisation. ASCO, the only starch factory, was established in 2004 under the Presidential

Special Initiative to promote industrialisation through large-scale productions. However, production was small-scale-based because farmers preferred selling cassava to the traditional food market.

Average yield (on farm) of cassava cultivation under rain-fed conditions is 20.25mt/ha for the year 2016. Potential yield for the year 2016 was 45mt/ha

Table 7.2.2a Annual Production of Cassava ('000mt)

Year	Production Volume
2014	16,524
2015	17,213
2016	17,798

Some registered cassava processing projects at GIPC include;

B-Bovid Ltd

Caltech Ventures Ltd

Gafco Cassava Processing Ltd

Greto Ltd

Jochek Ltd

7.2.3 Rice

Rice is the second most important grain food staple in Ghana, next to maize (MOFA, 2016). Rice import accounts for 60% of Ghana's cereal imports over the period 2005-2016. Thailand and Vietnam are dominant rice exporters to Ghana.

Rice production is undertaken in three different ecologies: lowland rain-fed ecology, which includes rice planted in the receding waters of the Volta and other rivers (78% of production); upland rain-fed ecology (6%), and irrigated ecology (16%). Rain-fed rice production contributes 84%, generating average paddy yields of 1.0 -2.7 mt/ha while irrigated production produces the highest average of 4.5 mt/ha. The potential yield was 6mt/ha in the year 2016.

Top five (5) rice producing regions in Ghana (3-year average, 2014-2016) include;

Volta- 206,908.45mt

Northern-177,464.50mt

Upper East-118,250.26mt

Eastern-34,270.08mt

Ashanti-33,671.33mt

7.2.4 Wheat

Ghana imports all its wheat needs. Major suppliers include Canada, Argentina and the European Union (EU), with Canada accounting for 70% of the market share. There are three major wheat-milling companies in Ghana with a total installed capacity of 1,600 tonnes per day. The estimated per capita consumption of wheat in Ghana is about 12.5kg/year. Almost 80% of wheat flour is used for bread making, and the remaining 20% is used for cakes and other pastries.

7.2.5 Sorghum

Sorghum production is concentrated mainly in the three Northern Regions of Ghana and some parts of Brong Ahafo (mainly the transitional zone) and the Volta Region. The three northern regions account for over 97 percent of total production with the Northern region being the largest producer with a share of about 42 percent.

Sorghum is mainly cultivated by small farmers with average land holdings not greater than 2 ha. Amongst the cereal crops grown in Ghana, sorghum ranks third in terms of production volume, after maize and rice, with a share of 12% on total cereal production volume.

Average yield (on farm) of sorghum cultivation under rain-fed conditions is 1.10mt/ha for the year 2015. Potential yield for the year 2015 was 2mt/ha. About two-thirds of raw sorghum are milled and used to prepare food as well as local beer. Sorghum brewing is an important cottage industry in northern Ghana. Sorghum is traded mainly in the northern part of Ghana and hardly traded internationally.

7.2.6 Yam

Ghana is among the top exporters of yams world wide. Export value reached around 27.5 million USD in 2016. Largest destinations were USA and United Kingdom.

Ghana is the second largest producer of yam in West Africa and the main production areas are Northern, Brong Ahafo, Upper West, Eastern and Ashanti regions.

Average yield (on farm) of Yam cultivation under rain-fed conditions was 17.42mt/ha for the year 2016. Potential yield for the year 2016 was 52mt/ha.

Major exporters of fresh yam include;

Dhillion Farms Int. Ltd

K. Laast Co. Ltd

Figban Farms Gh. Ltd

Tahiti Trading Enterprise

Abdulai Enterprise

Prudent Export & Import Co. Ltd

Touch Skies Ghana Ltd.

Potential growth at current top export destinations

United States is the main export destination for yams from Ghana, closely followed by United Kingdom. Together, these markets take up to 75% of total Ghanaian export value (which was 27.5 million USD in 2016).

