



Republic of Ghana

MEDIUM TERM AGRICULTURAL SECTOR INVESTMENT PLAN (METASIP) II, 2014 - 2017

Ministry of Food and Agriculture



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ACRONYMS

ABU	Agribusiness Unit
AEA	Agricultural Extension Agent
AESD	Agricultural Engineering Services Directorate
AFD	Agence Française de Développement
AfDB	African Development Bank
AgGDP	Agricultural Gross Domestic Product
AGI	Association of Ghana Industries
AgSWG	Agricultural Sector Working Group
AMSECs	Agricultural Mechanization Service Centres
APD	Animal Production Directorate
APPDF	Agricultural Public Private Dialogue Forum
APR	Annual Progress Report
ARI	Animal Research Institute
ATVET	Agriculture Technical and Vocational Education and Training
CAADP	Comprehensive African Agricultural Development Programme
CARGS	Competitive Agricultural Research Grant Scheme
CBFMCs	Community Based Fisheries Management Committees
CBO	Community Based Organisations
CCAFS	Climate Change Agriculture and Food Security
CDA	Cotton Development Authority
CIDA	Canadian International Development Agency
COCOBOD	Cocoa Board
COTVET	Council for Technical and Vocational Education and Training
CSA	Civil Service Act
CSA	Climate Smart Agriculture
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organisations
DAAS	District Agricultural Advisory Services
DAES	Directorate of Agricultural Extension Services
DAO	District Agricultural Officer
DCD	District Coordinating Director
DCE	District Chief Executive
DCS	Directorate of Crop Services
DDA	District Department of Agriculture
DFR	Department of Feeder Roads
DPs	Development Partners
DVCC	District Value Chain Committees
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EMQAP	Export Marketing and Quality Awareness Project
EOA	Ecological Organic Agriculture

EPA	Environmental Protection Agency
FAGE	Federation of Associations of Ghanaian Exporters
FAO	Food and Agriculture Organization
FASDEP	Food and Agriculture Sector Development Policy
FBO	Farmer Based Organizations
FC	Forestry Commission
FD	Finance Directorate
FDA	Food and Drugs Authority
FFA	Fish Farmers' Association
FRI	Food Research Institute
GADS	Gender and Agriculture Development Strategy
GAIDA	Ghana Agricultural Input Dealers Association
GAIP	Ghana Agricultural Insurance Pool
GAPs	Good Agricultural Practices
GAPS	Ghana Agricultural Production Survey
GASIP	Ghana Agricultural Sector Investment Programme
GCAP	Ghana Commercial Agriculture Project
GDP	Gross Domestic Product
GEPA	Ghana Export Promotion Authority
GFAP	Ghana Federation of Agricultural Producers
GGC	Ghana Grain Council
GHA	Ghana Health Authority
GhIE	Ghana Institution of Engineers
GHS	Ghana Health Service
GIDA	Ghana Irrigation Development Authority
GIPC	Ghana Investment Promotion Centre
GIZ	Gesellschaft für Internationale Zusammenarbeit (German International Development Agency)
GLC	Ghana Leasing Company
GLDB	Grains and Legumes Development Board
GLSS VI	Ghana Living Standards Survey VI
GMA	Ghana Meteorological Authority
GoG	Government of Ghana
GRATIS	Ghana Regional Appropriate Technology and Industrial Service
GSA	Ghana Standards Authority
GSAE	Ghana Society of Agricultural Engineering
GSGDA	Ghana Shared Growth and Development Agenda
GSS	Ghana Statistical Service
HIV/AIDS	Human Immune Virus/Acquired Immune Deficiency Syndrome
HRDMD	Human Resource Development and Management Directorate
ICT	Information Communication Technology

