

INVESTMENT GUIDE FOR THE AGRICULTURE SECTOR IN GHANA





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	Table of Contents	
Table	e of contents	ii
	of Tables	V
	of Figures	v Vi
	endices	vi Vi
	onyms and abbreviations	vi
Forev	•	X
	eutive Summary	xi
LACC	duve Summary	Al
Part	One Background and context	
Chap	pter 1 Introduction	1
1.1	General information and historical overview	1
1.2	Physical and climatic features	2
1.3	Economy of Ghana	3
1.4	Foreign Relations	3
Part	Two The agriculture sector	
Chap	pter 2 Agriculture in Ghana	4
2.1	Overview	4
2.2	Agriculture sub-sectors in Ghana	4
2.3	Public Sector Investment on Agriculture	6
2.4	Performance of Gross Domestic Product	7
2.5.	Domestic and export market trends	7
Char	pter 3 Agriculture sector policies and legislation	11
3.1	Overview of policy framework	11
3.2	Gender aspects of agriculture policies	11
3.3	Tree Crops Policy (TCP)	12
3.4	Seed Policy	13
3.5	Agricultural Extension Policy	13
3.6	Livestock Development Policy	14
3.7	National Fisheries and Aquaculture Development Policy	14
3.8	Alignment of sector related policies	14
3.9	Agricultural and related legislation	15
Part	Three The support base for agriculture	
Chap	pter 4 Land acquisition, management and regulation	16
4.1	Land ownership in Ghana	16
4 2	Responsible authority and legal framework	16

4.3	Stool/ Skin Lands registration procedures	18
4.4	State and Stool Vested Lands registration procedures	18
4.5	Model Commercial Agriculture Lease Agreement	19
Chaj	pter 5 The labour market	20
5.1	Agricultural labour market	20
5.2	Trade Unions in Ghana	20
5.3	Employers' organizations	21
5.4	National labour legislation	22
5.5	The Central Tripartite Structure	23
5.6	The daily minimum wage	23
5.7	Employment in the national economy	23
5.8	Development of human resources in agriculture training institutions	24
Chaj	pter 6 Agricultural Infrastructure	25
6.1	Perishable Cargo Center at Kotoka International Airport	25
6.2	Irrigation schemes in Ghana	25
6.3	Warehousing in Ghana	26
6.4	Transportation networks	27
6.5	Complementary infrastructure	28
Chaj	pter 7 Financing of agriculture in Ghana	30
7.1	Financing schemes for the agriculture sector	30
7.2	Other financial supporting services.	30
Part	Four Business establishment in the sector	
Chaj	pter 8 Process for establishing firms and agribusiness	38
8.1	Legislations guiding business investment in Ghana	38
8.2	Processes for registering businesses in Ghana	38
8.3.	Incentives in Ghana's Agricultural Industry under GIPC	39
8.4	Registration with and incentives from the Ghana Free Zones Board (GFZ	ZB) 40
8.5	Ghana Export Promotion Authority (GEPA)	42
8.6	Other general incentives and attractions	42
Part	Five Regulating investment in the sector	
Chaj	pter 9 Investment laws and regulations	44
9.1	Overview	44

9.2	The GIPC Act 2013 (Act 865)	44
9.3	The Environmental Protection Agency (EPA) Act, 1994 (Act 490)	45
9.4	Biosafety Act, 2011 (Act 831)	46
9.5	Plant and Fertilizer Act 2010 (Act 803)	46
9.6	Water Resources Commission Act 1996 (Act 522)	46
9.7	Fisheries Act 2002 (Act 625)	47
9.8	Public Health Act 2012 (Act 851)	47
9.9	Lands Commission Act, 2008 (Act 767)	47
9.10	List of government regulatory authorities and other relevant institutions	48

Part Six INVESTMENT OPPORTUNITIES

Chapter 10 INVESTMENT OPPORTUNITIES

- 10.1 Introduction
- 10.2 Investment Opportunities
- 10.3 Ghana agricultural machinery/equipment needs to support agricultural production and processing.

	List of Tables	
Table 1	Ghana - General Information	1
Table 2	Rainfall distribution by various agro ecological zones	3
Table 3	Livestock population ('000)	5
Table 4	Total Government Expenditure on the agricultural sector (2008-2011)(GH $\! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$	7
Table 5	Distribution of non-oil GDP (at Basic prices) by Economic Activity, %, 2014	7
Table 6	Performance of non-traditional agricultural exports (NTAE)	9
Table 7	Volume of main agricultural non-traditional exports (MT)	9
Table 8	Indicators of Trade unions in Ghana 2014	21
Table 9	Labour related Acts and Regulations in Ghana	22
Table 10	Unemployment, youth unemployment and under-employment in Ghana (2013)	23
Table 11	Ghana Grains Council certified warehouses	26
Table 12	Financing schemes for farms and agribusiness/agro-processing companies	31
Table 13	Available agricultural insurance products	35
Table 14	Fund types	36
Table 15	Legislations guiding business investment in Ghana	38
Table 16	Sources of agricultural tractor supply in Ghana.	43

	List of Figures	
Figure 1	Map of West Africa showing the Location of Ghana	1
Figure 2	Map of Ghana- Ecological zones	2
Figure 3	Domestic fish production by sub sectors	6
Figure 4	Irrigation Schemes	25
Figure 5	GGC Warehouses	26
	Appendices	
Appendix 1	Crop-soil suitability map of Ghana	46
Appendix 2	Agriculture and related research institutions	52
Appendix 3	Annual production of major food crops, ('000 MT)	54
Appendix 4	List of some agro-processing companies in Ghana	55
Appendix 5	List of key agriculture-related policies	57
Appendix 6	Alignment of national policies and regulations with CFS RAI principles	58
Appendix 7	List of agricultural and related Acts and Regulations	60
Appendix 8	Industry of currently employed persons aged 15 and older by locality and sex (%)	61
Appendix 9	Qualifications provided by some agricultural training entities in Ghana	63
Appendix 10	List of government regulatory authorities and other relevant institutions	65
Appendix 11	Public Irrigation Schemes in Ghana	68
Appendix 12	GCAP Sponsored Warehouses by Location and Capacity	70

Acronyms and abbreviations

ABU Agribusiness Unit

AfDB African Development Bank ARI Animal Research Institute

APCC Air Ghana Perishable Cargo Center

ATLAFCO The Ministerial Conference on Fisheries Cooperation among African States

Bordering the Atlantic Ocean

Av Average

AWM Agricultural Water Management BDS Business Development Service

BNARI Biotechnology and Nuclear Agriculture Research Institute

BSc Bachelor of Science

CAADP Comprehensive African Agriculture Development Programme

CEPS Customs Excise & Preventive Service

CFS Committee on Food Systems

CFS-RAI Principles for Responsible Investment in Agriculture and Food Systems

CRI Crop Research Institute

CRIG Cocoa Research Institute of Ghana

CUC Central University College

DOCs Day Old Chicks

DTA Double Taxation Agreements ECOWAP ECOWAS Agricultural Policy

ECOWAS Economic Community of West African States

EDAIF Export Development and Agriculture Investment Fund

EIA Environmental Impact Assessment

EMQAP Export Marketing and Quality Awareness Project

EPA Environmental Protection Agency

EU European Union

FAO Food and Agriculture Organization

FASDEP II Food and Agricultural Sector Development Policy

FCWC Fisheries Committee for the West Central Gulf of Guinea

FDI Foreign Direct Investments

FIFA Federation of International Football Association

FinGAP Financing Ghanaian Agriculture Project FORIG Forestry Research Institute of Ghana

FRI Food Research Institute

GADs Gender and Agriculture Development Strategy

GAIP Ghana Agriculture Insurance Pool

GASIP Ghana Agricultural Sector Investment Programme

GAX Ghana Alternative Market

GCAP Ghana Commercial Agriculture Project

GGC Ghana Grains Council GDP Gross Domestic Product

GEA Ghana Employers' Association
GEPA Ghana Export Promotion Authority

GFL Ghana Federation of Labour GFZB Ghana Free Zones Board

GIDA Ghana Irrigation Development Authority
GIPC Ghana Investment Promotion Center

GLSS Ghana Living Standard Survey

GNAT Ghana National Association of Teachers

GoG Government of Ghana
GRA Ghana Revenue Authority

GSGDA Ghana Shared Growth and Development Agenda

GSS Ghana Statistical Service

HACCP Hazard Analysis and Critical Control Point

HIV /AIDS Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome

ICCAT International Commission for the Conservation of Atlantic Tunas

IFAD International Fund For Agricultural Development

IIR Institute of Industrial ResearchILO International Labour Organization

IPPC International Plant Protection Convention

IRS Internal Revenue Service

IUU Illegal Unreported And UnregulatedJICA Japan International Cooperation Agency

KNUST Kwame Nkrumah University of Science And Technology

LDC Livestock Development Council

METASIP Medium Term Agriculture Sector Investment Plan

MFRD Marine Fisheries Research Division

MGF Matching Grant Fund

MiDA Millennium Development Authority

MLNR Ministry of Lands And Natural Resources

MMDYE Ministry of Manpower Development, Youth And Employment

MOF Ministry of Finance

MoFA Ministry of Food And Agriculture MOTI Ministry of Trade And Industry MOU Memorandum of Understanding

MT Metric Ton

NDPC National Development Planning Commission

NGP National Gender Policy

NLC **National Labour Commission**

NLCD National Liberation Council Decree National Redemption Council Decree NRCD

NTC National Tripartite Committee

NVTI National Vocational Training Institute

OPRI Oil Palm Research Institute

OVCF Out-grower And Value Chain Fund

Provisional National Defense Council Law P.N.D.C.L Plant Genetic Resource Research Institute **PGRRI**

PPRSD Plant Protection & Regulatory Services Directorate

Plant Quarantine Division PQD

PSJSNC Public Services Joint Standing Negotiation Committee

Rural Enterprise Development Fund **REDF**

REP Rural Enterprise Project

SADA Savanna Accelerated Development Authority

SMEs Small and Medium Enterprises

SPV Special Purpose Vehicle

SSNIT Social Security And National Insurance Trust Science and Technology Policy Research Institute STEPRI

TC Tree Crops

TCP Tree Crops Policy TUC

Trade Union Congress

TWU Ghana Timber and Wood Workers' Union

UCC University of Cape Coast

UDS University for Development Studies

UG University of Ghana **United States Dollars** USD

VC Value Chain

VCTF Venture Capital Trust Fund **VCFCs** Venture Capital Finance

VSD Veterinary Service Directorate

WRI Water Research Institute WTO World Trade Organization

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FOREWARD

The Ministry of Food and Agriculture (MoFA) is the lead government agency and focal point for the

development of the agricultural sector. MoFA was set up under the Civil Service Act (CSA) 1960. Its mandate

is to develop and execute policies, programmes, projects and strategies for the agricultural sector within the

context of a coordinated national socio-economic growth and development agenda. Agriculture is a key sector

that contributes significantly to the development and growth of Ghana's economy, and currently accounts for

employment of about 44.7% of total workforce (GLSS6, 2014). Improving Ghana's agribusiness sector will

lead to higher incomes and more jobs, paving the way for economic growth, structural transformation and

industrialization of the Ghanaian economy.

In recognizing the important role the agricultural sector plays in Ghana's economic development, MoFA saw

the need to come up with an Agriculture Investment Guide (AIG) to provide guidance and direction for existing

and potential agribusinesses.

With the support of Japan International Cooperation Agency (JICA) and the Ghana Commercial Agriculture

Project (GCAP), this document was developed by the Agribusiness Unit of the Ministry of Food and Agriculture

through stakeholder consultative workshops and meetings. The AIG adopts a logical approach in its

consideration of agribusiness investment opportunities in Ghana to ensure that investors make the most

appropriate investments for their individual needs.

Further, it outlines policies and regulations guiding investments, relevant institutions that serve regulatory

functions and existing incentives schemes to create a conducive environment for agriculture. It also provides

useful information on existing agricultural infrastructure such as irrigation facilities, pack houses and cooling

facilities, warehouses and export facilities at the ports, labour market situation, land acquisition process and

registration for agricultural use and financing schemes for agriculture in Ghana.

Through its comprehensive, step-by-step approach this Investment Guide will provide you information leading

to the rewarding opportunities that await you in agriculture and agribusiness in Ghana.

HON. DR. OWUSU AFRIYIE AKOTO

HON. MINISTER FOR FOOD AND AGRICULTURE

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EXECUTIVE SUMMARY

The Agriculture Investment Guide has been developed in alignment with the Food and Agriculture Sector Development Policy (FASDEP II). The Guide has been developed with strong emphasis on attracting accelerated investment into the sector to increase productivity, growth and transformation and to create jobs, increase incomes, and ensure food security over the medium to long term.

Agriculture has been the principal sector for the development and growth of Ghana's economy over the years. The contribution of agriculture to GDP in the five-year period spanning 2010 to 2015 has declined from 29.8% to 20.3%. It still remains a major contributor to the economy, providing employment to 44.7% of the total workforce (GLSS6, 2014). For instance, FDI inflows between 2008 and 2016 into agriculture sector recorded was US\$1.3 billion (GIPC, 2016).

Improving Ghana's agribusiness sector would lead to higher incomes and more jobs. Attracting private participation in the sector allows Ghana to compete globally. Such agribusiness development path paves the way for economic growth, structural transformation and improved technical skills which in turn can catalyze economic activities and connect major sectors in the Ghanaian economy.

Modernized agriculture, increased productivity and transformation of the agricultural sector remains a policy goal as well as promoting and enhancing investment into the sector. Furtherance to this, MoFA established the Agribusiness Unit (ABU) in 2012 with the role of facilitating investment into agriculture and providing technical support to agribusinesses. The Agribusiness Unit of MoFA collaborates closely with the Ghana Investment Promotion Center (GIPC) and Ghana Commercial Agriculture Project (GCAP) in this endeavor.

This Agriculture Investment Guide has been developed to serve as a reference document for information on institutions, regulations and policies relevant to the agricultural sector. It outlines incentives available to investors in the agriculture sector and provides information on the various procedures required to successfully establish agricultural investments. It is to ensure that investments are in alignment with national policies and regulations as well as help interested investors in making informed investment decisions.

Government's flagship program "Planting for Food and Jobs" and other MoFA projects such as the Ghana Commercial Agricultural Project (GCAP) are among some of the interventions the Ministry is implementing to increase private investment into the sector.

The Agriculture Investment Guide has nine chapters which cover areas of general information on; policies and sub-sector policies prevailing in the agriculture sector; agricultural infrastructure in the sector including irrigation facilities, pack houses, warehouses, cold terminals and other infrastructure and logistics; laws and regulations governing the agriculture sector and their requirement relating to agriculture investment; labor market situation, structure and disaggregated agriculture labor and demographics; land acquisition process and registration for agricultural use and the institutions responsible; financing schemes for agriculture in Ghana; Investment laws and regulations relating to agriculture; various incentives for investing in agriculture and processes of registering and establishing agricultural firms and businesses.

This Guide addresses the information challenge that investors could encounter in establishing agribusinesses and also provides the opportunities and incentives available and outlines policies and regulations for investors to harness and take cognizance of.

Chapter 1

Introduction

1.1 General information and historical overview

Ghana is located along the Gulf of Guinea on the West Coast of Africa, about 750 km north of the equator (Figure 1). The country is bordered by Burkina Faso to the north, Cote D'Ivoire to the west, Togo to the east and the Gulf of Guinea to the south. Prior to colonization by the British in the 19th century, the country was the site of numerous kingdoms and empires. Ghana's 560-kilometre (350-mile) coast is dotted by culturally significant castles, forts and harbors. The country attained independence from Great Britain in 1957 - the first sub-Saharan African nation to attain



independence from British colonization. Since 1992 Ghana has experienced peaceful and democratic changes of government. Ghana's population of about 27 million comprises a variety of ethnic, social and religious groups. Table 1 provides general information on the country.

Table 1: Ghana - General Information

Official Name	Republic of Ghana
Location	West Africa
Capital City	Accra
Administrative Regions	16
Population (2020*)	30.9 Million
Official language	English
Religion	Christianity 73%, Islam 20.2%, Traditional and others 6.8%
Total land area	23,853,300 hectares
Arable land	13,600,000 Hectares (56.94%)
Climate	Warm Tropical
Economic status	Lower Middle Income
Nominal GDP (2020)*	US \$42.685 Billion
GDP Per Capita (2016)	US\$1508

Source; GSS,

^{*}Revised 2020 figures

1.2 Physical and climatic features

1.2.1 Soils and topography

Most of the soils of Ghana are developed on thoroughly weathered parent materials, with alluvial soils (Fluvisols) and eroded shallow soils (Leptosols) common to all the ecological zones. Generally, most of the soils are plagued with inherent or human induced infertility. The soils in the Forest zone, Forest Oxysols and Forest Acid Gleysols, are porous, well drained and generally loamy. They are distinguished from those of the Savannah zones by the greater accumulation of organic matter in the surface resulting from higher accumulation of biomass. Savannah soils are underlain by various igneous, metamorphic and sedimentary rocks, which have influenced the nature and properties

Figure 2: Map of Ghana- Ecological zones



of the soil. Consequently, soils of the Savannah zones, especially in the Interior Savannah, are low in organic matter (less than 2% in the topsoil), have high levels of iron concretions and are susceptible to severe erosion.

The topography of the country is mainly undulating with most slopes less than 5% and many not exceeding 1%. The topography of the high rainforest is, however, mainly strongly rolling. The uplifted edges of the Volta Basin give rise to narrow plateau between 300 to 600m high. Despite the general undulating nature of the terrain, about 70% suffer from moderate to severe soil erosion. See Appendix 1 for a map showing the suitability of soils types for the cultivation of various crops in the country.