In the U.K., Ghana is by far the largest exporter with over 80% market share. In the American market, it is the third largest export partner behind Jamaica (33%) and Costa Rica (20%). Ghana reached 15% market share in USA in 2016.

Belgium is the fastest growing market among Ghana's current export destinations. During 2012-2016 it realized about 56% average annual growth in importing yams. The Belgian market already is the third destination for Ghana (12% export share).

8.0 INDUSTRIAL CROPS

8.1 Cocoa

Cocoa called *Theobroma cocoa* was a beverage crop even before tea or coffee and the main agricultural export of Ghana. Production occurs in Ghana's forested areas; Ashanti, Eastern, Volta, Western, Central and Brong Ahafo regions where rainfall is 1000-1500mm per year.

Ghana currently produces 850,000tonnes of cocoa annually and it constitutes 20% of global output of the crop. Ghana is the second leading producer/exporter of cocoa beans after Cote d'Ivoire.

Cocoa cultivation is not native to Ghana but Ghana produces the best quality bulk cocoa globally and its cocoa serves as standard for the global cocoa industry.

Main markets for cocoa are Netherlands, Switzerland and France.

Table 8.1: Export of Cocoa Products from Ghana

Year	2011	2012	2013	2014	2015
Value US\$	876,278,496	723,121,707	584,017,437	647,739,361	N/A

8.2 Cashew nuts

Cashew is a tropical crop that grows well in all kinds of soil types and is known to do well in poor semi-arid and transitional geographical zones. It grows well in areas with annual total rainfall of between 900mm and 1400mm and with wet and dry seasons.

Ghana achieved a significant feat in the global exportation of cashew in-shell and emerged as the number one exporter of cashew in-shell for the year 2016, with total export value of US\$ 981,158,000. Other global exporters of cashew in-shell in 2016 include La Cote d'Ivoire (US\$ 340,737); Tanzania (US\$ 333,766); Guinea Bissau (US\$ 209,390); Burkina Faso (US\$ 105,619); Indonesia (US\$ 100,261).

Major market destinations for Ghana's cashew in 2016 included Vietnam (US\$ 533 million) and India (US\$ 445 million).

Vietnam became a major market destination for Ghana's cashew in 2016, with an average growth rate of about 168% during 2012 – 2016. It must however be noted that over the last decade, Ghana's cashew has principally been exported to India.

Ghana was the largest supplier of cashew in shell to the Vietnamese market in 2016. Vietnam was ranked the 2nd largest importer of cashew nuts in shell, behind India in 2016.

Sub-regional competitors in Vietnam include Burkina Faso (US\$ 27.3 million), Nigeria (US\$ 24.8 million), Benin (US\$ 2.3 million) and Senegal (US\$ 1.6 million). Ghana’s main competitors outside ECOWAS include Tanzania (US\$ 127 million) and Indonesia (US\$ 87.9 million).

Burkina Faso exported over US\$ 105 million of raw cashew nuts in 2016. Vietnam was the second largest export destination, after Singapore (52% export share). Other significant export destination includes Togo. Burkina Faso realized good average annual growth rates in all destinations: Vietnam (+64%), Singapore (+67%) and Togo (+143%).

Raw cashew nuts from Nigeria were mainly supplied towards Vietnam (80%) in 2016. India was the only other Nigerian export destination (20%). Exports of in shell cashews hugely dropped from 2012 (almost US\$450 million) to the US\$ 23 million in 2016.

Tanzania chalked great growth rates of +161% and +126% in the Vietnamese market, for volume and value respectively, during the period 2012-2016. It exported 40 times more in 2016 than the US\$ 2.5 million in 2012.

8.3 Shea nuts

The shea industry has been growing fairly steadily in recent times because of the growing demand in the developed countries especially in the US and Europe with France and the Netherlands being the biggest importers. These markets use the butter for products such as confectioneries and cosmetics.