ICOUR	Irrigation Company of Upper Regions
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
ITD	International Trade Desk
JFFLS	Junior Farm Field and Life School
JICA	Japan International Cooperation Agency
JSR	Joint Sector Review
LAP	Land Administration Project
LGSS	Local Government Services Secretariat
M&E	Monitoring and Evaluation
MDAs	Ministries, Departments and Agencies
MDGs	Millennium Development Goals
MED	Monitoring and Evaluation Directorate
MESTI	Ministry of Environment, Science Technology and Innovations
METASIP	Medium Term Agricultural Sector Investment Plan
MLNR	Ministry of Lands and Natural Resources
MLGRD	Ministry of Local Government and Rural Development
MMDAs	Metropolitan, Municipal and District Assemblies
MoF	Ministry of Finance
MoFA	Ministry of Food and Agriculture
MoFAD	Ministry of Fisheries and Aquaculture Development
MOH	Ministry of Health
MOTI	Ministry of Trade & Industry
MTDP	Medium Term Development Plan
NAB	National Accreditation Board
NADMO	National Disaster Management Organization
NAFCO	National Food and Buffer Stock Company
NARS	National Agricultural Research System
NBSSI	National Board for Small Scale Industries
NCCC	National Climate Change Committee
NCD	New Castle Disease
NCCP	National Climate Change Policy
NDPC	National Development Planning Commission
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organisations
NLCD	National Liberation Council Decree
NRCD	National Redemption Council Decree
NRGP	Northern Rural Growth Programme
PEF	Private Enterprise Federation
PNDCL	Provisional National Defense Council Law
PPBD	Policy Planning and Budget Directorate

PPMED	Policy, Planning, Monitoring and Evaluation Directorate
PPP	Public Private Partnership
PPR	Pest de Petit Ruminant
PPRSD	Plant Protection and Regulatory Services Directorate
PSP	Participatory Scenario Planning
RAAS	Regional Agricultural Advisory Services
RCC	Regional Coordinating Council
RDA	Regional Director of Agriculture
RDAs	Regional Departments of Agriculture
REDD+	Reducing Emissions from Deforestation and Forest Degradation
RELCs	Research Extension Liaison Committees
REFL	Research Extension Farmer Linkages
RSSP	Rice Sector Support Project
RTIMP	Root and Tuber Improvement and Marketing Programme
SADA	Savannah Accelerated Development Authority
SALMS	Sustainable Agricultural Land Management Strategy
SARI	Savannah Agricultural Research Institute
SEA	Strategic Environmental Assessment
SEEDPAG	Seed Producers Association of Ghana
SFASDEP	Support to the FASDEP
SLM	Sustainable Land Management
SOE	State-Owned Enterprise
SPS	Sanitary and Phytosanitary
SRID	Statistics, Research and Information Directorate
STEPRI	Science and Technology Policy Research Institute
SWAp	Sector Wide-Approach
TV	Television
UCC	University of Cape Coast
UN	United Nations
USAID	United States Agency for International Development
VC	Value Chain
VEPEAG	Vegetable Producers and Exporters Association of Ghana
VSD	Veterinary Services Directorate
WAAPP	West Africa Agricultural Productivity Programme
WFP	World Food Programme
WIAD	Women in Agricultural Development
WRC	Water Resources Commission
WUAs	Water Users Associations
YIAP	Youth in Agriculture Programme

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FOREWORD

The strategic framework that is guiding the Government's effort in its development agenda is the Ghana Shared Growth and Development Agenda (GSGDA) II, 2014-2017. The GSGDA aims at leveraging Ghana's natural resource endowments, agricultural potential and the human resource base for accelerated economic growth and job creation through value addition. This will be underpinned by partnership with the private sector through Private Public Partnerships (PPPs) to expand infrastructure by building roads and bridges; increasing electricity supply and reliability to support our economy's needs; expanding access to good drinking water and providing quality healthcare for our growing population; improving sanitation and human security for all, and also transforming schools, colleges and universities to meet the demands of a new age with emphasis on mathematics, science, technology and innovation.

The agriculture sector, a key to the national development agenda, is expected to lead the growth and structural transformation of the economy and maximize the benefits of accelerated growth. Significant improvements in the productivity of the agriculture sector are required to raise the average real incomes of Ghanaians as a whole. The food and agriculture sector also has direct impact on the attainment of at least five of the Sustainable Development Goals (SDGs).