1.2.2 Climate and Agro Ecological Zones

The climate of Ghana is warm and tropical. The tropical eastern coastal belt is warm and comparatively dry whilst the northern area has generally hot and dry climate. Annual average temperatures range from around 26 degrees Celsius in the coast to around 29 degrees Celsius in the extreme north.

The country's varied geography includes savannas, forests, springs, caves, mountains, estuaries and nature reserves. Ghana is divided into six distinct agro-ecological zones: these are Rain Forest, Deciduous Forest, Forest-Savannah Transition, Coastal Savannah and Northern (Interior) Savannah which comprises Guinea and Sudan Savannahs (see Figure 2).

Rainfall distribution is bimodal in the Forest, Deciduous Forest, Transitional and Coastal Zones, giving a major (March-July) and minor (September-October) growing season. Elsewhere, in the

Guinea Savannah and Sudan Savannah, the uni-modal distribution gives a single growing season (July-September). Table 2 presents rainfall distribution in the various agro-ecological zones.

Table 2: Rainfall distribution by various agro ecological zones

Agro-ecological Zone	Mean annual Rain (mm)	Growing Period (Days)				
		Major season Minor	season			
Rain Forest	2,200	150 - 160	100			
Deciduous Forest	1,500	150 - 160	90			
Transitional	1,300	200 - 220	60			
Coastal Savannah	800	100 - 110	50			
Northern Savannah						
Guinea Savannah	1,100	180 - 200	*			
Sudan Savannah	1,000	150 - 160	*			

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1.3 Economy of Ghana

Ghana is endowed with abundant natural resources such as gold, diamond, bauxite, iron and oil. The country is the second largest economy and market by purchasing power parity and nominal GDP in West Africa. Ghana is the world's second largest producer of cocoa and also a major gold producer. In 2010 Ghana started oil production at the offshore Jubilee fields and has recently been producing and processing natural gas. The growing economic prosperity and stable democratic political system of the country has made it a preferred destination for investors in West Africa.

1.3.1 FDI Inflows in Agriculture

In the year 2020, Ghana Investment Promotion Center (GIPC) registered one agriculture project worth US\$ 6,469, 000 as compare to 2015 registered projects (i.e. in 2015 GIPC registered 2 agriculture projects worth US\$ 2,520,000). Additionally, from 2008 to 2016, GIPC has registered 110 projects worth US\$ 1,303 billion.

1.4 Foreign Relations

Ghana has strong economic relations with its neighboring countries and the rest of the world. The country is an active member of the United Nations and many of its specialized agencies, the Non-Aligned Movement, the African Union (AU), the Economic Community of West African States (ECOWAS), the Commonwealth and Bretton Woods Institutions.

Chapter 2

Agriculture in Ghana

2.1 Overview

Agriculture plays a vital role in Ghana's economy and has a great impact on poverty reduction. It is also critical for rural development and cultural values, social stabilization, environmental sustainability and buffering economic shocks. The sector currently provides employment for about $38.3\%^1$ of the total workforce in the formal and informal sectors .The main agricultural commodities include root and tubers, cereals, tree plantation crops such as cocoa, oil palms and shea, horticultural crops (mainly papaya, pineapples, mango and vegetables), livestock and fisheries.

Agriculture in Ghana is predominantly a smallholder activity. About 90% of farm holdings are less than 2 hectares in size, although there are some relatively large farms and plantations, particularly for rubber, oil palm, banana, pineapple and coconut and to a lesser extent, rice, maize and cocoa. Ghana's primary cash crops are cocoa, oil palm, pineapple, mango, cassava, tomato, banana, citrus, cashew and vegetables. Appendix 1 shows the suitability of various crops to different soil types in Ghana.

Over the years, the Government of Ghana has been implementing policies and programmes to promote growth and development of the agriculture sector. These include the Ghana Shared Growth and Development Agenda (GSGDA I and II), Food and Agricultural Sector Development Policy (FASDEP I and II), Medium Term Agricultural Sector Investment Plan (METASIP I and II), Investing for Food and Jobs: Agenda for Transforming Ghana's Agriculture (IFJ) and The Coordinated Programme of Economic and Social Development Policies (2017-2024): An Agenda for Agenda Jobs.

One of the government's main objectives in the crops sector is to enhance the competitiveness and profitability of crops through enhanced access to improved technological packages for increased productivity and to ensure sustainable management of the environment. The list of agriculture research institutes that are mainly responsible for the development of improved technologies is provided in Appendix 2.

The agricultural sector offers a unique set of advantages to investors including a varying range of agro-ecological zones amenable to production of different crops. Ghana has fertile soils suitable for agricultural production. The total land area of about 23.9 million hectares includes about 14 million hectares of agricultural land area, out of which 6.7 million is under cultivation, (MoFA,SRID 2018). There are adequate water resources, both surface water and underground water, for irrigation. The area under inland waters is about 1.1 million hectares.

 $^{^{\}mathrm{1}}$ Ghana Statistical Service: GLSS7 2019

2.2 Agriculture sub-sectors in Ghana

Agriculture is one of the predominant sectors in Ghana's economy. The sector is composed of five sub-sectors: crops, cocoa, forestry and logging, livestock and fisheries.

2.2.1 Crop sub-sector

The agricultural production figures by Statistics, Research and Information Services Directorate (SRID-MoFA, 2018), indicated that, for the preceding four years (2015-2018), food production in Ghana showed an upward trend, thus increasing the country's progress towards complete food self-sufficiency (see Appendix 3). Generally, production levels of major food crops (rice, cassava and maize) increased, except yam output which declined marginally due to the high cost of agricultural inputs and poor weather conditions in some parts of the country which made most farmers in the northern sector shift to crops that are drought tolerant and not heavily dependent on fertilizer (millet and sorghum). A key element of national agriculture development policy is the promotion of processing. The practice of processing agricultural production is widespread and increasing. A list of some agro-processing companies operating in Ghana is provided in Appendix 4.

2.2.2 Livestock sub-sector

From projected estimates, livestock population increased from 2016 to 2018 (see Table 3). This achievement can be attributed to productivity improvement interventions in the livestock subsector including supply of improved livestock breeds to farmers, sustainability of the 32 credit-in-kind projects for both pigs and small ruminants, and the cockerel improvement project. Furthermore, investments in veterinary services, particularly improvement in disease control mechanisms and capacity building for community livestock workers, have helped to sustain the gains made from investments in improving animal production.

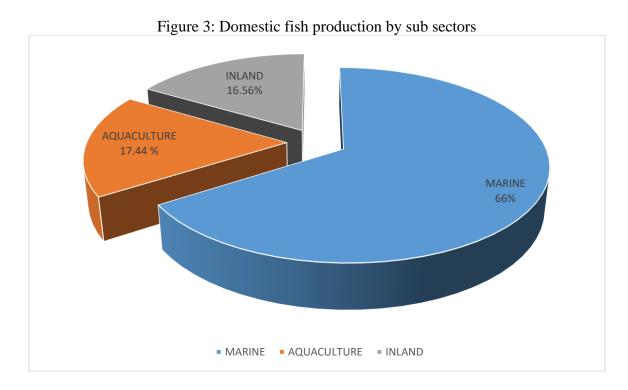
Table 3: Trend of Livestock Population ('000)

Type of	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Livestock										
Cattle	1,438	1,454	1,498	1,543	1,590	1,657	1,734	1,815	1,901	1,943
Sheep	3,642	3,759	3,887	4,019	4,156	4,335	4,522	4,744	4,978	5,102
Goats	4,625	4,855	5,137	5,435	5751	6,044	6,352	6,740	7,151	7,366
Pigs	521	536	568	602	638	682	730	777	816	845
Poultry	43,320	47,752	52,575	57,885	63,732	68,511	71,594	73,885	75,363	76,870

Source: MoFA/SRID projections

2.2.3 Fisheries sub-sector

The fisheries sub-sector has contributed to the achievement of the country's food security goals by providing high quality and affordable fish protein in the daily diet of many households. It is estimated that the sub-sector contributes about 60% of the protein requirements of Ghanaians. Total fish produced in 2018 from all sources, including captured (marine and inland) and cultured (aquaculture), was 444,448 metric tons, contributing about 70% of the total fish needs of the country. Out of the total production in 2018, marine fisheries accounted for about 66%, inland fisheries 16.56% and aquaculture 17.44% (Figure 3). Total import in 2018 was 192,690 metric tons.



Source: GSS, GLSS 7, June 2019

2.3 Public Sector Investment on Agriculture

Under the Ghana Shared Growth and Development Agenda (GSGDA), and in line with the Maputo Declaration, the Government of Ghana has committed to invest at least 10% of its annual expenditure in the agricultural sector. This is to attain 6% annual agricultural growth. The volume of total government expenditure in agriculture showed an increasing trend from GH¢4 billion in 2016 to GH¢ 5 billion in 2018. However, during the period, the average growth rate of the sector was 6.3% in 2018. This incremental trend in agricultural expenditure is commendable evidence of government commitment to the sector but the impacts of these investments on smallholder agriculture need to be enhanced to accelerate agriculture growth and productivity in Ghana.

2.4 Performance of Gross Domestic Product

The agriculture sector in Ghana used to be the largest contributor to Gross Domestic Product (GDP) until 2005, where the services sector took over. Then, as a result of the oil discovery, the industrial sector topped the agriculture sector in 2011. In 2018, agriculture contributed about 19.7% of GDP whilst services and industry contributed about 46.3% and 34% respectively. The agricultural GDP growth rate in 2017 was 6.1% whereas in 2018 the growth rate was 4.8%. The

2.5. Domestic and export market trends

Over the last few years, Ghana has embarked vigorously on promoting horticulture as a key subsector in driving the non-traditional export sector. More than \$300 million public and \$500 million private funds² have been invested in the last eight years to upgrade infrastructure, build technical capacities and create a competitive export environment in the sector.

The orientation towards liberalized market economies and globalization has not only created opportunities for horticultural producers and exporters but has also come with fierce competition from other exporting countries amid stringent European market requirements. The need, therefore, is to exploit the Ghanaian domestic market and diversify into West Africa and Middle East markets while consolidating the European market.

The horticultural sector is set to grow on the domestic market. There is increasing presence of supermarket chains, growing middle class and booming hospitality market growth. There has been a steady increase in new hotels with increased demand for fruits and vegetables. In particular, oranges, pineapple, mangoes, bananas, coconut and watermelon remain the strategic

Economic activity	2010	2011	2012	2013	2014	2015	2016*
Agriculture	29.9	27.2	24.8	24.4	23.2	21.2	19.3
Industry	18.8	20.2	22.0	21.3	20.9	21.9	22.7
Services	51.3	52.6	53.2	54.3	56.0	56.9	58.1
Gross domestic product at basic prices	100.0	100.0	100.0	100.0	100.0	100.0	100.0

fruits for further investment and production expansion in the domestic market. During 2009 to 2013, the market for mangoes doubled while bananas also grew by 48%, oranges by 37%, and watermelon by 5%.

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² Potential Regional and Local Markets for Ghanaian Horticultural Produce, MoFA (2013)

In the export sub-sector, markets for mangoes, oranges, pineapples and specialty vegetables (Bird's eye chilies) in West Africa, Europe and the Middle East provide high opportunities for exports. Also volumes for non-traditional exports such as processed foods and industrial materials have increased by 59.52% during the period 2004-2013. Tables 6 and 7 provide details on the progress in developing non-traditional agriculture exports in recent times.

The Government and its development partners are striving to make the horticultural industry more viable and competitive, and as well to increase production and export of horticultural produce. Under the Export Marketing and Quality Awareness Project (EMQAP) and the Millennium Development Authority (MiDA)), four pack houses have been constructed, including one precooler for nucleus farmers and the Perishable Cargo Center at the Kotoka International Airport.

Table 6: Performance of Non-Traditional Agricultural Exports

Items	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Volume of NTAE ('000 MT)	293.20	299.50	547.10	553.10	552.40	571.60	670.1	612.2	515.7	620.2
Value of NTAE (US \$m)	150.90	164.90	297.00	276.40	306.10	340.70	396.90	371.14	441	591
Total Value of NTAE (US \$b)	1.215	1.629	2.423	2.364	2.436	2.514	2.522	2.463	2.557	2.813
Contribution (%)NTAE	12.40	10.10	12.30	11.70	12.60	13.60	15.74	15.07	17.25	21.01

Source: Ghana Export Promotion Council, Accra.

Table 7: Volume of Main Agricultural Non-Traditional Exports (Mt.)

Commodity	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Horticultural:										
Pineapple	31,567	40,141	45,057	41,212	40,095	33,634	43,461	27,148	36,331	17,507
Yam	17,571	19,485	27,393	25,079	5,230	36,826	28,296	24,105	18,664	17,279
Oranges	11,028	10,729	3,812	7,589	8,233	9,025	5,062	6,789	6,059	7,192
Vegetables	2,342	3,695	11,658	1,960	n.a	870	338	294	580	405
Banana	47,613	64,202	63,761	60,425	8,656	56,075	95,180	108,473	112,861	178,903
Mangoes	435	291	869	1,222	1,789	1,276	2,219	2,122	1,741	2,817
Pawpaw	891	812	920	426	1,119	1,295	664	520	1,639	1,240
Fish & Sea foods:										
Tuna Fish	19,325	20,632	4,707	19,799	6,496	26,820	12,138	26,387	33,167	31,455
Other Fish	10,695	4,855	7,972	n.a	7,008	5,792	4,654	8,076	4,695	3,560
Lobsters/Shrim ps, etc.	18	75	57	18	52	93	27		59	55
Cuttlefish & Octopus	149	388	560	412	130	556	1,020	5,556	10,546	6,193
Processed & Industrial:										
Cashew Nuts	52,965	57,095	215,587	157,176	271,53 7	192,37 6	232,835	231,555	207,479	259,432
Cocoa Products	n.a	n.a	233,730	n.a	n.a	220,30 8	n.a	261,816	-	-
Raw/Lint Cotton	n.a	729	1194	n.a	n.a	2,516	598	1,662	398	n.a
Coffee	1,346	1,737	9,035	48,517	918	112	174	538	8	0.1
Cotton Seed	1,201	419	3,530	7,077	2,984	509	n.a	-	370	42

Kola nut	5,182	7,878	1,186	1,758	527	135	n.a	-	7,898	2,867
Shea nuts	67,826	41,219	111,194	108,976	37,518	59,909	134,651	78,268	10,983	27,967

Source: Ghana Export Promotion Council (GEPC), Accra.

Chapter 3

Agriculture sector policies and legislation

3.1 Overview of policy framework

The Food and Agricultural Sector Development Policy (FASDEP II), is aligned at the national level with the Growth and Poverty Reduction Strategy and the Ghana Shared Growth and Development Agenda (GSGDA II), The Coordinated Programme of Economic and Social Development Policy (CPESDP): Agenda for Jobs and at the international level to the Sustainable Development Goals (SDGs) and the ECOWAS Agricultural Policy (ECOWAP). The Investing for Food and Jobs (IFJ): An Agenda for transforming Ghana's Agriculture is the current medium-term plan for the agriculture sector which is aligned to the Comprehensive African Agriculture Development Programme (CAADP). The main thrust of the plan is to ensure the government's objective of modernizing the agri-food system to transform the economy is attained.

The Ministry of Food and Agriculture is currently implementing, the "Planting for Food and Jobs" Campaign in the agriculture sector to increase productivity and, production of selected value chains and creates jobs in the agriculture and related sectors. The agriculture sector has experienced local production deficits in rice and soyabean and some horticulture crops such as tomatoes, onions and sweet pepper which are met through imports. The Planting for Food and Jobs Campaign is focusing on value chains namely; maize, rice, soyabean, sorghum, cowpea, cassava, orange flesh sweet potato (OFSP) groundnut and vegetables.

The Planting for Food and Jobs Campaign has five (5) pillars: (i) Improving access to seeds (ii) Improving access to fertilizers (iii) Extension services (iv) Marketing and (v) E-Agriculture Platform.

3.2 Gender aspects of agriculture policies

The following policies help protect women and also promote gender equality in Ghana and the agriculture sector.

3.2.1 Coordinated Programme of Economic and Social Development Policy (CPESDP).

CPESDP - Agenda for Jobs is the overarching national medium-term development policy framework and poverty reduction strategy of Ghana with the main target of putting the economy on the path to achieving a per capita income of least US \$3,500 by 2024 and attaining the Sustainable Development Goals. The emphasis of the agriculture-related strategy in the CPESDP

Agriculture is the pre-dominant occupation among rural folks in Ghana, majority of which are women. To ensure they are not marginalized in the sector, the CPESDP promotes women empowerment by;

- i. putting measures in place to ensure men and women have equal access to title to land.
- ii. re-introduction and enforcement of administrative directive on the reservation of 30% of poverty alleviation funds of MMDAs to service women's enterprises.
- iii. Ensuring that at least 50% of MASLOC funds continue to be allocated to women

3.2.2 National Gender Policy (NGP)

The NGP is aimed at addressing gender inequality of opportunities and women empowerment. It also intends to mainstream gender concerns into national development processes to improve the social, legal, civic, political, economic and socio-cultural conditions of women and men. Therefore, within this national policy framework, all sectors are to develop gender polices using the overarching national gender policy as a guide. This will enable achievement of the NGP aim of accelerating efforts and commitment of government to empower women to have livelihood access to economic opportunities and decent work to improve earnings while addressing disparities in education, socio economic and cultural issues, health, agriculture, trade and related matters.