The main production areas in Ghana are Northern, Upper West and Upper regions. These regions have lots of shea trees and also produce/extract shea butter in commercial quantities. Though shea trees are found in some regions of the country they do not produce shea butter in commercial quantities.

Table 8.3.1 Trends of shea export

Year	2011	2012	2013	2014	2015
Value US\$	25,087,000	26,338,000	8,063,000	25,046,000	33,572,000

8.4 Groundnuts

Groundnut is an important crop in Ghana as well as in other Sub-Saharan Africa countries as nuts can be consumed raw or cooked and is used in the production of edible oil.

Three regions in the north account for 94% of Ghana's total production. Consumptions are mostly in the urban areas in the south. The marketing of groundnuts in Ghana has been under the traditional marketing system.

8.5 Oil Palm

Oil Palm is the most important edible oil crop in Ghana and in the whole West Africa region. Oil Palm and palm kernel oil represent 2% of total agricultural production value of Ghana.

The most suitable areas identified for oil palm cultivation are Western, Central and Eastern. Large nucleus estates are sited in these regions. The total area under oil palm cultivation is 300,000 hectares. The average yield is 6.3tonnes.

Major exporters of Crude Palm Oil are Wilmar Africa Ltd, Avnash Industries Ghana Ltd, Praise Export Services Ltd, Ghana Oil Palm Development Company Ltd etc.

8.6 Pineapple

France was the largest export destination for Ghana in 2016 with 24% share. Global imports have been increasing on average with 5% per year from 2011-2015. In contrast, exports from Ghana to France reached an average annual decrease of 10% over this period.

Morocco, the sixth largest destination for Ghana, has been growing with 17% on average per year during 2011-2015. With 0.1% market share worldwide (2.5 million USD), it is a relative small market. Ghanaian exports to Morocco increased with 47% on average per annum during 2011-2015.

Therewith, Ghana became the largest export partner for Morocco in 2015, overtaking Côte d'Ivoire.

New potential markets for Ghana's Pineapples include the following countries with high growth.

Ireland

Finland

USA

Potential new markets

Ireland reached good growth rates in global imports on average per year over 2011-2015: 17%. Bulk of the supply is coming from global leading export country Costa Rica. Ghana has a similar geographical position compared to Costa Rica and import rates are 0% from both countries.

Finland grew on average with +12% per annum from 2011-2015. Leading supplier Costa Rica has no geographical advantage over Ghana and the same yields for Ecuador (third in supply). Import tariffs are the same.

USA is the leading import market worldwide by far (30%) and still growing during the period 2011-2015. While the current top 3 suppliers have advantages in geographical distance compared to Ghana, there are also export partners with similar or less favorable geographical location and/or import tariffs with still quite large values in exports (e.g. Thailand with over 9 million USD in exports to USA).

8.7 Mangoes

United Kingdom is the main destination for Ghanaian exports of mango, with 64% export share. The British market reached +17% average annual growth during 2012-2016. Ghana was the 3rd largest supplier to U.K. in 2016, after Brazil and Peru.

All other large-sized (Western European) markets realized good growth performances from 2012-2016 as well. Ghanaian share in these markets is very low. Main suppliers to these markets are Brazil and Peru. Import tariffs for Ghana are similar as for the Latin American countries, while geographically Ghana has a little advantage to Western European markets.

8.8 Banana

The United Kingdom was by far the largest export market for Ghanaian exporters of banana in 2015. 43% of all its exports went to this market, followed at a distance by Belgium.

On the global banana market, Ghana is still a niche player whereas Ecuador and Belgium maintained their leading positions.

The Netherlands and Guatemala have also increased their share on the world market.

Potential growth at current top export destinations

United Kingdom is the largest Ghanaian export destination for banana since 2015. In 2016, close to 30 million USD has been exported to the U.K.

UK had stable import values during 2012-2016.