The Ministry of Food and Agriculture (MoFA) is the lead agency responsible for the agricultural sector within the context of a coordinated Government Programme. To carry out its mandate, plans and programmes are coordinated through policy and strategic frameworks. In this regard, MoFA facilitated the preparation of the Food and Agriculture Sector Development Policy (FASDEP II, 2008) and the Medium Term Agriculture Sector Investment Plan (METASIP, 2011-2015). The METASIP II is the investment plan to implement, in the medium term (2014-2017), programmes of the policy. It has been developed in conformity with the Maputo and Malabo declarations of the government expenditure allocation of at least 10 percent of the annual national budget to the agricultural sector, and a resultant GDP growth of at least 6 percent per annum within the plan period. This is consistent with the ECOWAS Agriculture Policy and NEPAD's Comprehensive Africa Agriculture Development Programme (ECOWAP & CAADP) which provide an integrated framework to support agricultural growth, rural development and food and nutrition security in Africa.

The METASIP II is a product of a consultative, technical and budgetary process, which identifies outputs and resource requirements and roles various stakeholders in the sector will play in its implementation. Greater involvement of the Private Sector is envisaged for the transformation of the sector and improvement in service delivery to smallholder farmers, as well as increased investment and management of the sector as a whole. Various types of linkages are outlined to be established between smallholders and agribusiness, to facilitate access to input, research, technology and product markets, as well as other essential services. Also, key to the plan implementation is the engagements between MoFA and other Ministries, Departments and Agencies (MDA's) whose policies impact on the agricultural sector. Agricultural sector policies are supported both technically and financially by Development Partners and financial institutions and this forms another level of stakeholder participation and engagement. These engagements reinforce the objectives of coordination of stakeholder participation in the harmonisation of actions of government and partners for synergy of operations and maximum results for accelerated growth.

The plan will be implemented by the existing structures of the MDA's, particularly the District Departments of Agriculture (DDAs) which are now departments within the District Assemblies. At the decentralized levels, programmes and activities have to be prioritized according to the comparative and competitive advantages of the respective District Assembly.

Through cooperation, coordination and commitment of all sector stakeholders the country can overcome most of the challenges facing the food and agriculture sector to enhance growth, create employment, increase incomes, reduce poverty and achieve food and nutrition security for the people of Ghana within the context of an environmentally sustainable and transformed rural economy.



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EXECUTIVE SUMMARY

The Medium Term Agricultural Sector Investment Plan (METASIP II) 2014-2017 has been developed using the Ghana Shared Growth and Development Agenda (GSGDA II) guidelines. It is also based on the Maputo and Malabo declarations of government expenditure allocation of at least 10 percent of the national budget into the agricultural sector, and expected GDP growth of at least 6 percent within the plan period. The targets mentioned above are in conformity with the agricultural performance targets of the ECOWAP of ECOWAS, CAADP of NEPAD and is expected to contribute significantly to the achievement of the Sustainable Development Goals of the United Nations.

The plan has been developed with a strong emphasis on the Accelerated Agriculture Modernization and Sustainable Natural Resource Management which will transform the agricultural sector to increase productivity and output, create jobs, increase incomes, and ensure food security over the medium term. Innovative interventions have been planned based on the adopted objectives and key strategies that will be systematically implemented under the programme areas to ensure that the goals set for the agricultural sector under the GSGDA II are achieved.

The agricultural sector is the highest employer of the country's labour force 44 percent (GSS, 2014). It is the most important sector because of the importance of food for survival. However, the sector performed poorly in the last plan period, 2010 to 2013, with an average annual growth rate of 3.4 percent.

The key development issues of the sector have been identified. These include: low average yield of staple crops and high post-harvest losses; poor management along the agriculture value chain; low level of agriculture mechanisation and adoption of appropriate technology; low use of improved planting materials; low productivity of smallholder farms; degraded landscapes; inadequate investments in agriculture business ventures; inadequate access to appropriate finance by smallholder farmers; over-reliance on rain-fed agriculture; and low productivity in the livestock and poultry industry.

The key agricultural sector development issues are not to be addressed exclusively by the Ministry of Food and Agriculture. The mandates of several other ministries, departments and agencies impact significantly on the agricultural sector, hence the need for effective inter-ministerial collaboration, consultation and cooperation.