3.2.3 Food and Agriculture Sector Development Policy II (FASDEP II)

The MoFA developed the FASDEP II, the prevailing national policy for Ghana's agriculture sector, in 2008 to provide a framework to promote sustainable agriculture and thriving agribusiness for all. FASDEP II strategies for gender mainstreaming are to prioritize a key gender mainstreaming programme annually for implementation of Gender and Agriculture Development Strategy (GADs) strategies, strengthen institutional capacity for effective gender mainstreaming and advocate affirmative action in recruitment and training in MOFA. The other strategies are to ensure collection, use and maintenance of gender disaggregated data at all levels and to promote systematic and regular gender analysis of agricultural programmes to ensure they do not increase the workload of poor women and men farmers.

³3.3 Tree Crops Policy (TCP)

The formulation of the Tree Crops Policy (TCP) in Ghana takes into account the major policy and strategy documents developed and currently being implemented in the sector. The Policy is to provide a comprehensive and holistic approach for the sustainable development of the tree crops sub-sector and for proper targeting of support to tree crop value-chains.

3.2.1 Objectives and Strategies of TCP

The TCP has prioritized six major strategic objectives to promote the sustainable growth and development of the tree crops sub-sector in Ghana. These are to:

- i. support increased production and productivity
- ii. promote investment and increase processing capacities

³ For full document visit www.mofa.gov.gh

- iii. improve marketing through value-chain development
- iv. promote sustainable practices for environmental protection
- v. support research and development
- vi. improve coordination and management

⁴3.4 Seed Policy

The production of certified seed and planting materials for sale to farmers in Ghana is a private-sector driven activity in which direct public sector seed production, marketing has been terminated, and small and medium scale seed enterprises, including small-scale farmers and commercial firms, produce and sell seeds and planting materials. In this privatized seed market, small and medium scale seed growers and dealers are registered and trained annually in the production and marketing of seeds in Ghana. To guide, promote and facilitate the accelerated development of the seed industry, Ghana has developed a comprehensive Seed Policy which is very informative and educative and captures the interests of the whole spectrum of actors along the agriculture value chain in the seed industry.

The main objective of the Seed Policy is to support the development and establishment of a well-coordinated comprehensive and sustainable private sector-driven seed industry through systematic and strategic approaches that continuously create and supply new improved varieties for use by farmers. The Seed Policy supports successful, seed production, certification, marketing and seed security systems which forms the basis for food security and supports the overall development of the agriculture sector. The Policy also provides implementation guidelines to guide the general approach to implementing the policy.

53.5 Agricultural Extension Policy

The Agricultural Extension Policy sets out to address the specific needs of farmers, especially the rural poor, in an effort to reduce poverty, to ensure that farmers adopt environmentally sustainable methods, to raise agricultural productivity, and to create an enabling environment for private sector participation in the funding and delivery of extension services.

The extension policy has nine objectives:

- i. promote farmer-driven extension and research to ensure that services provided are relevant to farmers' needs
- ii. empower farmers through the formation and development of FBOs, including marketing and agro-processing associations and co-operatives, in collaboration with the Department of Co-operatives
- iii. promote the best agricultural practices
- iv. improve the efficiency and cost-effectiveness of publicly funded extension services

⁴Contact the Directorate of Crop Services for the Full Document

⁵You may contact www.MoFA.gov.gh or the Extension service directorate of MoFA for the full document

- v. broaden extension services delivery
- vi. ensure that appropriate institutional structures are developed at all implementation levels to operate the new agricultural extension policy. Therefore, MoFA will make more operational the roles and responsibilities of staff at the various levels (national, regional and districts) as defined by the decentralization policy
- vii. implement an effective monitoring and evaluation system for agricultural extension services.
- viii. undertake a broad-based human resource development programme by ensuring continuous capacity building of agricultural development workers.
 - ix. drive the national agricultural extension system to respond to the emerging and underserved issues of the HIV/AIDS pandemic, environmental degradation, poverty reduction, gender, equity and client empowerment as they relate to sustainable agricultural production.

3.6 Livestock Development Policy

Ghana's agro-ecology, climatic conditions and land availability make livestock production suitable. The Rearing for Food and Jobs, another module of the Planting for Food and Jobs initiative was introduced by the government in 2019. It is aimed at increasing domestic production and reducing importation of livestock products, contribute to employment creation and improving the livelihoods of value chain actors. However, livestock production has still not kept pace with increasing consumer demand of meat and animal products

Ghana's agro-ecology, climatic conditions and land availability make livestock production suitable. However, livestock production has not kept pace with increasing consumer demand of meat and animal products.

63.7 National Fisheries and Aquaculture Development Policy

The National Fisheries and Aquaculture Development Policy developed in 2008 was the first comprehensive policy document on aquaculture development in Ghana and serves as a blue print. The policy aims at achieving full potential of the fisheries sub-sector.

The development of the Policy is in line with the Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries which also serves as a guide for integrated rural development and coastal area management. The policy is structured around four strategic areas of focus: (a) management of fisheries, conservation of aquatic resources and protection of their natural environment, (b) promotion of value addition in the fisheries sector and the improvement of livelihoods in the fishing communities, (c) sustainable development of aquaculture, and (d)

⁶You may contact www.mofad.gov.gh or the Ministry of Fisheries and Aquaculture for the full document

improvement of services provided to the sector by the Ministry of Fisheries and other supporting institutions.

3.8 Alignment of Sector policies to CFS RAI

Most of the policies of FASDEP II and other subsector policies and cross cutting policies in the agriculture sector are aligned to these Principles for Responsible Investment in Agriculture and Food Systems (CFS RAI). The CFS RAI acknowledges that the starting point for defining how responsible investment in agriculture and food systems can contribute to food security and nutrition is the recognition and respect for human right (see appendix 6).

3.9 Agricultural and related legislation

The policy framework for agriculture operates within the context of various types of legislation that relate to the sector. These legislations cover all the sectors of relevance to agriculture. A list of agricultural and related acts and regulations is presented in Appendix 7.

Chapter 4

Land Acquisition, Management and Regulation

Land ownership in Ghana is based on the underlying principle that land is a natural resource which originally belonged to a particular community or group, normally represented by a stool (or skin in the Northern Region of Ghana) as the acknowledged symbol or identity of the group. Land was also perceived as a communal property that defined a community's geographic extent, its economic strength and its socio-cultural heritage.

4.1 Land ownership in Ghana

There are four categories of land ownership in Ghana governed by both customary practices and enacted legislation.

- i. State Land: is compulsorily acquired by the government through the invocation of appropriate legislation and held in trust for the entire people of Ghana.
- ii. Vested Land: belongs to stools or skins but vested in the state in trust for the people of the stool, skin, or family from which it was vested.
- iii. Private Land: belongs to stools, skins, or family communities and held in trust on the behalf of the community by chiefs, *tendana* or family heads
- iv. Individual Land: land owned by individuals, corporations and institutions.

4.2 Responsible authority and legal framework

Ministry of Lands and Natural Resources (MLNR) has overall responsibility for land issues as well as for mines and forestry. Customary authorities (stools, skins, clans and families) are the allocation, administration and management of these lands.

The Lands Commission is responsible for ensuring that land development is effected in conformity with the nation's development goals. Other land sector agencies are the Office of the Administrator of Stool Lands, which is responsible for collecting rents, royalties, compensations and other payments for stool and skin lands, and the Town and Country Planning Department which is responsible for land use planning and development. The Lands Commission has been restructured by the Lands Commission Act (Act 767), under which 4 separate functional divisions have been established, namely: Survey and Mapping Division, Land Registration Division, Land Valuation Division, and, Public and Vested Lands Management Division.

There are two types of land registration systems in Ghana: the Title Registrations and the Deeds Registration Systems.

4.2.1 Title Registration System

According to the Land Title Registration Law 1986, (PNDCL 185), and the Lands Commission Act (Act 767), the Lands Commission receives an application for land title registration in order to issue a land certificate. An application, containing a site plan, is preceded by a preliminary search on the land at the Lands Commission in order to ascertain the past record of transactions on the land, to check current ownership of the land, and to ensure the status of payment of property tax. A "Deed Document" is prepared to confirm past history of transactions on the proposed land. Once a preliminary search is completed without any encumbrance, the applicant pays the land owner and the deed document executed concurrently.

An applicant then submits an application attached with "Deed Document (including a site plan)" to the Land Valuation Division with payment of stamp duty. The Land Valuation Division sends the set of documents to the Land Registration Division for processing and registration. The Land Registration Division reviews the documents, and issues the "Acknowledgement Card (Yellow Card)" once the documents are accepted. After this, the Land Registration Division asks the Survey and Mapping Division to confirm the submitted site plan of the applied land. There are two types of a site plans (a "Parcel Map" and a "Cadastral Map") depending on the status of development for the applied area. A "Parcel Map" is prepared for areas that are already developed while a "Cadastral Map" is prepared for undeveloped areas. In case of a Cadastral Map, a surveyor of the Survey and Mapping Division undertakes surveying of the site. Once the site plan is confirmed, the Land Registration Division gives Public Notice of 14 days duration in order to allow for receipts of any objections from concerned stakeholders.

In parallel, the Land Registration Division requests the Public and Vested Land Management Division to check "the Record of Information", which is retained in the Registration Division, for re-confirming past records on the proposed land. If no objection is received from the public and no defect is identified from the record of information, the Land Registration Division issues the Land Certificate to an applicant. In case of leasing the land from a landowner through the transfer of registered-ownership for agreed durations, a *Public Notice* is not given to the public since it is regarded as second registration.

4.2.2 Deeds Registration System

Land registration in other regions (apart from Greater Accra Region and Kumasi in the Ashanti Region) is regarded as "Deeds Registration" in which case a *Public Notice* is given if the area of land exceeds 50 acres. The Regional Public and Vested Land Management Division Office is in charge of the registration in this instance.

4.3 Stool/ Skin Lands-Registration Procedures

- i. The applicant/developer negotiates with the chief and his principal elders concerned with management of communal land or with clan or family heads and principal clan/family elders.
- ii. Three copies of the document executed between the chief, *Tendana*, clan or family head and the application are submitted to the Lands Commission.
- iii. A solicitor of the Supreme Court (a practicing lawyer) must sign the back of each copy with his/her stamp duly affixed.
- iv. Each copy of the document must have a certified site plan attached. Two extra site plans, making five in all, must accompany the documents.
- v. The back of the site plans are endorsed by the granter (lessor)/seller and the applicant (lessee)/buyer.
- vi. Each site plan is certified by the stamps of a licensed surveyor and the Regional Surveyor and duly dated.
- vii. At least two principal Elders of the stool (with status) or principal family/clan members must sign as witnesses.
- viii. The witnesses of the applicant (lessee) /buyer must write their full names and provide addresses and signatures.
- ix. The documents are submitted to Lands Commission for processing and registration fees payment.
- x. The Chairperson of the Lands Commission grants concurrence.
- xi. The documents are released for stamping at the Land Valuation Division of the Lands Commission
- xii. The applicant obtains Tax Clearance Certificate at Internal Revenue Service.
- xiii. The document is registered at the Deeds Registry at the Lands Commission.
- xiv. The applicant pays the first year's ground rent.
- xv. The original copy of the document is released to the applicant.

4.4 State and Stool Vested Lands-Registration Procedures

- i. Applications go to the Lands Commission for the plot of land.
- ii. The Applicant completes application form (form 5) and questionnaire with two passport size pictures.
- iii. The Lands Commission gives approval, if a plot is available.
- iv. The Applicant pays the requisite fees and charges.
- v. The documents are prepared by the Secretariat of Lands Commission.
- vi. The Applicant is invited for the execution of the documents by the Chairperson of the Lands Commission.
- vii. The Applicant pays ground rent processing and registration fee.
- viii. The documents are released for stamping at Land Valuation Board.
- ix. The Applicant obtains Tax Clearance Certificate at the Internal Revenue Service.

- x. The document is finally registered at the Deeds Registry at Lands Commission.
- xi. The original copy of the document is released to the Applicant.

⁷4.5 Model Commercial Agriculture Lease Agreement

There are various drafts of land lease and "indenture" agreements in Ghana that have presumably been construed to have worked well in the context of traditional transactions. However, these draft documents have not been tailored to address the unique issues and challenges posed by large-scale commercial land transactions which can, if not handled appropriately, have significant negative consequences for whole communities. To forestall this likelihood, MoFA through GCAP has produced a specialized 'Model Lease Agreement' (MLA) document that aims to facilitate socially responsible land investment practices by proactively addressing the specific challenges that investors, landowners and affected communities often encounter in commercial agricultural land transactions in Ghana. The MLA contains unique and innovative provisions that distinguish it from traditional lease forms, including: (a) mechanisms for clarifying the rights granted to investors and specific rights reserved by landowning communities, so as to minimize misaligned expectations on all sides, (b) different options for monetary forms of compensation paid under the lease, and (c) inclusion on the lease form of signature lines for witnesses representing a broad range of community interests.

Also, the Land Commission has developed guidelines for large-scale land transactions in the country to guide investors and customary land owners and their communities in addressing the challenges posed by speculative large-scale commercial land transactions which negatively impact land owning communities.

`19

⁷ Visit www.gcap.org.gh for full document

Chapter 5

The labour market

National development policy and programmes aim at ensuring availability of jobs for all. However, unemployment persists. The unemployment and under-employment rates stand at 4.51% and 5.1% respectively in 2020. Youth unemployment was at 9.46% in 2020, with a slightly higher rate among females. Up to 300,000 workers are introduced to the pool of jobseekers every year but only about 2.0% find jobs in the formal sector; the majority end up in the informal job market.

National Employment Policy aims to structurally transform the Ghanaian economy through more employment-intensive production processes and public investment programmes.

Ghana has a unified trade union movement with a relatively high density at 7.5% of the total labour force. Ensuring decent work in the informal economy is receiving increased attention by the Trade Union Congress (TUC) and several unions are working to extend their services to workers in the informal sector. An estimated 58,000 workers of the informal economy are affiliated members of trade unions.

5.1 Agricultural labour market

The Ghanaian economy is broadly categorized into three sectors: agriculture (including forestry and fishing), industry and service. In terms of the distribution of labour force by economic activity, agriculture contributed 38.3% of total employment with the service and industry sectors accounting for 43.5 and 18.2%, respectively (GLSS7, 2019).

5.2 Trade Unions in Ghana

Ghana has about 25 trade unions organized under two national trade union centers, the Trades Union Congress of Ghana and the Ghana Federation of Labour with a total workforce of around 11,058,000. Table 8 presents some characteristics of trade unions in Ghana.

5.2.1 Ghana Trade Union Congress (TUC)

The TUC was founded in 1945. It comprises 18 member national unions and nine associate members in the informal sector economy. The TUC has a membership of about 500,000 workers but membership has been decreasing in recent years due to declining formal sector employment. However, due to the decision to affiliate associated members from informal sector economy workers, membership is beginning to rise again. TUC estimates that about 300,000 workers belong to unions outside TUC that can potentially increase its membership. Table 8 presents some descriptors of the trade union situation in Ghana.

Table 8: Indicators of Trade Unions in Ghana 2014

Number of trade unions	25
Members of trade unions ¹	800,000
Trade union members share of labour force	7.5 %
Trade union members to waged workers	48 %
Female member share of trade unions ²	30 %
Affiliated trade unions from the informal economy	58,000
Waged and salaried workers covered by CBAs(2006) ³	70 %
Share of workers covered by CBA	N/A
Labour force (2019)	11,058,000

Source: Ghana TUC, 2019 and ILO 2013

5.2.2 Trade Unions in the Agriculture Sector

Two main national unions operate in the agriculture sector: The General Agriculture Workers Union (GAWU), the Timber, and Wood Workers' Union (TWU).

5.2.2.1 General Agricultural Workers' Union

The General Agricultural Workers' GAWU) is an affiliate of the Trades Union Congress-Ghana (TUC-Ghana) and the biggest trade union organizing farmers and agricultural workers both in the formal and informal sector in Ghana. The GAWU was formed on 9th February 1959. Initially, it derived almost all its membership from state-owned plantations in the formal segment of the agriculture sector. Currently, GAWU organizes workers in both the formal and informal sectors of the economy. The total membership of GAWU rose from 27,017 (comprising 47.4% wage earners from the formal sector and 52.6% own-account workers in the informal economy) in 2005 to 50,323in 2011. Females constitute just about 20% of the total membership but the union has recently adopted measures to promote gender balance in its membership and leadership, including the appointment of a National Women's Coordinator in July 1986 – the first union to do so.

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5.2.2.2 Ghana Timber and Wood Workers' Union (TWU)

The TWU was formed in 1952 to unionize all non-managerial employees of sawmills and other woodwork industries in the country. Its current membership of over 25,000 is drawn from both the formal and informal sector associations. Major challenges facing the union include the threat of labour retrenchment, as companies struggle to survive due to the dwindling rainforest and low demand for timber, especially from the OECD countries since the 2008 recent global economic and financial crises.

5.3 Employers' Organizations

Employers in Ghana also associate to enhance their interest through the collective forum of the Ghana Employers' Association (GEA) which was formed in 1959, two years after Ghana's independence. The association currently represents over 1,500 employers and aims to consolidate employers into an effective body to represent, promote and defend their interests in their dealings with organized labour and government. It seeks to promote good working relations between employers and their employees, and to assist employers in negotiating collective-bargaining agreements with organized labour. The GEA is structured into the Annual General Meeting, the Council, the Executive Committee, the Advisory Committee, the Administrative and Finance Committee, the Education and Training Committee and the Secretariat.

5.4 National labour legislation

The 1992 Constitution of Ghana establishes the right to satisfactory, safe and healthy work, equal pay for equal work, adequate resting periods, maternity leave and protection from child labour. Also freedom of association is guaranteed and workers are free to join and form unions. The Constitution also encourages participation of workers in labour related concerns at workplaces.