Eastern European countries Poland and Slovakia were small markets for Ghana in 2016. Import growth reached 9% on average per year from 2012-2016. Despite these positive growth performances, Ghanaian exports to these markets decreased in the same period. The same situation applies to Czech Republic (+5% average annual growth).

Belgium imported over 1.2 billion USD of bananas in 2016. Leading suppliers were Colombia, Ecuador and Costa Rica. Average annual growth of Belgian imports was -6%, but in 2016 the annual growth was positive again (+6%) after two years of sharp declines.

Potential new markets

Tunisia reached an average annual growth of banana imports of +65% during 2012-2016. All supply comes from Latin America, with Ecuador dominating the Tunisian market. Import tariffs are all similar, but Ghana has a better geographical position than current suppliers.

Netherlands is a large market, importing over 500 million USD of banana in 2016. Imports increased with +17% on average per year during 2012-2016. Main suppliers Belgium and Germany are better positioned, but Latin American countries have a large share in the Dutch market as well. Panama, Costa Rica, Ecuador and Colombia all exported over 60 million USD in 2016. Ghana has a better geographical position, as well as favorable tariffs (0% versus 3.6%).

Same situation applies to Slovenia, growing at +12% per year from 2012-2016. Ghana has favorable position in this market over current Latin American supply.

8.9 Soyabeans

Soybean is a relatively new crop in Ghana and mainly used by farmers for crop rotation with maize. The crops are primarily cultivated by smallholders under traditional production farming practices and rain-fed conditions. Annual soybean production is estimated to be 142,000 mt (for the year 2015), which is relatively high in West Africa.

The favourable production area is thought to be in the northern part of Ghana, but yield is still far below the achievable target of 3 mt/ha under rain-fed cultivation, and the post-harvest loss is high.

9.0 Vegetable Production in Ghana

As a result of the constant economic growth, Ghana has reached the status of a middle-income country. With the emergence of a large middle class, an increasing number of consumers are demanding a higher quantity and quality of fresh produce.

As a consequence, the domestic vegetable-market alone is growing at more than 10 % per year. For local consumption, the most important vegetables are tomatoes, peppers (both sweet and hot) and onions. Meanwhile, Ghana's vegetable sector also exhibits a high potential for exports.

The potential value for the export of vegetables is estimated at USD 50 million. However, current export of vegetables stands at only USD 8 million as producers fail to comply with international food safety regulations.

9.1 Chilies

Potential growth at current top export destinations

- Ghana exported very small amounts of chilies in 2016: 81,000 USD. Largest Ghanaian export destination China reached 5% average annual growth during 2012-2016. The Chinese market for chilies is new for Ghana, as exports started in 2016.
- USA was the largest destination for Ghana in 2014 and 2015, but exports to the American market decreased from 100,000 USD in 2015 to 27,000 USD in 2016. The country is the largest importer of chilies worldwide and realized +8% annual import growth (2012-2016).
- Canada and The Netherlands are two other growing markets in importing chilies. The countries grew with respectively +6% and +4% on average per annum from 2012-2016. Ghanaian exports to these markets were very low in 2016 (less than 10,000 USD). Main suppliers for both markets include the Asian countries Vietnam and Indonesia.

Potential new markets

- Algerian imports increased with +22% on average per year from 2012-2016. The import value reached almost 22.5 million USD in 2016. Main suppliers were Vietnam, Spain and China. Compared to these suppliers, Ghana has a beneficial position to Vietnam and China on geographical location. Tariffs are similar.
- Another African market with a good growth performance is Nigeria: +18% annual average growth. Vietnam and Germany dominate the market, while Ghana has advantages on both location and import tariffs (0% versus 20%). Total Nigerian imports just exceeded 1.5 million USD in 2016.
- Two European importers with good market size and growth performance during 2012-2016 are France and Italy. The countries reached respectively +13% and +12% annual growth. The Asian countries Vietnam and Indonesia dominate supply, while Ghana has a beneficial geographical position. Tariffs are similar.