This plan has six programmes with its corresponding sub-programmes. The programmes are: Management and Administration; Food and Nutrition Security and Emergency Preparedness; Increased Growth in Incomes; Marketing of Agricultural Products; Management of Land and Environment; and Science and Technology in Food and Agricultural Development. Cross cutting issues such as climate change and environment, gender, HIV/AIDs, population, decentralization, disasters, vulnerability, culture, security and technological innovations are also taken into consideration in all programmes, projects and activities of stakeholders in the agricultural sector.

The plan will be implemented along programme areas that address the key challenges to the modernization and transformation of agriculture in Ghana. It will be implemented by the existing structures of the MDAs, particularly the District Departments of Agriculture (DDAs) which are now departments within the District Assemblies. Complexities of implementation are bound to arise as the Sector Plan will have to be largely implemented together with other stakeholders. It is therefore expected that, the DDA must not only understand the various aspects of the plan but also incorporate relevant aspects into the district assembly MTDP and also be able to convince the district authorities why priority should be given to planned activities in order to receive funding.

A communication strategy has been incorporated into the plan. It is to create awareness among all stakeholders and good understanding of all aspects of the Medium Term Development Plan. By so doing, all stakeholders will be informed about the programmes, sub-programmes and activities that are proposed to be implemented during the period 2014-2017. The ultimate purpose of the communication strategy is for farmers, processors, marketers etc. to adopt technological packages, messages and methodologies that will transform Ghana's agriculture as envisaged in this plan.

Very strong collaboration and coordination is required among stakeholders for effective implementation of the plan. MoFA's coordination as well as monitoring and evaluation roles are very critical in the implementation of this Plan. The Monitoring and Evaluation Directorate in collaboration with SRID of MoFA will have the responsibility of coordinating the agricultural sector M&E and lead in the collection, collation and analysis of M&E data. The Policy Coordinating and Monitoring Unit of the Office of the President and the NDPC will play key oversight roles during plan implementation.

A summary of the cost estimates of the plan are given in the table below for the various programmes and sub-programmes. They are estimated annual incremental costs of implementation for the four year plan period. A total estimated cost of about GH 1.615 billion is required for the plan period. It must be noted that the estimated cost of the plan is with respect to public funds. The private sector, especially farmers, will have to invest adequately in the sector to achieve the plan objectives. Development Partners, NGOs and Civil Society Organisations will also have to play their expected roles.

Medium Term Agricultural Sector Investment Plan II (2014 - 2017) Cost Estimates (GH¢ 'million)

	2014	2015	2016	2017	Total
Programme 1: Management and Administration	2.608	2.807	3.586	2.628	11.630
1.1 General management	0.110	0.131	0.167	0.191	0.600
1.2 Institutional coordination and collaboration	2.498	2.676	3.569	2.536	11.030
Programme 2: Food and Nutrition Security and Emergency Preparedness	86.960	168.661	219.271	282.067	757.959
2.1 Promotion of agricultural mechanization	12.013	88.818	69.056	72.673	242.560
2.2 Seed and planting material development	7.857	8.5997	9.899	5.053	31.406
2.3 Irrigation development	52.485	50.925	123.587	182.460	409.457
2.4 Development of selected staple crops	0.348	1.174	1.345	1.209	4.076
2.5 Livestock and poultry development	10.389	15.145	15.385	20.672	61.591
2.6 Nutrition sensitive agriculture	1.523	2.217	1.668	3.459	8.867
Programme 3: Increased Growth in Incomes	10.810	159.060	174.602	201.914	546.385
3.1 Promotion of private sector investment in agriculture	10.734	87.314	44.101	50.710	192.860
3.2 Improvements in agricultural financing	0.050	71.222	130.057	130.599	331.929
3.3 Development of selected cash crops	0.025	0.523	0.444	20.605	21.598
Programme 4: Marketing of Agricultural Products	31.067	33.148	46.982	32.291	160.626
4.1 Improvements in post-production management	29.642	29.984	43.804	29.143	132.573
4.2 Development of an effective domestic market	1.259	1.608	1.764	1.599	6.230
4.3 Expansion of agriculture exports	0.165	1.556	1.414	1.550	4.685
Programme 5: Management of Land and Environment	1.125	4.694	2.228	4.828	12.876
5.1 Sustainable environment, land and water management	1.125	4.694	2.228	4.828	12.876
Programme 6: Science and Technology Applied in Food and Agricultural Development	8.788	16.088	58.493	59.143	142.512
6.1. Science, technology and innovation application	4.336	6.095	42.626	49.992	103.049
6.2. Access to extension services and re-orientation of agriculture education	4.452	9.993	15.867	9.151	39.462
Total	141.357	385.458	505.163	582.872	1,614.850