5.4.1 Labour Act 2003 (Act 651)

The Labour Act of 2003 applies to workers and to employers, except the Armed forces, the police services, the prison services and security and intelligence agencies specified under the security and intelligence agencies Act 1996 (Act 526). The Labour Act 651 regulates various working conditions, including the freedom of association, prohibition of anti-union, discrimination and the protection of employment. The Act also addresses issues of the employment of young persons, including women, and has special provisions relating to temporary workers and casual workers. The Act also established the Labour Inspection Commission and the National Labour Commissions. Table 9 provides information on labour-related legislation and regulations in Ghana.

Table 9: Labour related Acts and Regulations in Ghana

Act	Website
Children's Act 1998(Act 560)	http://www.ilo.org
Commission on Human Rights and Administrative Justice Act	http://www.ilo.org
1993 (Act 456)	
National Vocational Training Act 1970 (Act 351)	http://laws.ghanalegal.com
National Pensions Act 2008 (Act 766)	http://www.ilo.org
Human Trafficking Act 2005 (Act 694)	http://www.protectionproject.org
AIDS Commission Act 2002 (Act 613)	http://www.ilo.org/aids
National Health Insurance Act 2012 (Act 852)	http://www.nhis.gov.gh
Free Zone Act 1995 (Act 504)	http://www.ilo.org
Fair Wages and Salaries Commission Act 2007 (Act 737)	http://www.ilo.org

5.5 The Central Tripartite Structure

The Central Tripartite structure in Ghana comprises the National Tripartite Committee, the National Labour Commission and other organs.

5.5.1 The National Tripartite Committee (NTC)

The NTC is composed of the Minister for Labour and five representatives each of government, employers' organizations and trade unions. The committee sets the national minimum wage and advises on employment and labour matters, including labour laws, labour standards, industrial relations and occupational safety and health.

5.5.2 National Labour Commission (NLC)

The NLC is composed of a chairperson and two representatives each of government, employers' organizations and trade unions. The Commission settles industrial disputes, investigates labour complaints and promotes effective labour cooperation. If settlement fails, the Commission can appoint a mediator; and if mediation fails, an arbitration panel is formed, with the consent of the parties.

5.6 The Daily Minimum Wage

The daily minimum wage in Ghana was pegged at GH¢ 11.82 (US\$1.97) per day effective from December, 2020. However, the daily minimum wage is subject to renewal, depending on the prevailing economic conditions in the country.

5.7 Employment in the national economy

5.7.1 Levels of unemployment

The most recent data estimates on unemployment and underemployment stand at 4.6% and 5.1%, respectively. In terms of the unemployment rate, the trend has been stable since 2005. Unemployment is mostly in urban areas while underemployment is predominant in rural areas. Table 10 presents the status of unemployment in 2020.

Table 10: Unemployment, youth unemployment and under-employment in Ghana (2020)

Variable	Unemployment	Youth	Under-employment*
		unemployment	
Total	4.6%	8.7%	5.1%
Male	4.3%	7.4%	4.6%
Female	4.8%	10%	5.6%

^{*}Under-employment is the proportion of those who work less than 35 hours a week and want to work more.

5.7.2 Labour force distribution in Ghana

Despite the declining share in GDP, the agriculture sector continues to be a significant source of employment in the national economy. In 2019, the Ghana Labour Force Report by the GSS shows that the sector accounted for 38.3% of total employment of persons aged 15 and older. Appendix 8 shows the distribution of employment by sector, location and sex.

5.8 Development of human resources in agriculture training institutions

The agriculture sector requires a large number of trained personnel with the requisite skills and qualification to provide the human resource needs for the development of the sector. Several institutions in Ghana provide services in training agriculture sector workers at all level. These include both public and private universities, the polytechnics and new technical universities, training colleges and agricultural training institutes. The range of qualifications available from some of these institutions is presented in Appendix 9.

Chapter 6

Agricultural Infrastructure

Agriculture infrastructure, including storage facilities, irrigation infrastructure and transportation systems are in place or under development to support investment in the sector.

6.1 Perishable Cargo Center at Kotoka International Airport

The perishable cargo center is a MiDA-funded facility which allows for handling and temporary storage of perishable cargo enroute for export. The 1200 meters square facility has a packing area of 350 meters square capable of handling a minimum of 20,000 Mt of products annually. It is currently managed by the Air Ghana Perishable Cargo Center (APCC) on concession.

6.2 Irrigation schemes in Ghana

The Ghana Irrigation Development Authority (GIDA) is the lead public sector organization set up

to promote agricultural growth through the provision of irrigation infrastructure and other Agricultural Water Management (AWM) techniques. The total area under irrigation in Ghana is estimated at about 221, 000ha, out of which 11,582ha fall under 56 public irrigation schemes in Ghana (appendix 11). As part of efforts to improve irrigation management, Government is introducing private sector participation - Scheme Management Entity



Figure 4; Types of irrigation systems

(SME) and increases farmer involvement - Water User Association (WUA) GIDA is currently undergoing restructuring and modernization to effectively provide oversight of these SMEs and WUAs. Additionally, the Authority will set up a one-stop-shop to support potential investors in the irrigation sub-sector.

The river systems of the country and the Volta Lake provide significant opportunities for investment in irrigated agriculture in Ghana. Currently, the Ghana Commercial Agriculture Project (GCAP), a project under MoFA being implemented with the support of World Bank and USAID, is in the process of rehabilitating the Kpong Irrigation Scheme (KIS) and the Kpong Left Bank Irrigation Project (KLBIP), both located in the Accra Plains. Similarly, the Tono and Vea schemes in the Upper Eastern Region are also being considered for rehabilitation and modernization to bring more area of land under irrigation.

Since 2017, the Akuffo Addo government invested in the development of irrigation infrastructures which are at various stages of completion. These are the Tamne phases I&II (90% &50% respectively), Mprumen phases II (95%), rehabilitation, modernization, and expansion of

existing schemes at Tono (95%), Kpong Irrigation Schemes (61%) and Kpong Left Bank Irrigation Project (72%). These projects are expected to make available a total land area of 7,690ha for all-year round production on completion. Additionally, Government has invested in small earth dams in the Northern, Upper East, Upper West and Savannah Regions of the country. These dams are to provide easy access to water for domestic use and all year-round cropping. As of December 2020, 10 out of the 14 small earth dams had been completed.

In November 2019, the President cut the sod for the construction of the Pwalugu Multipurpose Dam and Irrigation Project. Since then sensitization of beneficiary communities and processes for cadastral survey have been initiated.

In 2021, the Ministry will complete the construction of Tamne phases I & II, Mprumen phase II and resettle displaced persons in the reservoir area. On the Pwalugu Irrigation Project, cadastral survey will be completed and the land demarcated for identified owners.

In addition, Government will develop the irrigable area of the completed 10 small dams. This is expected to make available 260ha of land for crop production, aquaculture, and domestic use. The Ministry in 2021, will also install pipes and sprinkler system to support maize foundation seed (hybrid/OPV) production at Gyakiti under Planting for Food and Jobs programme. Thirty (30) Water Users Associations (WUA) on 10 selected schemes will be trained to enable them operate, maintain and manage the schemes.

6.3 Warehousing in Ghana

Storage is an important marketing function involving holding and preserving goods from the time they are produced until they are moved on in the value-chain or utilized for consumption. There are about ten (100) MiDA funded warehouses scattered across the country and are currently being run by private operators together with Farmer Based Organizations (FBOs). There is a burgeoning warehouse receipt system operated by the Ghana Grains Council (GGC) with a number of certified warehouses in the country for storage of agricultural produce. Figure 5 shows some warehousing facilities operated by the Ghana Grains Council while Table 12 lists the locations and capacities of the GGC warehouses.



Figure 5
Ghana Grains Council GGC Warehouses

Table 11: Ghana Grains Council certified warehouses

No.	Warehouses	Capacity (MT)	Location
1	Savanna Marketing Company (MIDA ABC)	1.000	Chanzeni
2	Gundaa Produce Company	500	Datoyili
3	Presby Agric. Services (MiDA ABC)	1,000	Walewale
4	BUSAKA ABC(MiDA ABC)	1,000	Savelugu
5	Karaga ABC(MiDA ABC)	1,000	Tolon
6	AMSIG Resources(MiDA ABC)	1,000	Tolon
7	Wienco Ghana Limited	18,000	Tamale

Source: Ghana Grains Council

Furthermore, under the GCAP Matching Grants Scheme, 18 warehouses with total storage capacity of 15,790MT have been added to Ghana's agricultural storage capacity. Sixteen (16) of these warehouses are located in the SADA Zone and the other 2 are in the Accra Plains (Appendix 12). Again, in support of the "One District One Warehouse" intervention, the Ministry of Food and Agriculture initiated the construction of thirty (30) warehouses. Twenty-one (21) out of the 30 warehouses are completed and the remaining 9 are scheduled for completion by 2021. In addition, 50 warehouses have been constructed by the Ministry of Special Development Initiative (MSDI) and 42 were completed as at end of 2020. On completion, this will make available additional 80,000MT of storage capacity to accommodate anticipated increase production under PFJ.

In 2021, the ministry will initiate procurement processes for the construction of 30 additional warehouses of 1000 MT to increase national grain storage capacity by another 30,000MT. This will augment the operations of NAFCO and the Warehouse Receipt System being implemented by Ghana Commodity Exchange. The completed warehouses will be equipped with seed cleaners, scales and dryers.

6.4 Transportation networks

6.4.1 Feeder road network

Over the years, Government has undertaken projects to improve and increase road networks in farming communities and to link them to market centers. One such project, the Export Marketing and Quality Awareness Project (EMQAP) rehabilitated, surfaced and constructed feeder roads to link major horticultural produce growing areas in the Volta, Eastern and Central Regions. The government is also implementing projects in the northern part of the country to also reduce the road network deficit in the three Northern Regions and to better link farming communities to market centers in those regions. Further, a number of feeder roads have been constructed under the Afram Plains District Agricultural Development Project to improve the road network in districts covered by the project.

⁸In Ghana, the transport sector is well developed. Major road indicators show Ghana is doing well. The Rural Access Index which measures the percentage of rural people living within 2 km of an all-season road is 61%. Availability of motorable roads and farm tracks helps reduce transaction cost, reduce post-harvest losses, enhance market access and promote private sector investment in agriculture. The Ministry in 2020 under Ghana Agricultural Sector Investment Project- GASIP constructed 74km feeder roads and farm tracks in the following communities;

- Nyapeinya Cottage- Teflekope farm track, Adadekope Junction, Dunyokope Junction feeder roads in the Greater Accra region;
- Bawjiase Starch Factory road, Ayensu Factory farm track, Old Ebu-Abuenu Feeder road;
 Asebu-Old Ebu Junction Feeder road, Old Odonase- Obusume Feeder Road, Tropical starch Company Limited access road, Brebia-Old Ebu Feeder Road in the Central Region.
- Atonsuagya-Abrimasu Forest Reserve Feeder Road, Bunusu-Nkodua Feeder Road and Woraso-Sekuruwa feeder road in the Ashanti region.
- Hodzo Agomle-Hodzo Achiase feeder road, HodzoAviepe- Atikpui feeder road, Takla-Akuette Feeder road, Block H-Tanyigbe Etoe & Caltech Junction Factory Farm track, Caltech Barrier-Hedzo Achiase Feeder road in the Volta region.
- Afrefreso-Duabone Feeder road in the Bono East region.

In 2021, the Ministry will continue to partner with the Department of Feeder Roads to improve access to farming communities for transportation of agricultural produce to marketing centres.

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⁸ World Bank 2009

6.4.2 Aviation/air transport

Ghana is at the hub of an extensive international and national airline network that connects the country to Africa and the rest of the world. Most major international carriers fly regularly to Kotoka International Airport (KIA) in Accra, the main entry point to Ghana by air. International airlines that operate in the country include British Airways, Egypt Air, Emirates Airlines, Ethiopian Airlines, KLM, Lufthansa, South African Airways, Afriqiyah Airways, Kenya Airways, Air Namibia, Royal Air Maroc, Air Nigeria Virgin Atlantic and Turkish Airlines. The country also has several domestic airports, including those at Kumasi, Sunyani, Takoradi and Tamale that are serviced by domestic airlines such as Antrak Air, Starbow and Africa World Airline.

The Ghana Civil Aviation Authority (GCAA) is responsible for the planning, development, operation, management and maintenance of all public airports and airstrips in the country. Ghana is working to position herself as the gateway to West Africa. The Kotoka International Airport remains the leading and preferred airport in the country as well as the sub region, having attained Category One status from the US Federal Aviation Administration (FAA) as part of their International Aviation Safety Audit (IASA) programme.

The Kotoka International Airport (KIA) has 1,200 m² perishable cargo centre which consist of 200 m² cold room, a shaded packing area of 350 m² and a work room of 600 m². This facility provides handling and temporary storage for perishable produce such as fruits and vegetables for export.

6.4.3 Sea ports and Internal Water transportation

There are two main seaports in Ghana located in the southern cities of Tema and Takoradi. Port services at these harbours include vessel handling, stevedoring, shore handling, transit storage facilities and related services. Many development programmes such as the Container Terminal Project are underway to modernize these ports for more effective and efficient operations.

The Volta Lake is the major means of inland water transportation of passengers and cargo. Interventions are planned for the rehabilitation of existing fisheries facilities and provision of 11 new fishing landing sites and harbours along the coast and the Volta Lake. The main transport service provider on the Volta Lake is the Volta Lake Transport Company Limited (VLTC), over which the Ministry of Transport and the Volta River Authority jointly exercise oversight responsibility. There are a total of about six ferries in the country that offer water transport services.

6.5 Complementary infrastructure

6.5.1 Communication systems in the country

The country has fairly developed communication systems with various communication modes, including telecommunication services, television broadcasting services, radio broadcasting services and postal services. There are many mobile telecommunication providers (including MTN Ghana, Vodafone Ghana, Tigo Ghana, Airtel Ghana, Glo Ghana and Expresso Ghana) and internet service providers (including Africa Online, Busy Internet, iBurst Africa, Zipnet, and Surfline Ghana) operating in Ghana. The country also has 412 radio stations which are fairly distributed across the country and about 30 television stations broadcasting on air.

The National Communication Authority (NCA) was established by the National Communications Act 524 of 1996 (now repealed by the National Communications Authority Act of 2008, Act 769) to regulate communications by wire, cable, radio, television, satellite and similar technologies for the orderly development and operation of efficient communications services in Ghana.

6.5.2. Electricity

Ghana generates electric power through public and private sector operators but the distribution is solely done by the public sector: the Electricity Company of Ghana and the Northern Electricity Department (NED). The Public Utilities Regulatory Commission (PURC), under the Public Utilities Regulatory Act 1997 (Act 538), regulates the provision of utility services in the electricity and water sectors. It also examines and approves water and electricity rates or tariffs.

Chapter7

Financing of agriculture in Ghana

7.1 Financing schemes for the agriculture sector

Several types of financial institutions provide financial services to the agriculture sector. According to the Bank of Ghana, there are 35 registered Commercial Banks in Ghana, 50 companies operating as Money Lenders, 347 Microfinance Companies as at August, 2017 and 140 Rural and Community Banks (April, 2016).

To address the financing gap, several interventions are put in place by Government, with the support of development partners. These include grants, soft loans, matching grants, and business advisory services to assist operators in the agriculture sector. Some of these schemes, which are summarized in Table 14, include: Out-grower and Value Chain Fund (OVCF), GCAP matching grants, Rural Enterprise Development Fund and Matching Grant Fund by the Rural Enterprise Project (REP) and the Agricultural Fast Track Facility, which is a grant for project preparation provided by the African Development Bank (AfDB).

7.2 Other Financial Services

The following entities also provide some form of finance to small and medium scale agricultural businesses in Ghana.

7.2.1 EXIM Guaranty Company Limited

Exim Guaranty Company Ghana Ltd exists to support SMEs, who ordinarily have challenges providing collateral, to receive bank financing through the provision of the necessary guarantees required by banks, thereby mitigating credit risk exposure to banks.

7.2.2 Ghana Agriculture Insurance Pool (GAIP)

The Ghana Agricultural Insurance Programme (GAIP) was launched in 2011 to lead the development of the market for agriculture insurance. It has developed several agricultural insurance products for Ghana. Nineteen Ghanaian insurance companies form the Ghana Agricultural Insurance Pool and provide a solid financial foundation for the market. The categories of insurance products for agriculture and target beneficiaries are shown in Table 15.