9.2 Aubergine

Ghanaian exports of aubergine have been small so far. Ghana exported only to Canada, U.K. and Belgium in 2016. All these markets realised positive growth rates during 2012-2016. As export value from Ghana is really small currently, there is ample room for growth at the current export destinations.

Potential growth at current top export destinations

Ghanaian exports of aubergine are very limited. Total export value only reached slightly over 30,000 USD in 2016 and was supplied to just three markets: Canada (66%), United Kingdom (28%) and Belgium (6%).

Most of the exports of aubergine from Ghana went to Canada. Canadian import value went over 27.5 million USD in 2016. The country increased on average with +2% in imports of aubergine. Main suppliers are Mexico (44%) and USA (32%).

United Kingdom imported over 40 million USD in 2016 and imports increased on average with +4% per annum during 2012-2016. Netherlands (42%) and Spain (34) are the dominant suppliers.

The only other destination, Belgium, realized +6% average annual growth (2012-2016). The market is mainly supplied by Netherlands (42%), Spain (29%) and Germany (17%).

Potential new markets

Global trade of aubergine has been declining during 2012-2016, with -2% on average per year. Still, there are some interesting opportunities for Ghana to enter potential new markets.

Belarus realized an outstanding growth performance on aubergine imports from 2012 to 2016. The Eastern European country increased imports on average with +131% per year. Supply is very diversified, but most of aubergine comes from African countries like Cameroon, Guinea-Bissau and Guinea. Ghana has a comparable geographical position compared to these countries. Guinea and Guinea-Bissau have an advantage on import tariffs however (7.5% versus 0%).

Swiss imports increased with +6% on average annually. Ghana has a worse geographical position than main suppliers Spain and Italy, but it has an advantage on tariffs. Compared to Thailand, geographical distance is beneficial.

10. GHANA'S NEW AGRICULTURE POLICY

This policy makes grand claims to promote growth in food production and create 750,000 new jobs through a focus on five areas: seed, fertilizer, extension services, marketing and e-fertilizer. The growth will come from five main food crops maize, rice, soybean, sorghum and vegetables.

In the north of the country, the focus will be entirely on the first three: maize, rice and soy. Notably, yam, millet, livestock and other animals are not included, as well as other natural resources like shea. The campaigns focus on getting every Ghanaian to grow food.

10.1 AGRICULTURE FUNDED PROJECTS IN GHANA

GCAP seeks to develop agriculture in Ghana in line with the country's efforts at poverty reduction and ensuring food security by promoting inclusive commercial farming along selected commodity value chains in the SADA Zone and Accra Plains.

USAID Feed the Future (FtF) Projects: USAID Projects includes:

FinGAP (Financing Ghanaian Agriculture Project) - seeks to address one of the key constraints that restrict the development of commercial agriculture in Ghana (access to finance).

AATTP (Agriculture Technology Transfer Project) - seeks to increase the availability of appropriate and affordable technologies to improve the competitiveness of the maize, rice and soya value chains in northern Ghana in a sustainable way. USAID/Ghana is funding the project for a period of five years with an anticipated budget of \$22 million.

ADVANCE (Agricultural Development and Value Chain Enhancement) - The project seeks to support the scaling up of agricultural investments to improve the competitiveness of the maize, rice, and soybean value chains in Ghana

CARI (The Competitive African Rice Initiative) aims to improve livelihoods of rice farmers in selected countries in the West African sub-region by increasing the competitiveness of domestic rice supply to meet increasing demand.

11. CHALLENGES FACING THE AGRICULTURE

Inadequate capital

Changes in weather condition

Inadequate infrastructure

High cost of inputs

Inadequate research and extension officials

Limited agronomic skills and practices

Poor post-harvest management,

Weak linkages between producers and buyers.