CHAPTER ONE

INTRODUCTION

1.1 MANDATE, VISION, MISSION AND FUNCTIONS

1.1.1 Mandate and Legal Instruments

The Ministry of Food and Agriculture (MoFA) is the lead government agency and focal point for the development of the agricultural sector. Its mandate is to develop and execute policies, programmes and strategies for the agricultural sector within the context of a coordinated national socio-economic growth and development agenda.

The sector comprises five sub-sectors namely; crops, livestock, fisheries, cocoa, and forestry/logging. MoFA is responsible for the crops and livestock sub-sectors while the Ministry of Fisheries and Aquaculture Development (MoFAD) is responsible for fisheries. Cocoa is under the purview of the Ministry of Finance (MoF) while the Ministry of Lands and Natural Resources (MLNR) is responsible for forestry and logging. Other ministries such as Roads and Highways; Environment, Science, Technology and Innovation; Health; and Trade & Industry also undertake activities that impact on the sector.

MoFA was set up under the Civil Service Act (CSA) 1960. Other enactments relating to the establishment of the Ministry are:

- a. The Agriculture Act of 1961;
- b. Civil Service (Amendment) Decree 1967 (NLCD 134);
- c. Civil Service (Disciplinary Code Regulations), Revocation Decree 1973, (NRCD 197); and
- d. Civil Service Law 1993 (PNDC 327).

1.1.2 Vision

The Vision for Ghana's agricultural sector is "a modernised agriculture culminating in a structurally transformed economy and evident in food security, employment opportunities and reduced poverty".

1.1.3 Mission

The Mission of MoFA is to promote sustainable agriculture and thriving agribusiness through research and technology development, effective extension and other support services to producers, processors, distributors and consumers for improved food security, nutrition and incomes.

1.1.4 Functions

The functions of MoFA are:

- a. Agricultural policy formulation;
- b. Sector planning;
- c. Administration and management of sector programmes and projects;
- d. Formulation of annual budgets based on planned programmes and projects;
- e. Generation and dissemination of agricultural technology;
- f. Delivery of agricultural advisory and extension services; and
- g. Monitoring and evaluation of the agricultural sector performance.

1.2 OVERVIEW OF AGRICULTURAL SECTOR PERFORMANCE UNDER GSGDA 1 (2010-2013)

1.2.1 Introduction

This performance review assesses the attainment of national and sector targets as set in the Ghana Shared Growth and Development Agenda (GSGDA) I and the Medium Term Agricultural (Agriculture) Sector Investment Plan (METASIP), 2011-2015.

The Medium Term Agricultural Sector Investment Plan (METASIP) was developed along the Comprehensive African Agricultural Development Programme (CAADP) guidelines. The plan was also to respond to the third thematic area of GSGDA I which deals with “Accelerated Agricultural Modernisation and Sustainable Natural Resources Management”.

Under GSGDA I, projected real growth for the agricultural sector was set at 6.0 percent, 6.7 percent, 6.7 percent and 6.4 percent for 2010, 2011, 2012 and 2013 respectively. The programmes and projects in the agricultural sector were designed to ensure that these targets were achieved.

1.2.2 General Agricultural Performance Trends

Growth Rates

The agricultural sector GDP growth rate was uneven between 2010 and 2013 with the lowest rate of 0.8 percent being recorded in 2011 (Table 1). The rate increased from 0.8 percent in 2011 to 2.3 percent in 2012 and to 5.7 percent in 2013. The targeted planned growth rates for the period were not achieved.