Table 12: Financing Schemes for farms and agribusiness/agro-processing companies

		A. Existing L		s by the Government		
NAME	TYPE OF FACILITY	POTENTIAL BENEFICIARIES	TARGET AREA	OBJECTIVES	CONDITIONS OF FUNDS (FUND SIZE, INTEREST RATE, REPAYMENT PERIOD, COLLATERAL, ETC.)	RESPONSIBL E INSTITUTIO N
A-2 GASIP	Matching Grant	 Smallholder farmers and resource-poor rural people Private sector-led pro-poor agricultural value chain developer. 	Targeted Value chains which currently are maize, rice, soya, cassava and vegetables.	To enhance smallholders profitability and climate change resilience.	A total of US\$ 71.6 million from IFAD over six years (two cycles) of three years each.	MoFA
A-3 Out-Grower Value Chain Fund (OVCF)	Value Chain and Out grower Credit Facility	Group of small holders (out-growers) Technical operator (such as processors, exporters, traders /buyers) Financial institutions	Targeted value chains.	Provide improved access to medium to long-term financing for agriculture & agribusiness investments Finance the development and promotion of outgrower scheme	1) Loan amount: No specific upper limit is set; based on the business plan. 2) Interest rates: 20~25 % depending on the proposed business. 3) Loan provided through intermediate bank. 4) Intermediary bank is entitled to ask for collaterals from both parties (outgrowers and technical operator)	MOFA (KfW/GIZ)
A-4 Rural Enterprise Development Fund (REDF)	Credit Facility	Rural Micro and Small Enterprises (MSEs)	1) Micro Enterprise (Employee: 1~5 persons, Assets: about USD 10,000)	To facilitate access of rural MSEs to finance. Improve the livelihoods and incomes of rural	1) Maximum amount: USD 6,000 for individuals, USD 30,000 for group enterprises. 2) Available for acquiring short-term working capital; procuring production and	REP Ministry of Finance

S	SMEs	procession equipment is a	
2) Small		longer-term loan.	
Enterprise		3) Terms and conditions of	
(Employee:		loans (interest rates,	
5~29 persons,		collateral requirement,	
Assets: about		repayment period, etc.):	
USD 100,000)		subject to operational criteria	
		of the intermediate bank	

		B. Ma	atching Grant Sche	emes by Projects		
B-1 Ghana	Matching Grant	Producers cultivating	1) SADA	1) Provide financial	1) Max. grant award: USD	GCAP
Commercial		maize, rice, soybeans,	Zone	assistance to readily	500,000 per business	(USAID/
Agriculture		fruits and		implementable	2) Each selected beneficiary	World Bank)
Project (GCAP)		vegetables	2) Accra	Activities of targeted	is expected to contribute a	
			Plains	crops	minimum of 20% of the cost	
			(Located in the		of the business	
			Accra Plains,	2) Facilitate integrating	3) Show verifiable evidence	
			including areas	smallholders	of an existing	
			along the east	into the output, inputs,	nucleus-outgrower scheme or	
			bank of the Volta	and farm	contract farming	
			River &	equipment services	arrangement.	
			Downstream of	markets	4) Be supported by a business	
			the Kpong		or farmer-based	
			dam)		organization registered in	
					Ghana.	
B-2 Financing	Business	Small/medium/large	1) SADA	1) Increasing access to	1) FinGAP covers 50% of the	FinGAP
Ghanaian	Advisory	scale local/foreign	Zone	finance for	guarantee charge for	(USAID)
Agriculture	Services	agribusinesses	2) Value chain	agribusinesses	the agricultural loan provided	
Project			development of	2) Increasing the	from partner	
(FinGAP)			rice, maize and	competitiveness of rice,	financial institutions.	
			soybean.	maize, and	2) Contracted with 22	
			3) Companies	soy sectors in northern	-	
			that use raw	Ghana by	(BDS) advisors to provide	
			materials	using technical	support for agribusiness	
			produced in	assistance and	companies.	

B-3 REP	Matching Grant Fund (MGF)	Micro and Small Enterprises (MSEs)	northern Ghana for processing are eligible to receive support from FinGAP no matter where the company or factory is located All sectors 1) Micro Enterprise (Employee: 1~5 persons, Assets:10,000 USD) 2) Small Enterprise (Employee: 5~29 persons, Assets:100,000 USD)	incentives to unlock significant financing for agribusiness. Capitalize trained SMEs to purchase production and processing equipment to progressively establish and grow their business.	1) Covers up to 30% of the cost for equipment, while a client pays 10% of the cost and the remaining 60% is covered by a loan provided by the bank. 2) Maximum amount of MGF: USD 6,000 considered as "low value" that does not require due diligence by REP. 3) Values greater than USD 6,000 are considered, subject to due diligence by REP. 4) Business Advisory Centres supported by REP supports clients to prepare an application and a business plan.	REP Ministry of Trade and Industry (MoTI)
B-4. Export Development & Promotion Grant Facility		Companies, organizations and persons providing services to the export sector	All sectors (Use of grants: research and product development, capacity building, and minor	Support development and promotion of non-traditional exports	Max. grant: Cedi equivalent of USD 100,000	Ministry of Trade and Industry (MoTI)

	infrastructure development for public use)					
GHANA EXPORT-	Exim Bank Ghana acts as the principal export finance institution of the country, supporting and enhancing existing trade and investments					
IMPORT BANK	activities. The Bank provides the following products and services					
(EXIM BANK	Short term loan					
GHANA)	Import Finance facility					
	Warehouse financing					
	Export receivable finance					
	Buyer credit facility					
	Supplier credit guarantee					
	Letters of credit					
	Loan guarantee					
	Asset finance facility					
	Agric. Export finance					
	Project finance					
	Cross-border investments finance product					
	Project export					
	Export Advisory services					

Note: Grant components are available to only Ghanaian firms

Table 13: Available Agricultural Insurance Products

Product	Target beneficiary
Weather index	Nucleus farmers
	Financial institution
	Input suppliers
Area yield index	Nucleus farmers
	Financial institution
	Input suppliers
Traditional indemnity	Nucleus farmers
	Financial institution
	Input suppliers

Compiled from GAIP presentation at Ghana Agribusiness Investment Summit, 2015

7.2.3 Ghana Alternative Market (GAX)

The Ghana Alternative Market (GAX) is a parallel market operated by the Ghana Stock Exchange that focuses on providing stock market services for businesses with potential for growth by accommodating companies at various stages of their development, including start-ups and existing enterprises, both small and medium.

7.2.3.1 Benefits of the GAX

There are many benefits that accrue to listing on the GAX. These include:

- i. easier access to long term capital
- ii. access to long term capital at a relatively lower cost than the main list on GSE. Total costs do not exceeding 5% of the total amount raised and the listing fee on GAX is also a fixed flat amount.
- iii. improvement in the financial position of the GAX listed company
- iv. enhanced status in the business community -listing on the GAX raises the level of the investing community's awareness of the company and its products.
- v. realization of value of investments
- vi. reduced risk, improved liquidity from a broader investor base, and increased liquidity financing.

7.2.3.2 Incentives

Companies may enjoy other incentives including:

i. Waiver of the cost of listing and applications - a GAX listed company only pays an annual fee of ϕ 2,000.00.

- ii. Underwriting -mandatory underwriting of the minimum offer directly or indirectly by sponsors, thereby eliminating failures of Initial Public Offers.
- iii. GAX-SME Listing Support Fund access to a revolving fund to support the cost of raising capital and deferment of up-front fees. Companies listing on GAX can apply for funds under this facility to fully or partly pay for the cost of advisory services.

7.2.3.3 Key listing requirements

A company applying for listing on the GAX is expected to meet the following requirements:

- i. Stated Capital a company applying to list on the GAX must have a minimum stated capital of GH¢250,000 at the time of listing. The stated capital of GH¢250,000 shall be the capital after the company's initial public offer but prior to listing.
- ii. Public Float- the public float of the applicant must constitute a minimum of twenty-five percent of the total number of issued shares. There shall be a minimum of twenty public shareholders.
- iii. Period of Existence Admission may be granted to a start-up company, provided the applicant submits a 3-year business plan to the GAX, clearly demonstrating the viability of the application.
- iv. Profitability the company seeking admission to the GAX need not have recorded profits historically but must have the potential to make profit at least at the end of its third year of listing.
- v. Sponsorship of Applicants for Listing licensed Dealing Members, Investment Advisors or Issuing Houses shall sponsor an application for listing on the GAX.

7.2.4 Venture Capital Trust Fund (VCTF)

The Venture Capital Trust Fund was established by the Government of Ghana through the Venture Capital Trust Act 2004 (Act 680) to provide low cost financing to SMEs and to promote the growth of venture capital in the country. This is done through provision of credit and equity financing to enable Venture Capital Finance Companies (VCFCs) to support SMEs. Currently, the VCTF has six Venture Capital Finance Companies (VCFCs) managed by fund managers licensed by the Security and Exchange Commission (SEC). These are listed in Table 16.

Table 14: Fund types

Fund Name	Fund Manager	Sector Served
Fidelity Equity Fund II	Fidelity Equity Partners	Generalist
Gold Venture Capital Limited	Boulders Advisors	Generalist
Ebankese Venture Fund	Oasis Capital	Predominantly Real Estate
Bedrock Venture Finance Company	VCTF	Generalist
Activity Venture Capital Finance	VCTF	Generalist
Actus VC Fund	Bullion Advisors	Agriculture

The objective of the Venture Capital Trust Fund is to provide financial resources for the development and promotion of venture capital financing for SMEs in priority sectors of the economy. VCTF invests in all eligible sectors of the economy except direct imports for selling. Currently the funds have made investments in ICT, tourism, agriculture, real estate, health care and pharmaceuticals sectors. Over the last ten years the Trust Fund has invested in 48 companies in several sectors through its six funds. It has also supported six nucleus farmer groups (over 4500 individual farmers) in the soya, sorghum and yellow maize value chain through its Special Purpose Vehicle (SPV) platform.

Investments in SMEs by Venture Capital Finance Companies are by equity or quasi- equity and companies may be granted working capital loans on case-by-case basis. Total assets of SMEs that qualify to apply for funding support should not exceed the cedi equivalent of US\$ 1 million in value. All applications are assessed by Fund Managers. SMEs seeking for funding would have to initially submit the following documentation to any of the VCFCs:

- i. A comprehensive business plan with three -year projections
- ii. Audited financial reports for the past three years (where applicable)
- iii. Tax Clearance Certificate (obligatory)
- iv. Incorporation papers (if applicable)

Fund Managers follow their own evaluation processes; hence, the speed of processing depends on the responsiveness of the application to the information requirements of the Fund Manager.

Chapter8

Process for Establishing Firms and Agribusiness

8.1 Legislations guiding business investment in Ghana

The Government of Ghana recognizes that attracting Investment in agricultural sector requires an enabling environment conducive to promoting business. The GIPC Act 2013 (Act 865) states that all enterprises, whether Ghanaian or foreign owned, should register with the Center after incorporation of the company/enterprise at the Registrar-General's Department in order to enjoy benefits and investment incentives.

The key investment-related legislation in Ghana is the Ghana Investment Promotion Centre Act 2013, Act 865. Other legislation and regulations also guide business investment in Ghana. These include the Technology Transfer Regulations, 1992 (LI 1547) and others listed in Table 17.

Table 15: Legislations Guiding Business Investment in Ghana

- i. The Companies Act, 1963 (Act 179)
- ii. GIPC Act 2013 (Act 865)
- iii. Ghana Free Zones Act, 1995 (Act 505)
- iv. The Internal Revenue Act, 2000 (Act 592)
- v. Fisheries Act, 2002 (Act 625)
- vi. Forestry Commission Act, 1999 (Act 571)
- vii. National Communications Authority Act, 1996 (Act 542)
- viii. Petroleum (Exploration & Production) Law, 1984 (PNDCL 84)
- ix. The Minerals Commission Act, 1993 (Act 450)
- x. The VAT Act, 1998 (Act 546)
- xi. Banking Law, 1989 (PNDCL 225)
- xii. Environmental Conservation Act
- xiii. The Labour Act, 2003 (Act 651)
- xiv. Foreign Exchange Act, 2006 (Act 723)

8.2 Processes for Registering Businesses in Ghana

8.2.1 Registrar-Generals Department

All companies should be registered at the Registrar Generals' Department (under the Ministry of Justice and Attorney General). Registration procedures take five working days (as at January, 2018).

- i. Requirements for the company registration
- ii. Assignment of an independent auditor who is a member of the Institute of Chartered Accountants.
- iii. Submission of the company's regulations.
- iv. Submission of "declaration" and "consent letter from qualified auditors" after completion of the registration.
- v. Place and method for submission of application
- vi. Place: Register Generals' Department in Accra or Regional Offices located in Kumasi (Ashanti), Sekondi (Western), and Tamale (Northern). On-line registration of businesses is also available.
- vii. Documents issued by the Register Generals' Department
- viii. Certificate of Incorporation
- ix. Certificate to Commence Business

8.2.2 Internal Revenue Service (IRS) Registration

After completing formalities at the Registrar-Generals' Department, the business should be registered at the nearest office of the Ghana Revenue Authority (GRA).

8.2.3 GIPC registration

The GIPC is responsible for registering all enterprises in Ghana, including for the purpose of administering applicable investment incentives and reliefs. The simplified licensing procedures under the Ghana Investment Promotion Center Act (Act 865) stipulate the details for acquiring authorization both for foreign direct and domestic investments. Businesses registering with the GIPC need to submit the following documents:

- i. Investment registration form (Form GIPC/R1), completed in triplicate
- ii. A copy of the Certificate of Incorporation and the Certificate to Commence Business issued by the Register General's Department
- iii. An original copy of the certified company's regulations

Within five (5) days of the receipt of these forms (and their attachments) the GIPC will formally register the investment⁹.

8.3. Incentives in Ghana's Agricultural Industry under GIPC

Various categories of incentives apply to the sector as follows:

⁹For pricing or cost for registering a business refer to GIPC

- 8.3.1 Exemptions on import duties There are exemptions on import duties on imported agricultural inputs such as plant, machinery or equipment and agro inputs such as fertilizers, and pesticides and feed ingredients.
- 8.3.2 Tax holidays attractive tax holidays that serve as incentives for enterprises engaged in agriculture production and processing are designed to suit different types of agriculture activities: cash crops, tree crops, staple crops, aquaculture, fish and livestock processing. For example:
 - i. Tree Crops (coffee, oil palm, shea nut, rubber and coconut) enjoy a tax holiday of 10 years from the date of first harvest.
 - ii. Staple crops (such as cassava, yam, rice, pineapple and maize), livestock, and fisheries enjoy a tax holiday of 5 years from the date of commencement of production activities.
- iii. Agro-processing companies established in Ghana will enjoy 5 years tax holiday from the date of commencement of business.
- 8.3.3 Corporate tax Location incentives: there is tax rebate for agro-processing companies located in regional capitals and districts within the country. Agro-processing enterprises that use local agricultural raw materials as the main input shall have corporate tax rates based on their locations as follows:
 - i. Accra-Tema: 20%
 - ii. Other Regional Capitals: 15%
 - iii. Outside Regional Capitals: 10%
 - iv. Northern Region(including capital): 5%
 - v. Upper East Region (including capital): 5%
 - vi. Upper West Region (including capital): 5%
- 8.3.4 Exporters of Agricultural Products
 - i. Tax on export income: 8% corporate tax on income from export of non-traditional agroproducts.
 - ii. Transferability of earnings: free transferability of capital, profits and dividends
- 8.3.5 Labour provisions: automatic immigrant quotas (i.e. work and resident permits).

8.4 Registration and Incentives from the Ghana Free Zones Board (GFZB)

8.4.1 Registration with the GFZB

The Ghana Free Zones Board (GFZB) was established by the Free Zone Act, 1995 (Act 504), to enable the establishment of free zones in Ghana for the promotion of economic development and to provide for the regulation of activities in free zones and for related purposes. The Board also

operates under regulation (L.I. 1618). An investment is considered to be eligible under the Free Zones Programme, if it satisfies the following conditions:

- i. it is a limited liability company registered with the Registrar Generals' Department
- ii. it is export oriented.
- iii. it adds some value to products/services to be exported.
- iv. it operates in an environmentally-friendly manner.

Free zone investors do not require any minimum capital investment; but investors must indicate their ability to fulfill the minimum 70% export requirement.

New investors are required to go through the following steps to obtain a free zone license: (a) incorporate a company in Ghana with the Registrar-Generals' Department and obtain Certificates of Incorporation and Commencement of Business, (b) Obtain, complete and submit the GFZB Application Form, together with the following documents:

- i. Business Plan
- ii. Copy of Certificate of Incorporation
- iii. Copy of Certificate to Commence Business
- iv. Copy of Companies Code
- v. Evidence of possession or lease of real property or intent to acquire such property
- vi. Memorandum of Understanding (MOU) with prospective clients
- vii. Environmental Protection Agency Permit (where necessary)
- viii. Evidence of Funding/Capital Transfer
- ix. Any other relevant document

The GFZB shall notify the applicant of the status of his/her application for License within 28 working days of receipt of a completed application. A license specifying the category of activity the applicant is authorized to undertake (i.e. Developer, Manufacturer, Commercial or Service Industry) shall be issued to the successful applicant. The investor is required to start operations within 6 months of receiving approval to operate as a Free Zone Enterprise/Developer.

8.4.2 Investment Incentives under the GFZB

The Free Zones Act (1995) provides extensive and generous incentives for investors interested in developing, and operating in, free zone enclaves and single-factory free zones in Ghana. These include:

- i. 100% exemption from payment of direct and indirect duties and levies on all imports for production and export from free zones
- ii. 100% exemption from payment of income tax on profits for 10 years and which shall not exceed 8% thereafter

- iii. Total exemption from payment of withholdings taxes from dividends arising out of free zone investments
- iv. Relief from double taxation for foreign investors and employees
- v. No import licensing requirements
- vi. Minimal customs formalities
- vii. Allowable 100% ownership of shares by any foreign or national investor in a free zone enterprise
- viii. No conditions, requirements, or restrictions:(a) on repatriation of dividends or net profit, (b) payments for foreign loan servicing, (c) payments of fees and charges for technology transfer agreements, and (d) remittance of proceeds from sale of any interest in a free zone investment.
 - ix. Permission for free zone investors to operate foreign currency accounts with banks in Ghana.
 - x. Authorization for sale of not less than 70% of annual production of goods and services of free zone enterprises in the export market.

Furthermore, free zone investments are guaranteed against nationalism and appropriation.