Pests and diseases

Land tenure system

12. SPECIFIC INVESTMENT OPPORTUNITIES IN THE AGRICULTURE SECTOR

a) Production of fresh pineapples for domestic and international markets

Project Description:

Pineapple as a crop thrives in almost all the agro ecological zones of Ghana with the major commercial production areas located in the Southern sectors of the country where closeness to the ports enhances export trade. At the coastal areas commercial production of pineapple are concentrated in the Accra Plains, Aburi-Nsawam axis and Awutu areas.

The most common varieties are the Smooth Cayenne, the Sugar Loaf, Queen and MD2. The MD2 variety which is a recent introduction has gained popularity and becoming widely cultivated due to its high demand in the EU market. However production of pineapple is still very minimal in these production areas.

Investment opportunities therefore exist for the large-scale cultivation of fresh pineapples for domestic and international markets.

Project Scope:

Strategic option include the commercial scale production of fresh pineapples for export and domestic markets.

Initial Capital outlay required:

The capital outlay required is US\$ (0.5 -2) million

Project Location:

New pineapple farms can be established on the 50,000 hectares of land earmarked by the Bui Power Authority for agriculture and also in the Accra Plains, Aburi-Nsawam axis and Awutu areas.

Local Content (Human and Infrastructural Resource Available):

There is a pool of available labour force who can be employed to work on the farms.

b) Establishment of commercial packhouses for handling of fruits and vegetables

Project Description:

Privately operated commercial packhouses are needed in farming areas as well as in marketing centres across the country. This would minimise post harvest losses which is in the region of 30% to 60 % depending on the produce.

Project Scope:

Pack houses are crucial in the horticulture export value chain. Fruits and vegetable harvested need to be pre-cooled in pack houses to remove the field heat, cleaned and packaged to reduce perishability. The scope for a packhouse should include both fruits and vegetables.

Initial Capital Outlay:

The estimated capital outlay for the packhouses range from US\$ (1-5)million depending on the scale and sophistication of the facility.

Project location:

The pack house can be located in the the Accra Plains, SADA Zone, the Aburi-Nsawam axis and the Awutu areas which are noted for fruits and vegetable production.

Local Content (Human and Infrastructural Resource Available):

There is a pool of available labour force who can be employed at these packhouses and in addition there is an existing horticultural export industry.

c) Production of soya bean on commercial scale under irrigation**Project Description:**

Demand for soyabean and its derivatives (soyabean oil and soyabean cake) are very high. Soyabean is imported for extraction of oil for local and export markets. The resulting soyabean cake is processed into poultry and fish feeds.

The quantity of soyabean grown locally is very low (thus,1mt/ha). Improved technology of production is needed. Mechanised production of soyabean on commercial scale under irrigation, will improve yields to about 6 mt/ha thereby increasing yield, productivity and profitability.

Project Scope:

Strategic options include the large scale cultivation and processing of soya into soya milk, soya oil and poultry and fish feeds.

Initial Capital Outlay:

The capital outlay is estimated ranging from US\$(1- 3) million depending on the production scale.

Project Location:

Proposed projects can be located in the Brong Ahafo or Northern part of Ghana where soyabean thrives.

Local Content (Human and Infrastructural Resource Available):

There is a pool of available labour force who can be employed in farm operations.

d) Production of maize for domestic market

Project Description:

Maize is one of the most popular food crops on the domestic market and it is grown in all the ecological zones of the country. It is the basis of several local food preparations and the main feedstuff for poultry and other livestock. However yields under rain fed cultivation are low.

Irrigating maize will result in higher yield, increased productivity and lower prices of maize.

Therefore investment opportunity exists in the large scale production of maize for the domestic markets.

Project Scope:

Strategic options include construction of new irrigation systems for maize production as well as cultivation of maize on existing irrigation schemes for human and animal consumption.

Initial Capital Outlay:

The capital outlay is estimated ranging from US\$(0.25- 2)million depending on the production scale.