8.5 Ghana Export Promotion Authority (GEPA)¹⁰

The GEPA was established in 1969 by Act 396 to facilitate, develop and promote Ghanaian exports. It performs these functions through several mechanisms including: coordinating public and private sector bodies engaged in trade, carrying out advocacy services for bodies engaged in exports, developing the trade capacity of exporters through workshops and similar interventions, identifying and promoting products with export potential, and, organizing linkage events with the international market players. All investors targeting the export market should register with the GEPA to comply with procedures for export documentation and its other regulations and to benefit from its programmes, including support, facilitation and advisory services. For example, the GEPA advises that exporters must check the background of the buyer or importer, with its assistance as necessary. Also, a transaction of a secured export order should contain the essential facts about the desired merchandise.

8.6 Other general incentives and attractions/Competitive Advantages

Ghana has fairly good and ever improving infrastructure, peaceful and harmonious environment with high degree of personal safety and hospitable people.

8.6.1 Facilitating programmes and projects

The Government, through the MoFA, is implementing a number of projects and programmes to facilitate agriculture and agribusiness in the country. For example, GCAP offers public-private

¹⁰ Visit the GEPA website at http://www.gepaghana.org

partnerships for provision of infrastructure in the Savanna Agricultural Development Authority (SADA) zones and Accra plains. GCAP has developed the Model Commercial Agriculture Lease Agreement document to guide acquisition of land by investors.

The Government through the Export Marketing and Quality Awareness Project (EMQAP) constructed a pack house in the Volta Region to boost horticulture exports.

8.6.2 Agricultural mechanization in Ghana

The potential area suitable for comprehensive mechanized agriculture in Ghana is estimated at 8.0 million hectares, of which about 2.4 million hectares are under some form of mechanized cultivation. This relatively low level of mechanization is largely due to limited access to appropriate agricultural machinery and equipment along the agricultural value chain. Currently, there are about 6,200 tractors in Ghana, of which 50 percent are over ten years old. Assuming that a 60 – 70hp tractor can plough 240 Ha/year, about 33,333 agricultural tractors are required to mechanize the area suitable for mechanized agriculture in Ghana.

The various types of agricultural tractors imported over the years have been characterized by frequent breakdown due mainly to low operational skills, mishandling and low machinery management skills. These, together with the non-availability and high cost of spare parts, lead to premature and short life span of the machines. The sources of agriculture tractor supplies in Ghana are shown in Table 18.

Table 16: Sources of agricultural tractor supply in Ghana

No.	Name of company	Agriculture machinery type	Brand
1	Mechanical Lloyd Co. Ltd.	Tractors	Massey Ferguson
2	CFAO Motors Gh.Ltd	Tractors	New Holland
3	AFGRI Ghana	Tractors	John Deere
4	Dizengoff Ghana Ltd	Tractors	Massey Ferguson
5	Agro Africa Ltd	Tractors	Deutz-Fahr, Same
6	Foundries and Agric Machinery	Tractors	Farmtrac
7	West Africa Agro-Tech Company Ghana (WATCO)	Tractors	Sonalika
8	Agrotropics Ltd.	Tractors	YTO
9	Agrimat	Tractors	LS tractors
10	Ghana Heavy Equipment	Tractors	Zetor
11	A & G Agro Mechanical Industries	Tractors	Massey Ferguson
12	C. Woermann Gh. Ltd	Tractors	Same
13	Zoomlion Ghana Ltd.	Tractors	Mahindra

Source: Agriculture Engineering Service Directorate/MoFA

As part of Governments strategy to improve the low levels of mechanization development in the country, MOFA has initiated the establishment of private sector led Agricultural Mechanization Services Enterprises Centers (AMSECs) to provide services to smallholder farmers for mechanized agriculture production. Currently, AMSECs have been established in 62 districts across the country and there are plans to have AMSECS in all the 216 districts of the country by the year 2025. To this end, the government has secured financing to import a wide range of agricultural machinery and equipment to support the expansion and development of the AMSEC concept.

Chapter 9

Investment Laws and Regulations

9.1 Overview

Ghana has been making intensive efforts to attract private investment (foreign and domestic) since the introduction of its Structural Adjustment Programme (SAP) in 1984. The Ghana Investment Promotion Center (GIPC) is the Government's mandated institution for promoting investment. There are a number of laws and regulations guiding investments in the agriculture sector but the main legislation on investment comprise the Ghana Investment Promotion Centre (GIPC) Act, 2013 (Act 865), which replaces GIPC Act 1994 (Act 478), and the Free Zones Act, 1995 (Act, 504).

Agriculture investment is one of the areas of the economy that Ghana pays much attention. In pursuit of attracting investment into the agriculture sector, MoFA established the Agribusiness Unit (ABU) to facilitate agriculture investment and support local small and medium scale agribusinesses. Some of the laws, regulations and policies enacted to govern investment in the sector include: Plants and Fertilizer Act, 2010 (Act 803); GIPC Act, 2013 (Act 865); Fisheries Act, 2002, (Act 625); Environmental Protection Act, 1994 (Act 490); Public Health Act, (2012); Land Commission Act, 1994 (Act 483); Seed Policy and Fertilizer Policy. See also Appendix 7.

9.2 The GIPC Act 2013 (Act 865)¹¹

This Act establishes the GIPC as the agency responsible for encouragement and promotion of investments and for coordinating and monitoring all investment activities, except in the mining and petroleum sectors. The Act also makes provision for the creation of an attractive incentive framework and a transparent, predictable and facilitating environment for investment in Ghana.

9.2.1 Foreign participation

Foreign participation is permitted in all enterprises except but not limited to the sale of goods or provision of services in a market, petty trading or hawking or selling of goods in a stall at any place. In the case of a joint enterprise with a partner who is a citizen, the non-Ghanaian must invest a foreign capital of not less than two hundred thousand United States Dollars (USD 200,000.00) in cash or its equivalent worth of capital goods relevant to the investment or a combination of both in equity participation. In this case, the Ghanaian partner must have not less than ten percent (10%) equity participation in the joint enterprise. Where the enterprise is wholly owned by a foreigner, there must be an investment of foreign capital of not less than five hundred thousand United States Dollars (USD 500,000.00) or its equivalent worth in capital goods by way of equity capital.

¹¹ This section must be read in conjunction with the relevant sections of Chapter 8 of this Guide

In the case of a trading enterprise, owned either wholly or partly by a non-Ghanaian, that is engaged only in the purchasing and selling of goods (including food and agricultural related produce and products) there must be investment of foreign capital of not less than one million United States Dollars (USD 1,000,000.00) by way of equity capital. Additionally, the enterprise must employ at least twenty (20) skilled Ghanaians.

9.2.2 Registration under the GIPC Act

The GIPC Act requires all enterprises to register with GIPC after incorporation or registration under the applicable law. In practice however, the procedures for incorporation and those for registration at the Centre take place simultaneously.

The enterprise must submit an application form supported by a certificate of incorporation or registration and evidence of a bank transfer or investment in capital goods to satisfy the foreign equity requirements. Where GIPC is satisfied that all documents for registration are in order and the minimum foreign equity capital requirement has been met, it must register the enterprise within five (5) working days from the date of receipt of the registration form. All enterprises are required under the GIPC Act to renew their registration with the Centre every two (2) years.

9.2.3 Incentives under the GIPC Act

An enterprise registered with GIPC is entitled to custom duty exemption for agricultural and agroindustrial plant, machinery and equipment imported for investment purposes as contained in chapter 82, 84, 85, and 92 of the Customs Harmonized Commodity and tariff Code Schedule to the Customs, Excise and Preventive Service (Management) Act, 1993 (P.N.D.C.L. 330). However, with the exception of goods imported specifically for selected sectors in agriculture, all import duty-exempted goods attract the relevant processing and/or other related fees or levies.

9.3 The Environmental Protection Agency (EPA) Act, 1994 (Act 490)

This Act establishes the EPA as the agency responsible for the control of generation, treatment, storage, transportation and disposal of industrial waste; prevention of discharge of waste into the environment and the protection and improvement of the quality of the environment. Every undertaking or project that may have an impact on the environment must register with the EPA. The EPA has the mandate to require an Environmental Impact Assessment (EIA) in respect of any undertaking which it considers potentially detrimental to the environment and no licenses, permits or approvals required from other government departments relating to the project will be issued unless there is compliance with this requirement. The Environmental Impact Assessments are to be conducted in accordance with the Environmental Assessment Regulations, 1999 (LI 1652). The EPA is also empowered to serve an enforcement notice on any person responsible for any project, requesting them to prevent or cease any activity it considers harmful.

9.4 Biosafety Act, 2011 (Act 831)

To ensure adequate level of protection in the field, the Act regulates safe development, transfer, handling and use of genetically modified organisms resulting from biotechnology that may have an adverse effect on health and the environment. A person shall not conduct any activity involving the development, introduction into the environment or use of genetically modified organisms without the written approval of the Ghana Biosafety Authority. A person wishing to introduce a genetically modified organism into the environment shall submit an application to the Authority describing the activity for which the approval is sought. Further, a person shall not import or place on the market a genetically modified organism without prior written approval of the authority. Persons intending to export genetically modified organisms shall provide the authority with a written advance informed agreement or the appropriate certification from the competent authority of the importing country.

9.5 Plant and Fertilizer Act 2010 (Act 803)

The Plant Quarantine Division (PQD) of PPRSD works closely with the Customs Excise and Preventive Services (CEPS) at all the official entry points and issues phytosanitary certificates and import permits that are required for the importation of (a) commercial quantities of cereals, pulses, bulbs and other plant materials for consumption, (b) commercial plants, ornamental plants, plants parts and seeds for cultivation and propagation for personal use, and (c) plants and plant products used for processing or for any other purpose.

All imported consignments of plants, plant products and regulated articles shall be substantively free from pests and accompanied by phytosanitary certificate patterned after the IPPC format and issued by an authorized officer of the exporting country and an Import Permit issued by PPRSD. There are special requirements for the importation of live insects, microbial cultures, algae, bio-control agents and mushrooms, soil, peat and other growing media of plant origin and genetically modified organisms for research purposes. However, a person shall import plants, plant products and regulated articles without a permit when the Minister determines that the import does not present risk.

An application for an import permit shall be made at least seven days prior to the importation of the consignment at the nearest regional agricultural office or official entry point of the country or the PPRSD headquarters. To ensure compliance with the phytosanitary requirements of importing countries, all exporters of plants, plant products and regulated articles shall be officially registered and their registration annually renewed by PPRSD.

9.6 Water Resources Commission Act 1996 (Act 522)

The Act provides regulation of use of water resources which is vested in the President on behalf of, and in trust for, the people of Ghana. Under the Act any person may apply to the Commission in writing for the grant of water right. The Commission shall on receipt of an application make such

investigations as it considers necessary including consultations with the inhabitants of the area of the water resources concerned. The Commission shall publish in the Gazette notice of an application and the area in respect of which the application is made. A person who claims that his/her interest will be affected by the grant of water right may notify the Commission within three months of the notice in the Gazette of his objection to the grant of the water right and shall specify the grounds of the objection.

9.7 Fisheries Act 2002 (Act 625)

This Act provides for the regulation and management of fisheries, the development of the fishing industry, the sustainable exploitation of fishery resources and attention to connected matters. This Act establishes the Fisheries Commission to regulate and manage the utilization of the fishery resources of Ghana and to coordinate the policies in relation to them.

The Fisheries Act requires that a person shall not use a local industrial or semi-industrial fishing vessel for fishing in the fishery waters except under a license issued by the Ministry of Fisheries and Aquaculture under this Act for the vessel. The Act provides that, a local industrial or semi-industrial vessel shall be a fishing vessel owned or controlled by a citizen of Ghana, the Government or owned or controlled by a company or partnership registered by law in Ghana which has its principal place of business in Ghana. Also, the shares must be beneficially owned wholly by the Government, a citizen, or a public corporation established by law in Ghana or a combination of any of them. In the case of a tuna fishing vessel, at least fifty percent of the shares in the vessel should be beneficially owned or controlled by persons specified above and registered in Ghana.

A person who acts contrary to the Act commits an offence and is liable, on summary conviction, to a fine of not less than one thousand US Dollars (USD 1,000) and not more than ten thousand US Dollars (USD 10,000) in the case of a local industrial fishing vessel or 50 penalty units and not more than 500 penalty units in the case of a local semi-industrial fishing vessel. Also, the vessel or implement used in the commission of the offence shall, upon conviction, be forfeited to the State.

The Act prohibits illegal, unreported and unregulated fishing activities by fishing vessel and canoe owners or charterers, which are contrary to the international conservation and management of fishing activities. Under the Fisheries Regulations, registration of a fishing vessel as a Ghanaian fishing vessel must meet the following requirements: that the fishing vessel has not been deleted from its previous registry; there no outstanding or pending penalties from the previous registered country; there is no outstanding or pending judicial issues with any coastal state or regional fisheries management organisation and the fishing vessel has also not been previously identified to have engaged in illegal, unreported and unregulated fishing activity. Fishing vessels which do not conform to regulations stated in section 88A and 139 as amended faces the fine between \$1 to \$4

million. Contravention of this regulation by canoe fisher folks face a fine between 30,0000 to 50,000 penalty units.

This is from the Fisheries amendment regulations 2015 LI 2217.

9.8 Public Health Act 2012 (Act 851)

This Act is to ensure the prevention of diseases and to promote, safeguard, maintain and protect the health of humans and animals, as well as to provide for related matters. The Public Health Act, (Act 851) established the Food and Drugs Authority to provide and enforce standards for the sale of food, herbal medicinal products, cosmetics, drugs, medical devices and household chemical substances.

9.9 Lands Commission Act, 2008 (Act 767)

The Lands Commission, established under article 258 of the 1992 Constitution, acts in accordance with the Constitution. The Lands Commission Act, 2008 (Act 767) provides for the management of public lands and other lands, and addresses related matters. The Act mandates the Lands Commission to, in coordination with relevant public agencies and Governmental bodies:

- i. manage public lands and any other lands vested in the President by the Constitution or by any other enactment, or the lands vested in the Commission,
- ii. advise the Government, local authorities and traditional authorities on the policy framework for the development of particular areas to ensure that the development of individual pieces of land is coordinated with the relevant development plan for the areas concerned,
- iii. formulate and submit to Government recommendations on national policy with respect to land use and capability,
- iv. advise on, and assist in the execution of, a comprehensive programme for the registration of title to land throughout the Republic in consultation with the Title Registration Advisory Board established under section 10 of the Land Title Registration Act, 1986
- v. perform any other functions that the Minister may assign to the Commission.

In case of consent and concurrence in disposition of stool lands, the Act provides that:

- i. In accordance with clause (3) of article 267, a stool land shall not be disposed of or developed by a person unless the Regional Lands Commission of the region in which the land is situated has certified that the disposition or development is consistent with the development plan drawn up or approved by the planning authority of the area.
- ii. The grant of consent and concurrence by the Regional Lands Commission shall be communicated by it to the office of the Administrator of Stool Lands and the regional office of the Administrator of Stool Lands.

Where the Regional Lands Commission fails or refuses to give the consent and concurrence under this section, a person aggrieved by the failure or refusal may appeal to the High Court.

9.10 List of Government Regulatory Authorities and other Relevant Institutions

Several government agencies guide and regulate agriculture activities in Ghana. Appendix 10 provides a list of some of the key institutions that provide developmental and regulatory services to the agriculture sector.

Chapter 10

INVESTMENT OPPORTUNITIES

Agricultural mechanization sub-sector

10.1 Introduction

The contribution of Ghana's agriculture to national economic development still remains vital accounting for 19% of Gross Domestic Product (GDP) and 38.3% of national employment. The strategic importance of the sector is also underscored by its contribution to food and nutrition security, provision of raw material for industry and foreign exchange earnings through exports.

In the quest to modernize and transform agriculture, the Government of Ghana has introduced major interventions under its flagship programme dubbed Planting for Food and Jobs (PFJ). This includes a module for mechanization targeted at improving farm efficiency, increased production and area under cultivation. Broadly, the transformation agenda is intended to ensure food security, establish strong link to industry by guaranteeing a solid raw material base and create jobs especially for the teeming youth. Attaining these milestones, include the availability of varied equipment and machinery for all types of agricultural related activities.

This also includes machinery and equipment for agro-processing to help bring mechanized services to the doorstep of resource constrained agro-processors and other actors, in order to reduce the drudgery and tedium associated with manual agricultural operations.

10.2 Investment opportunities

- Establishment of agricultural mechanization services enterprise centers
 - o Investment in mechanization services along the value chain
 - o Investment in spare parts dealership for mechanized operations
 - o Investment in equipment and accessories for value chain operations
- Fabrication/manufacturing
 - Fabrication and manufacturing of simple replacement parts for agricultural machinery
 - o Fabrication and manufacturing of agro processing machinery
- Local assembling of tractors
 - Establishment of tractor assembly plants

10.3Ghana agricultural machinery/equipment needs to support agricultural production and processing

NO	ACTIVITY	TYPE OF MACHINERY/EQUIPMENT	SPECIFICATION/ CAPACITY	REMARK
1.	Land Clearing	Bulldozers with land clearing	D6 min 200hp, Drawbar power	For agricultural land
	and	attachment (root rakes, rippers)	150min, Blade, Root, Ripper,	development
	Development		Winches	
		Skid Shredders & Mulchers Attachment	Multi-functional tiller mulchers	For agricultural land
			for above and ground mulching	development
			of wood stumps and roots,	
			tilling soil and tone crushing	
		Stump & Mulchers Attachment	Self-propelled or attachment to	For agricultural land
			prime mover for stump and	development
			stone crushing	
		Slashers	1.8-2.0 meters cutting width	For agricultural land develop
			attached to tractor 60hp &above	5.pment
		Laser levelers	Attached to tractor for land	For agricultural land
			levelling, operating range 1000	development
			metres(min)	
2.	Land preparation (tillage)	Power Tiller Head	12-15 hp	For Irrigation/Lowland fields
	Equipment for	Rotary Hoe (Rotovator)	550-750 mm	For tiller/puddling
	Small Holder			irrigated/lowland fields
	Farmers (less	Iron (Cage) Wheel	Outer Dia: 650-700 mm, Solid	For levelling and traction in
	than 2 ha)		bar (10-12mm)	Irrigated/lowland fields
		Ploughs	Reversible 2 Disc plough and mouldboard	For tilling dry try fields

		Furrow Opener	Depth of furrow 200-400 mm	For Irrigated/lowland fields
		Water Pump	Discharge max. 400ltr/min	For irrigating dry season vegetable
		Ridgers	1-2 rows attached to power tiller	For seed bed preparation
3.	Land Preparation (Tillage)	Tractors (2WD)	60-80 hp	Drawbar power source for agric operations
	Equipment for Medium & Large Scale Farmers	Tractors (4WD)	80-150 hp	Drawbar power source for agric operations
		Ploughs	3 bottom Disc Ploughs for 60- 80 hp	For primary tillage
		Offset Harrow	16 Offset Harrow	For secondary tillage
		Rome Plough	30 8 gang Offset Harrow	For secondary tillage
		Sub Soilers/Rippers	7-9 tines	For secondary tillage
4.	Crop Planting	Rice Transplanters & Automatic Nursery Equipment	Motorised, 2-4 rows	For planting rice seedlings
		Seeder/ Planter with fertilizer hopers for power tillers	1-2 rows powered by power tiller	For seeding/planting rice, maize, soya
		Fertilizer Spreaders	Attachment for tractor	For applying fertilizer
		Zero Till Pnuematic Planters	4-6 rows	For planting maize, soya
		Seed Drills	13-15 rows attachment to tractor	For planting seed

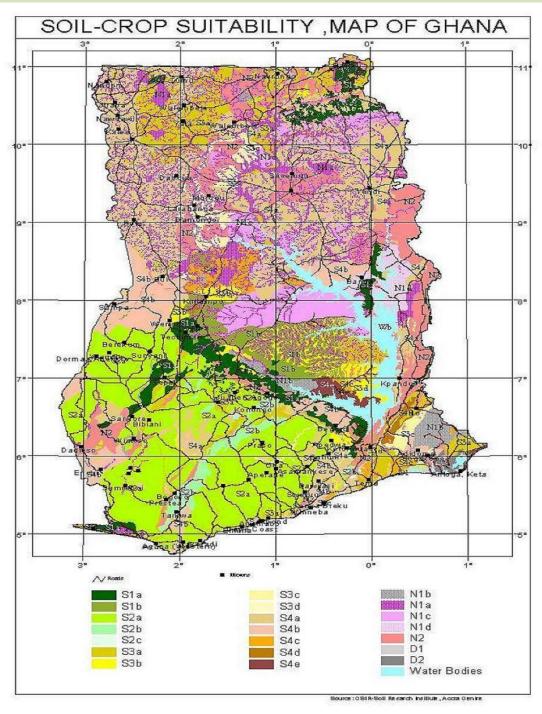
5.	Crop Maintenance/ Protection	Irrigation Kits	1 hectare sprinkler and drip irrigation kit including engine pumps	For irrigation
		Irrigation Kits	1 hectare sprinkler and drip irrigation kit including solar pumps	For irrigation
		Boom Sprayers	600-1000 litres or more	For chemical application (rice maize, soya)
		Orchard Sprayers	601-1000 litres or more	For chemical application (Tree crops)
6.	Crop Harvesting	Mini Rice Combine Harvesters	Header width 1500-2500mm, crawler tracks	For harvesting rice on lowland/irrigated fields
		Conventional Rice Combine Harvesters	4000-6000mm, wheeled type	For harvesting rice on upland fields
		Multi Crop Soya &Maize Combine Harvesters	Self-propelled or tractor mounted	For harvesting soya and maize
		Reapers attached to power tiller	Cutting width 120-150 cm	For harvesting rice
		Rice Brush Cutter	1-2 hp pole length-1400- 1600mm	For harvesting rice
		Self-propelled Rice Reapers	10-15 hp	For upland/lowland/Irrigated fields
		Straw Balers	Tractor mounted straw balers	For livestock feeding
7.	Primary	Rice Threshers	1-2 tonne(s)/hr	For threshing paddy

Processing	Multi Crop Threshers	1-2 tonne(s)/hr	For threshing cereals
	Maize Shellers	1-2 tonne(s)/hr	For shelling maize
	Maize Dryers	5-10 tonne(s)/batch	For drying maize
	Rice Mills(complete- multi stage)	2 tonnes/hr, prime mover:	For processing rice
		electric motor	

APPENDICES

Appendix 1

Soil-Crop Suitability Map



Legend

- S1a: Highly suitable soils, non-gravelly medium to moderately heavy textured. Suitable for cocoa, coffee, black pepper, sweet berry, ginger, citrus, cocoyam, banana, rice, sugarcane and vegetables.
- S3a May consist of heavy plastic clays mostly imperfectly to poorly drained soils goodfor mechanized irrigation of rice, sugarcane, vegetables, maize and millet.
- N1a Predominantly poor to very poorly drained soils, which may be developed for rice, sugarcane

S1	Highly suitable areas for extensive mechanized cultivation of export and food crops, (cashew nut, sunflower, pineapples, maize corn, guinea corn, soybean, cassava, yam, cocoyam, plantain, beans etc.).		
S1a	Highly suitable soils, non-gravelly medium to moderately heavy textured. Suitable for cocoa, coffee, black pepper, sweet berry, ginger, citrus, cocoyam, banana, rice, sugarcane and vegetables.		
S1b	Have same characteristics as S1a above, but are situated in Savanna-transition vegetation zone. These areas are suitable for soybean, maize, yams, guinea corn, millet and groundnuts.		
S2	Suitable areas for extensive mechanical cultivation of export and food crops.		
S2a	Crop suitability same as S1. Limitation to crop production may be due to gravelly subsoil horizons.		
S2b	Crop suitability same as S2a above. Limitation to crop production may be due to either light or heavy textured soils.		
S 3	Fairly suitable areas for the cultivation of crops such as maize, cassava, vegetables etc.		
S3a	May consist of heavy plastic clays mostly imperfectly to poorly drained soils good for mechanized irrigation of rice, sugarcane, vegetables, maize and millet.		
S3b	Mostly alluvial soils suitable for maize, guinea corn and vegetables.		
S3c	Includes gravelly and moderately shallow soils. Could be hand cultivated for cassava, vegetables and maize.		
S4	Fairly to marginally suitable areas for the cultivation of crops.		
S4a	Consist of gravelly, moderately shallow to shallow, imperfectly drained soils. Limited to hand cultivation of cassava, citrus, palm oil and mangoes. Soils may occur on upland or undulating of very steep slopes. Problem of soil erosion is predominant.		
S4b	Soil may be imperfectly drained sands to loamy sands developed over beach sand or may have clay pan beneath the topsoil. Sandy areas may be used for groundnut and tiger nut cultivation.		
S4d	Soils are mainly loose sands developed on coastal sand dunes. Suitable for coconut cultivation. May be mixed with organic manure for vegetable cultivation as in Anloga areas.		
N1	Unsuitable areas for upland arable and tree crops.		
N1a	Predominantly poor to very poorly drained soils, which may be developed for rice, sugarcane and vegetables.		

N1b	Terrace derived alluvial soils, which are dominated by rounded pebbles rendering them unsuitable for mechanized agriculture. May be suitable for maize, cassava, and pepper cultivation.	
N1c	Terrace derived soils, which contain surface pebbles and an undurated subsoil horizon. Soils may be left to prevailing grass vegetation for rough grazing of livestock.	
N1d	Soils dominated by ground water laterites rendering them imperfectly to poorly drain. May be developed for paddy rice cultivation or vegetation should be left for rough grazing by livestock.	
N2	Very unsuitable areas for crop production. Soils are very shallow, gravelly, occurring on steep to very slopes. Should be reserved for forestry, wildlife and watershed protection.	
D	Very unsuitable areas for crop production. Soils are very saline and may be utilized for mining of edible salt.	

Appendix 2 Agriculture and Related Research Institutions

Name	Location	Areas of Research	Website/Contact Details
Council for Scientific a	and Industrial Rese	arch (CSIR)	
Crops Research Institute (CRI)	Kumasi	Crops- Rice, Cowpea, soybean and groundnut. Others are Cassava, Yam, Cocoyam, Sweet potato, Vegetables and Fruit crops, plantain and bananas	www.cropsresearch.org
Savanna Agricultural Research Institute (SARI)	Nyankpala, Tamale	Rice	www.csirsari.org
Water Research Institute (WRI)	Accra	Water and related resources	www.csir-water.com
Forestry Research Institute of Ghana (FORIG)	Fumesua, Kumasi	Forestry	www.csir-forig.org.gh
Animal Research Institute (ARI)	Accra	Animals and related issues	www.csir-ari.org
Food Research Institute (FRI)	Accra	Food processing technologies	www.foodresearchgh.org
Soil Research Institute (SRI)	Kwadaso, Kumasi	Soil survey, soil chemistry, plant nutrition, soil microbiology, agro-climatology, soil testing, soil conservation, hydrology and soil physics	www.csir-soilresearch.org
Oil Palm Research Institute (OPRI)	Kusi-Kade	Oil palm	www.csir.org.gh
Plant Genetic Resource Research Institute (PGRRI)	Bunso	Plants and related resources	www.csir.org.gh
Institute for scientific and technological information	Accra	scientific and technological information	www.csir.org.gh
Science and technology policy research institute (STEPRI)	Accra	technology utilization, transfer and development	www.csir-stepri.com
Institute of Industrial	Accra	Renewable Energy Technologies,	www.csir-iir.org

Research (IIR)		Industrial Processes, New Materials, Improved Sanitation, local Equipment Fabrication and Information/Communication Technology	
Other research institut	es		
Cocoa Research Institute Of Ghana (CRIG)	Bunso, New Tafo, Afosu and bole	Cocoa, kola, coffee, sheanut and cashew	www.cocobod.gh
Biotechnology And Nuclear Agriculture Research Institute (BNARI)	Kwabenya, Accra	Nuclear Agricultural Research, Biotechnology, Radiation Technology, Radiation Entomology and Pest Management, Technology Transfer Centre	www.bnari.gaec.org
Marine Fisheries Research Division (MFRD)	Tema, Accra	Fish and related resources	www.MoFAd.gov.gh

Appendix 3
Annual production of major food crops, ('000MT)

Crop	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Maize	1,189	1,220	1,470	1,620	1,872	1,683	1,950	1,764	1,769	1,692
Millet	165	113	194	246	219	183	180	155	155	157
Rice (paddy)	250	185	302	391	492	463	481	570	604	641
Rice (milled)*	150	111	181	235	295	278	332	393	417	443
Sorghum	315	155	331	351	324	287	280	257	259	263
Cassava	9,638	10,218	11,351	12,231	13,504	14,240	14,547	15,990	16,524	17,213
Cocoyam	1,660	1,690	1,688	1,504	1,355	1,299	1,270	1,261	1,299	1,301
Plantain	2,900	3,234	3,338	3,563	3,538	3,619	3,556	3,675	3,828	3,952
Yam	4,288	4,376	4,895	5,778	5,960	5,855	6,639	7,075	7,119	7,296
Groundnut	520	302	47	485	531	465	475	409	427	417
Cowpea	167	119	180	205	219	237	223	200	201	203
Soya bean	54	50	75	113	145	165	152	139	141	142
Total	21,146	21,662	23,871	26,487	28,159	28,496	29,753	31,495	32,326	33,277

Source: Regional and District Cropped Area, Yield and Production Estimates (2006 – 2015) - Statistics, Research and Information Directorate (SRID), MoFA.

Note: *Milled rice from 2006 to 2011 used extraction rate of 60%; from 2012-2015 extraction rate of 69% of paddy was used (based on revised industry records). The total annual production for all major crops does not include milled rice.

Appendix 4 List of Some Agro-processing Companies in Ghana

Manufacturer	Product	Contact	Tel. numbers
Avnash Industries Ghana Ltd.,	Delyte Pure	PMB 338,	0540 101144
Tema	Vegetable Oil	Tema	0310101111
Essaar Agro West Africa Ltd,	Essaar Poultry Feed		0209229141
Tema	Concentrate 5%,	Achimota	020727111
	20%		
Cosmo Seafoods Co. Ltd. Tema,	Cosmo Fish Meal	P.O. Box MS	0302415001
G/R		157, Mile 7,	
		Achimota	
Flour Mills of Ghana Ltd, Tema,	Sankofa Feed Mash	P.O. Box CE	0244326040
G/R	Layer , Grower,	11345, Tema,	
	Broiler Finisher,	G/R	
	chick		
Promasidor (Ghana) Ltd	Yumvita Infant		0302436649
	Cereal with Milk (30530 Accra,	
	Maize and Wheat,		
D 11 A D 1	Wheat)	D O D CIV	0540206006
Brazil Agro-Business Group.	Champion Long		0548306996
Sogakope, V/R.	Grain Perfumed Jasmine Rice	139, Accra	
Nestle Ghana Ltd., Accra, G/R	Nestle Milo	P. O. Box	0544335484
Nestie Glialia Ltu., Accia, G/K	Nutrilfill Ready-to-	8350,Tema	0344333464
	eat Cereal	0330,1 ema	
	Nestle Cerelac		
	Infant Cereal With		
	Milk (Wheat, Fruit,		
	Rice, Honey)		
	Nestle Cerelac		
	Infant Cereal with		
	Milk (Maize)		
Olam Ghana Ltd., Accra	Festi Tomato Mix	P.O .Box GP	0303413157
	Tasty Tom Tomato	1847, Accra	
	Mix		
	Tasty Tom Tomato		
	Paste with		
	additional		
	ingredients		

Cocoa Processing Company Ltd.	Golden Tree Vitaco	Private Post	0303-202914/
8 1 1	Drinking	Bag, Tema	202914/20637
	Chocolate, Golden	<i>S</i> ,	5/212154/212
	Tree Choco Delight		153
	chocolate spread,		
	cocoa cake, cocoa		
	liqour, royale		
	natural cocoa		
	powder, Golden		
	Tree All Time,		
	instant Drinking		
	Chocolate		
Blue Sky Products Ltd.	Blue Skies Freshly	P. O. Box CT	0244 667073
	Squeezed Juice	3506	
		Cantonments	
Unilever Ghana Ltd.	Frytol Vegetable	P. O. Box	0303-21810
	Oil, Royco Abepa	1648,	
	Palm oil	Accra/Box 721	
		Tema	
Ghana Nut Ltd	Akoma oil,	Ghana Nuts	+233 (0) 3520
	Groundnut, Cashew	Ltd	91112
	nut, Shea nut,	Business	+233 (0) 3520
	Soybean meal,	Development	91114/5
	Sesame Seeds	Office	+233 (0) 3520
		P. O. Box 825	91689
		Techiman -	
		Brong Ahafo	
		Region	

Source: SRID, 2014

Appendix 5 List of key Agriculture-related Policies

Name of Policy	Responsible Agency			
National Fertilizer Policy	Ministry of Food and Agriculture			
Food and Agricultural Sector Development Policy	Ministry of Food and Agriculture			
(FASDEP II)				
Tree Crops Policy	Ministry of Food and Agriculture			
Ghana's Seed Policy	Ministry of Food and Agriculture			
Agricultural Extension Policy	Ministry of Food and Agriculture			
Livestock Development Policy	Ministry of Food and Agriculture			
The National Fisheries and Aquaculture Policy	Ministry of Fisheries and Aquaculture Development			
National Irrigation Policy, Strategies and Regulatory	Ghana Irrigation Development Authority			
Measures.				
Ghana Shared Growth Development Agenda (GSGDA	National Development Planning Commission			
II)				
Ghana National Climate Change Policy	Ministry of Environment, Science and Technology			
National Science, Technology and Innovation Policy	Ministry of Environment, Science and Technology			
National Environment Policy	Ministry of Environment, Science and Technology			
The National Science, Technology and Innovation (STI)	Ministry of Environment, Science and Technology			
Development Programme of Ghana (STIDEPI)				
Environmental Sanitation Policy,	Ministry of Environment, Science and Technology			
National Health Policy	Ministry of Health			
Policy on Traditional Medicine Development	Ministry of Health			
Transport Policy	Ministry of Transport			
National Nutrition Policy	Ministry of Health			
National Energy Policy	Ministry of Energy			
Ghana Forest and Wildlife Policy	Ministry of Lands and Natural Resource			
National Water Policy	Ministry of Water Resource, Works and Housing			
Trade Policy	Ministry of Trade and Industry			
Land Policy	Ministry of Lands and Natural Resource			
National Gender Policy	Ministry of Gender and Social Protection			
The Cultural Policy of Ghana	Ministry of Tourism, Culture and Creative Arts			
National Land Policy	Ministry of Lands and Natural Resources			

Source: MoFA, 2016

${\it Appendix}~6$ Alignment of national policies and regulations with CFS RAI principles

	Principle									
	1	2	3	4	5	6	7	8	9	10
The National										
Fisheries And										
Aquaculture	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Development										
Policy										
National										
Nutrition	✓	✓	✓							
Policy										
Medium Term										
Agricultural										
Sector	✓	✓	✓		✓			✓	✓	
Investment	•	•	•		•			•	•	
Plan										
(METASIP)										
Land Policy	✓				✓	✓				
Ghana										
National	✓		✓		✓	✓			✓	
Climate	•		•		•	•			•	
Change Policy										
Ghana Shared										
Growth										
Development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Agenda										
(GSGDA II)										
Food And										
Agricultural										
Sector	✓	✓	✓		✓	✓				
Development	,	,			,					
Policy										
(FASDEP II)										

National	1	1	1	1	1	1		
Gender Policy	,	•	,	·	·	•		
The Cultural								
Policy of						✓		
Ghana								

*CFS RAI-Principles for Responsible Investment in Agriculture and Food Systems

Key

Principle 1: Contribute to Food Security and Nutrition

Principle 2: Contribute to Sustainable and Inclusive Economic Development and

Eradication of Poverty

Principle 3: Foster Gender Equality and Women's empowerment

Principle 4: Engage and Empower Youth

Principle 5: Respect Tenure of Land, Fisheries and Forests, and Access to Water.