Project Location:

Proposed projects can be located in all the ecological zones of the country.

Local Content (Human and Infrastructural Resource Available):

There is a pool of available labour force who can be employed in farm operations.

SUMMARY OF THE PROJECTS

a)

<i>Project Name</i>	Production of fresh pineapples for domestic and international markets
<i>Sector</i>	Agriculture and agro-processing
<i>Anticipated Amount Required</i>	US\$ (0.5 -2) million
<i>Type of Cooperation sought</i>	Equity (Capital, Expertise, Technology & Equipments)

b)

<i>Project Name</i>	Establishment of commercial packhouses for handling of fruits and vegetables
<i>Sector</i>	Agriculture and agro-processing
<i>Anticipated Amount Required</i>	US\$ (1-5)million
<i>Type of Cooperation sought</i>	Equity (Capital, Expertise, Technology & Equipments)

c)

<i>Project Name</i>	Production and processing of soya bean on commercial scale under irrigation
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<i>Sector</i>	Agriculture and agro-processing
<i>Anticipated Amount Required</i>	US\$(1- 3) million
<i>Type of Cooperation sought</i>	Equity (Capital, Expertise, Technology & Equipments)

d)

<i>Project Name</i>	Production of maize for domestic market
<i>Sector</i>	Agriculture and agro-processing
<i>Anticipated Amount Required</i>	US\$(0.25- 2)million
<i>Type of Cooperation sought</i>	Equity (Capital, Expertise, Technology & Equipments)

13. OTHER INVESTMENT OPPORTUNITIES

A) Production

Investment opportunities exist in the following areas;

Production of industrial/cash crops, horticultural crops, cereals/grains, roots and tubers for the national, regional and European Union (E.U) markets.

Production of improved seeds and agro-chemicals (fertilizers, pesticides, weedicides)

Provision of tree seedlings for plantation species e.g. teak

B) Technological and Supporting Services

Investment opportunities exist in the following areas;

Provision of tractors with basic implements, planters and harvesters

Provision of field and laboratory equipment for seeds and agro-chemicals production.

Suppliers and financiers of factory building technology

Research and agriculture development services

Inspection and grading according to international standards to make the deliveries acceptable in international markets

Capacity building on standards, training and certification

C) Marketing and Distribution

Investment opportunities exist in the following areas;

Companies to provide post-production services (transport, packaging, storage facilities and cold vans)

Companies to provide the distribution of improved seeds, planting materials and agro-chemicals (fertilizers, pesticides, weedicides).

INCENTIVES AND BENEFITS

There are exemptions of import duties on imported plant, machinery or equipment and agro inputs such as fertilizers, weedicides and pesticides

Five years tax holiday for the cultivation of industrial/cash crops, horticultural crops, cereals/grains, roots and tubers etc.

Ten years tax holiday for the cultivation of tree crops (e.g. coffee, oil palm, shea nut and coconut)

Cocoa farmers/producers incomes are exempted indefinitely from taxes.

The law also permits farming losses to be carried forward for five years of assessment.

The Ghana Investment Promotion Centre Act 865 also provides for automatic quota incentives and benefits etc. Please consult our website, www.gipcghana.com for further details.

INVESTMENT GUARANTEES

Ghana is a safe investment destination. Guarantees against expropriation of private investments provided under the GIPC law are also buttressed by the Ghanaian Constitution. Some investment guarantees are detailed below:

Free transferability of capital, profits and dividends.

Insurance against non-commercial risks – Ghana is a signatory to the World Bank's Multilateral Investment Guarantee Agency (MIGA) Convention.

Double Taxation Agreements (DTAs) – to rationalize tax obligations of investors in order to prevent double taxation. DTAs have been signed and ratified with several countries. (e.g) France, Germany, United Kingdom, Belgium etc.