Principle 6: Conserve and Sustainably Manage Natural Resource, Increase

Resilience and Reduce Disaster Risk

Principle 7: Promote Safe and Healthy Agriculture and Food System.

Principle 8: Promote safe and healthy agriculture and food systems.

Principle 9: Incorporate inclusive and transparent governance structures, processes, and grievance mechanisms.

Principle 10: Assess and address impact and promote accountability.

Appendix 7

List of Agricultural and related Acts and Regulations

Wild Animals Preservation Act, Act 43, 1961
Wildlife Conservations Regulations, LI 685, 1971 (and Amendments)
Timber Resource Management Act, Act 547, 1998
Biodiversity Strategies and Action Plan, 1998
Environmental Protection Agency Act 490_1994
Environmental Assessment (Amendment) Regulation 2002, LI 1703
Pesticides Control and Management Act, Act 528, 1996
Management of Ozone Depleting Substances and Products Regulations, LI1812, 2005
Water Resource Commission_Act_522, 1996
Water_use_regulations_LI_1692, 2001.
Drilling License & Groundwater Development Regulations, LI 1827, 2006.
Irrigation Development Authority Act, 1977.
Irrigation Development Authority (Water Users Association) Regulations 2016, LI 2230
Ghana Water and Sewerage Corporation Act, Act 130, 1965
Ghana Water Company Limited (GWCL) Act, Act 4611, 1999
Community Water and Sanitation Agency (CWSA) Act, Act 564, 1998
Irrigation Development Authority Regulations, LI 1350, 1987
Survey Act, Act 127, 1962
Wetland Management (Ramsar sites) Regulations, 1999
Fire Precaution (Premises) Regulations, LI 1724, 2003
Energy Commission Act 541, 1997(1)
Labour Act 651, 2003
Labour Regulations, LI 1833, 2007
Children's Act, Act 560, 1998
National Health Insurance Act, 2003
National Health Insurance Regulations, LI 1809, 2004
Land Planning Soil Conservation Act, 1953.

Land Title Registration Law, PNDCL 152, 1986 Administration of Lands Act, At 123, 1962 Lands Commission Act, Act 767, 2008

Appendix 8

Industry of currently employed persons aged 15 and older (%) Disaggregated by sex, rural and urban

Industry Group*	Urban			Rural			Ghana		
	Male	Female	All	Male	Female	All	Male	Female	All
Agriculture, forestry and fishing	19.70	14.20	16.80	74.50	67.90	71.10	48.20	41.40	44.70
Mining and quarrying	2.50	0.30	1.40	3.00	0.80	1.90	2.80	0.60	1.60
Manufacturing	11.20	12.60	11.90	4.50	8.10	6.40	7.70	10.30	9.10
Electricity, gas, stream and air conditioning supply	0.60	0.10	0.30	0.10	0.00	0.00	0.30	0.00	0.20
Water supply, sewerage, waste management	0.50	0.30	0.40	0.10	0.10	0.10	0.30	0.20	0.20
Construction	10.00	0.20	4.80	3.60	0.20	1.80	6.70	0.20	3.30
Wholesale and retail trade	17.20	43.10	30.90	4.00	13.30	8.80	10.30	28.00	19.50
Transportation and storage	12.30	0.50	6.10	3.50	0.00	1.70	7.70	0.30	3.80
Accommodation and food service activities	1.40	9.60	5.70	0.40	3.80	2.10	0.90	6.70	3.90
Information and Communication	1.20	0.30	0.70	0.10	0.00	0.00	0.60	0.20	0.40
Financial and insurance activities	1.70	1.00	1.40	0.20	0.10	0.10	0.90	0.50	0.70
Real estate activities	0.20	0.00	0.10	0.00	0.00	0.00	0.10	0.00	0.10
Professional, scientific and technical activities	2.40	1.20	1.80	0.20	0.30	0.30	1.30	0.70	1.00
Administrative and	2.60	0.90	1.70	0.50	0.20	0.30	1.50	0.50	1.00

support service activities									
Public administration and defense	2.00	0.80	1.40	0.30	0.00	0.20	1.20	0.40	0.80
Education	6.40	4.60	5.50	2.60	1.20	1.90	4.40	2.90	3.60
Human health and social work activities	1.50	1.80	1.70	0.40	0.50	0.40	0.90	1.10	1.00
Arts, entertainment and recreation	1.40	0.10	0.70	0.30	0.00	0.20	0.80	0.10	0.40
Other service	4.60	7.10	5.90	1.10	2.40	1.80	2.80	4.80	3.80
Activities of households as employers	0.60	1.10	0.90	0.70	1.10	0.90	0.60	1.10	0.90
Activities of extraterritorial organizations and bodies	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: GSS(2014).

^{*}Industry: Refers to type of product produced or service rendered at the respondent's place of work (irrespective of the occupation the person has).

 ${\it Appendix~9}$ **Qualifications Provided by some Agricultural Training Entities in Ghana**

		Qualification offered	
	Diploma	Undergraduate	Graduate
Entity			
Kwame Nkrumah University of Science and Technology (KNUST)		BSc (Agriculture, Agribusiness Management, Agricultural Biotechnology, Diary and Meat Science and Technology, Landscape Design and Management, Post-Harvest Technology)	PhD/ M.Phil. (Agricultural Economics), Ph.D. (Agricultural Extension, Animal Nutrition; Reproductive Physiology; Animal Breeding and Genetics. Postharvest Technology) M.Phil. (Postharvest Physiology, Postharvest Technology, Crops
University of Cape Coast (UCC)		BSc. (Agribusiness, Agricultural Extension, Agricultural Extension and Community Development)	Production M.Phil. (Agricultural Economics, Agricultural Extension, Non-Governmental Studies and Community Development) Ph.D. (Agricultural Economics, Agricultural Extension)
University of Ghana (UG)	General Agriculture, Diploma in Animal Health	Bachelor of Science in Agriculture (Agricultural Economics & Agribusiness) Bachelor of Science in Agricultural Extension Bachelor of Science in Engineering	MSc (Fisheries Management, Aquaculture, Food Science) MPhil/PhD Nuclear Agriculture MSc Extension & Livelihood Studies M.Agric/MPhil/PhD (Agricultural Extension, Animal Science , Crop Science, Soil Science Agricultural Administration), MPhil (Home Science, Agricultural Economics) PhD (Agricultural Economics) MPhil/PhD (ARPPIS) Entomology

Central University		BSc.	Agribusiness	
College (CUC)		management		
Ho Polytechnic	HND Agricultural	B.Tech,	Agricultural	Masters in Agricultural
	Engineering	Engineering		Engineering
Accra Polytechnic	HND Agricultural			
	Engineering			
Ohawu	Diploma in			
Agricultural	General			
College	Agriculture			
Kwadaso	Diploma in			
Agriculture	General			
College	Agriculture			
Ejura Agriculture	Diploma in			
college	General			
	Agriculture			
Damongo	Diploma in			
Agriculture	General			
college	Agriculture			
Animal Health and	Diploma in			
production college	General			
(Pong-Tamale	Agriculture			
Adidome	Diploma in			
Agricultural	General			
College	Agriculture			

Appendix 10

List of government regulatory authorities and other relevant institutions

No.	Name	Location	Contact/website	Main functions
1.	Ghana Investment Promotion Center	Ministries, Accra	+233302665125-9 www.gipcghana.com/ info@gipcghana.com	Investment promotion Issuance of investment license
2.	Ghana Revenue Authority	Off Starlets' 91 Road, Accra	+2330302675701-10 www.gra.gov.gh	Revenue mobilization for national development.
3.	Registrar Generals Department	Ministries, Accra	030664691-63 www.rgd.gov.gh	Registration of companies.
4.	Ghana Free Zones Board	5 th Link Road East Cantonment	0302780535 www.gfzb.gov.gh/info@gfzb.gov.gh	Administratio n and promotion for the free zones.
5.	Protection Agency	Ministries, Accra	0302664697-8 www.epa.gov.gh	Formulation of environmental policies to protect environment. Ensure compliance with EIA procedures in the planning of implementatio n of development projects.
6.	Land Commissions	Cantonment, Accra	0302777322/3 landscom@ncs.com.gh	Manage public land and other lands vested in the president by constitution

				or by any other law. Provides surveying and mapping services where necessary.
7.	Ghana Export Promotion Authority	Republic House Annex, Tudu Accra	0302689889 www.gepaghana.org/gepa@gepaghan a.org	Promotion and development of export.
8.	-	Independence Avenue, Accra	0302258250 www.ghanaimmigration.org	Create conducive environment, through the establishment of regulatory frameworks that 10 facilitate the entry, residence and employment of foreigners in Ghana.
9.	Food And Drugs Authority	Shiashie, Off Legon Madina Road	0302233200 fda@fdaghana	Ensure adequate and effective standards of food, drugs, cosmetics, household chemicals and medical services. Advice on measures for the protection of the health of consumers.
10	National Board For Small Scale Industries	Ministries, Accra Near National Theatre, Opposite Children's Park	0302668641 nbssided@ghana.com	Provide business development services for

	(NBSSI)			micro and small enterprises and business associations. Provide financial service through its loan schemes to entrepreneurs
11	Ghana Shippers Authority	Enterprise House, High Street Accra	0302666915-7 www.shippers.org.gh	Provide support to shippers in the clearance of goods at the countries entry/ exit points Provide information on the rules and regulations governing the shipping and cargo transport industry
12	Customs, Excise And Preventive Service	Ministries, Accra	0302663107 www.cepsghana.org	Conduct monitoring and inspection of export into the country. Impose measures for prevention of smuggling of goods across Ghana's boarders
13	Ghana	Star Assurance Building,	0302228829	Purchase
	National	Kokomlemle	gnpa@africaonline.com.gh	produce and

	Procurement Agency Limited			distribute them to relevant destination in the country. Establish export trade houses to specialize in export market, where small and medium enterprises can enter the international market
14	Ghana Grains Council	First Floor A&C Square, 14 Jungle Road East Legon	0307021091 www.ghanagrainscouncil.org	Certify warehouse operators to allow issuance of warehouse receipt Monitor operations of warehouse receipt systems
	Gratis Foundation	Heavy Industrial Area, Tema, Opposite Cocoa Processing Factory	0303204243 gratisghana@gmail.com	Design, manufacture and sale of agro-food processing and sanitation equipment
16	Ghana Maritime Authority	No. E354/3, 3 rd Avenue, East Ridge	0302684392 Ghanamaritime.org	Implement the provisions of the Ghana shipping act, 2003(act 645) Ensure safety of navigation
17	Electricity Company of Ghana	Ministries, Accra	0302611611 http://www.ecgonline.info/	Responsible for the distribution of electricity in

				the southern part of Ghana namely, Ashanti, Central, Eastern, Greater Accra, Volta and Western Region
18	Public Utilities Regulatory commission of Ghana	No. 51 Liberation Road, Ridge, Accra	Tel: (233-302) 244181-3, 240046 E-mail: info@purc.com.gh Website: www.purc.com.gh	Provide guidelines for rates to be charged for the provision of utility services. Examine and approve water and electricity rates Protect the interest of consumers and provides of utility services

Appendix 11

Public Irrigation Schemes in Ghana

No.	Region	Name of Scheme	Type of Irrigation System	Potential Area (ha)	Irrigable Area (ha)	Crops Cultivated	
1	Greater Accra	Ashaiman	Gravity	155	77	Rice, vegetables maize	
2		Weija	Pump & sprinkler	1,500	220	Vegetables	
3		Dawhenya	Pump & gravity	450	200	Rice	
4		Kpong	Gravity	3,028	2,786	Rice, passion fruit	
5		Tokpo	Pump	119	90	Rice, vegetable	
6	Volta	Aveyime	Pump & gravity	150	60	Rice	
7		Afife	Gravity	880	880	Rice, vegetables	
8		Kpando- Torkor	Pump & sprinkler	119	40	Vegetables, maize	
9		Dodoekope I	Pump	130	110	Vegetables	
10		Dodoekope II	Pump	103	103	Rice & vegetable	
11		Tordzinu	Pump	4	4	Vegetables	
12		Koloe-Dayi	Pump	30	30	Rice & vegetables	
13		Agorveme	Pump	109	107	Rice & vegetables	
14		Korlor	Pump	206	206	Rice & vegetables	
15	Eastern	Amate	Pump & sprinkler	202	101	Maize, vegetables	
16		Dedeso	Pump & sprinkler	100	20	Vegetables	
17	Central	Okyereko I	Pump & gravity	111	81	Rice, vegetables	
18		Mankessim	Pump & gravity &, sprinkler	260	17	Watermelon, sweet potato	
19		Ekotsi	Pump	207	30	Vegetables	
20		Baafikrom	Pump	4	4	Vegetables	
21		Okyereko II	Pump	4	4	Vegetables	
22	Western	Kikam	Pump & gravity	27	27	Rice	
23		Moseaso	Pump	81	81	Vegetables	
24		Aponapon	Pump	83	83	Vegetables	
25	Ashanti	Akumadan	Pump & sprinkler	100	65	Vegetables, cowpea	
26		Anum Valley	Pump & gravity	89	89	Rice, vegetables	
27		Tanoso	Pump & sprinkler	64	64	Vegetables, cowpea	
28		Sata	Gravity	56	34	Vegetable, maize, cowpea,	
29		Adiembra	Pump	65	65	Vegetables	
30		Asuoso	Pump	10	10	Rice & vegetables	
31	Brong Ahafo	Kokoroko	Pump & Sprinkler	66	66	Vegetables	
32		Akomadan	Pump & sprinkler	100	65	Vegetables	

33		Subinja	Pump & sprinkler	121	60	Vegetables, cowpea, maize	
34		Kaniago	Gravity	66	66	Vegetables	
35		Akurobi	Pump	55	55	Vegetables	
36		New	Gravity	224	190	Rice & vegetables	
		Longoro					
37		Asantekwa	Gravity	143	143	Rice & vegetables	
38	Northern	Bontanga	Gravity	570	570	Rice, maize vegetables	
39		Golinga	Gravity	100	100	Rice, maize, leafy vegetable	
40		Libga	Gravity	85	20	Rice, maize, vegetables	
41		Buipe	Pump	194	110	Rice & vegetable	
42		Yapei	Pump	194	194	Rice & vegetable	
43		Wambong	Gravity	4	4	Vegetables	
44		Karimenga	Gravity	6	6	Vegetables	
45		Dipali	Pump	171	148	Rice & vegetable	
46		Sogo	Pump	151	125	Rice & vegetable	
47		Dinga	Pump	115	90	Rice & vegetable	
48	Upper East	Tono	Gravity	3,860	2,490	Rice, soya bean, vegetables	
49		Vea	Gravity	1,197	852	Rice, vegetables, groundnut	
50		Baare	Gravity	6	12	Vegetables	
51		Goog	Gravity	100	100	Vegetables	
52		Tiegu- Yarugu	Gravity	190	150	Rice & vegetable	
53	Upper West	Sing Bakpong	Pump	116	52	Rice & vegetable	
54		Belebor	Gravity	120	120	Rice & vegetable	
55		Tizza	Pump	83	76	Rice & vegetable	
56		Jawia	Gravity	40	30	Rice & vegetable	
	TOTAL			16,523	11,582		

Source: GIDA, 2017

Appendix 12
GCAP Sponsored Warehouses by Location and Capacity

No	Name of Firm/ Organization	Warehouse Capacity (MT)	Warehouse Physical Location	Region	Commodity
1	Mawuko Farmers Association	250	Dadome-Mepe	Volta	Grains
2	Abians Agro Chemical and Rice Mill Enterprise	3000	Asutuare	Greater Accra	Grains
3	Savannah Agric & Trading Co Limited (SATCO)	500	Chereponi	Northern	Grains
4	Kukobilla Nasia Farms Limited	120	Tamale Central	Northern	Grains
5	Amsig Resources	800	Kumbungu	Northern	Grains
6	Kataumi Food Processing Limited	500	Mion	Northern	Grains & Legumes
8	Kharma Farms Enterprise	200	Karaga	Northern	Grains & Legumes
9	Dansman Business Consultancy	5,000	Tamale Metro	Northern	Grains
10	Ariku Company Limited	400	Bazua	Upper East	Grains
11	Yelsumde Ghana Limited	500	Zangoyire	Upper East	Grains
	Yelsumde Ghana Limited	500	Zebila	Upper East	Grains
12	Zebango Royal Farms	200	Binaba	Upper East	Grains
13	Farmer Training Centre (FTC)	500	Bolgatanga	Upper East	Grains
14	Akandem Farms Limited	200	Sandema Builsa	Upper East	Grains
15	Wilphin Enterprise	500	Bolgatanga	Upper East	Grains

16	Sambay Enterprise	120	Navrongo	Upper East	Grains
17	Heritage Business Services	500	Tumu	Upper West	Grains
18	Azimpet Business Empire	2,000	Tanina	Upper West	Grains & Legumes
	Total	15,790			

Source: GCAP, 2017