POTENTIAL SOURCES OF FUNDING

Viable companies and projects can easily attract financing both on the local and international financial markets. The main sources of funding are:

31 Banks

60 Non-bank financial institutions

138 Rural and community banks

The Ghana Stock Exchange – noted that in the last four years, many issues of shares on the GSE have been oversubscribed by 100% - 300%, meaning that there is a lot of money for investment purposes.

Ghana Venture Capital Fund

International development finance institutions based in Ghana, such as the International Finance Corporation (IFC) and the African Development Bank (AfDB)

A number of foreign financial institutions also provide off-shore financing directly to companies in Ghana. (e.g.) Barclays Bank, Stanchart, Ecobank etc.

GHANA'S COMPETITIVE ADVANTAGE

Major strengths of the sector are:

Diversity of commodities due to diverse agro-ecological zones; this allows for easy diversification of farm production systems

Well-endowed network of water bodies which can be tapped for irrigation

Comparative advantage in the production of roots and tubers can be built on to enhance food security and increase agricultural trade

A well-established agricultural research system (e.g.) CRIG, CSIR, Agricultural colleges and universities have all been very successful in crop improvement (e.g. cassava, maize, rice, cowpea etc.)

Relative proximity to Europe (i.e. 6 hours direct flight) as an export destination compared to competitors in Southern Africa and Central and South America

A flourishing horticultural sector with a knowledgeable private sector (e.g. established associations such as the Ghana horticultural and vegetable growers association)

Ghana offers relatively cheaper fresh agricultural products for processing. The government is keen to make Ghana a leading agro-industrial nation and is therefore implementing several programmes such as Ghana Commercial Agriculture Project (GCAP) and West African Agricultural Productivity Programme (WAAPP) to increase agricultural productivity and investment. Many agricultural businesses are tax-exempt for at least the first five to ten years of operations.

Ghana also offers many attractions to the foreign investor. They include:

1. Stable Political Environment

Ghana is a politically stable country. This has been recognized by the world's famous leaders including former US President Barack Obama and his predecessor and the former UK Prime Minister David Cameron and his predecessor. They have all commended Ghana for the political stability in the country over the years.

2. Macro-economic Policies

The Government of Ghana has initiated a number of sound macroeconomic policies designed to accelerate the process of growth and transformation of the economy under competitive conditions. In the face of dwindling crude oil prices, Ghana's economy is still relatively stable.

3. Foreign Ownership

In Ghana, hundred per cent (100%) foreign ownership is permitted.

4. Access to ECOWAS Market

Ghana is easily accessible to the markets of all the member states of the Economic Community of West Africa (ECOWAS) with its population of approximately 335 million people.

5. Good Physical Infrastructure

Ghana possesses well developed seaports, airports and road networks capable of meeting the needs of businesses in the 21st century. There is an effort to upgrade the rail network to make it easy to get to the ports from inland. Telecommunication facilities in Ghana are excellent with more private service providers offering telephone, internet and other telecommunication services. Basic utilities such as water and electricity are readily available at relatively affordable rates.

6. Excellent Labour Force

There is a large human resource base of both skilled and unskilled labour which can be sourced at relatively low rates. The minimum wage in Ghana is GH¢ 10.65 (2018) per day.

7. Access to International Markets

Ghana has easy access to the USA and European Union Markets. The flight time to almost all European Union countries is about 6 hours and 9 hours to the USA.

8. Availability of Fund Sources

Ghana has a large number of fast developing financial institutions available to raise long-term capital at competitive rates. These institutions include banks, insurance and venture capital companies and a stock exchange market (Ghana Stock Exchange).

9. High Safety Standard

There are high standards of health and safety measures in the country.

10. Warm and Friendly People

Ghana is internationally acclaimed for her hospitality to her investors and foreigners as a whole.

11. High Quality of Life

The quality of life of Ghanaians is fairly high.

12. Availability of Land

Ghana has a wide expanse of land that can be acquired with little difficulty through appropriate agencies and owners.

For further information please contact:

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