The poor performance in 2011 was partly due to erratic rainfall. Average rainfall in 2011 was 992.9mm compared to 1,208.8 mm in 2010, 994.7mm in 2012 and 1,159.7mm in 2013. Though total precipitation was adequate, that cannot be said of its distribution. According to MoFA's Annual Progress Report (2011), there were intermittent dry spells and floods.

Table 1: Real GDP Growth of Agriculture and other Sectors (%)

Year	Sector			National
	Agriculture	Services	Industry	
2010	5.3	9.8	6.9	7.9
2011	0.8	9.4	41.6	14.0
2012	2.3	12.1	11.0	9.3
2013	5.7	10.0	6.6	7.3

Source: Ghana Statistical Service (June, 2015).

The agricultural GDP at current market prices increased from about Gh¢13 billion in 2010 to a little above Gh¢20 billion in 2013. The crops sub-sector has been the major contributor to the Agricultural Sector GDP (Table 2). It contributed 68.0 percent followed by forestry/logging (10.0%) and cocoa (9.8%) in 2013. In the same year, fisheries and livestock sub-sectors contributed 6.2 percent and 6.0 percent respectively.

Table 2: Contribution of Various Sub-Sectors to Agricultural GDP (at current market prices).

Sub-Sectors	2010	2011	2012	2013
	(%)			
1. Crops (excluding cocoa)	62.2	61.1	63.9	68.0
2. Cocoa	10.8	14.1	11.2	9.8
3. Livestock	6.8	7.1	7.0	6.0
4. Forestry	12.5	10.9	11.3	10.0
5. Fisheries	7.8	6.7	6.6	6.2
Agriculture GDP (GH¢ Billion)	12.910	14.155	16.668	20.232

Source: Ghana Statistical Service (June, 2015).

Table 3 shows the growth rates in agricultural sub-sectors for the period 2010 to 2013 and depicts an uneven growth rate. In 2013, the crops sub-sector had the highest growth rate of 5.9 percent followed by fisheries sub-sector (5.7%) and then livestock sub-sector (5.3%). The forestry/logging and cocoa sub-sectors grew by 4.6 percent and 2.6 percent respectively.

Table 3: Real Growth Rates in Agricultural Sub-Sectors (%), 2010 - 2013

Year	Crops	Livestock	Cocoa	Fisheries	Forestry/ Logging	National
2010	5.0	4.6	26.6	1.5	10.1	5.3
2011	3.7	5.1	14.0	-8.7	-14.0	0.8
2012	0.8	5.2	-9.5	9.1	6.8	2.3
2013	5.9	5.3	2.6	5.7	4.6	5.7

Source: Ghana Statistical Service (June, 2015).

Performance of Crops Sub-Sector

The crop sub-sector may be categorized into five (5) as given below:

- a. Roots and tubers;
- b. Cereals;
- c. Legumes;
- d. Fruits and Vegetables; and
- e. Tree/Industrial Crops.

The ministry currently reports on 8 main staple food crops and 5 main industrial crops (Tables 4 and 5). Cassava production increased consistently over the period, however, maize and rice were inconsistent. For the other commodities, there was a general decrease in production between 2010 and 2013 except for plantain and yam.

Table 4: Production of Selected Food Crops ('000 Mt), 2010 - 2013

Crop	2010	2011	2012	2013
Maize	1,872	1,683	1,950	1,764
Millet	219	183	180	155
Rice (paddy)	492	463	481	570
Rice (milled)*	295	278	332	393
Sorghum	324	287	280	257
Cassava	13,504	14,240	14,547	15,990
Cocoyam	1,355	1,299	1,270	1,261
Plantain	3,538	3,619	3,556	3,675
Yam	5,960	5,855	6,639	7,075

Source: SRID, MoFA (2015).

* Note: Milled rice was estimated to be 60% of paddy for 2010 and 2011 but was revised to 69% in the case of 2012 and 2013.

From Table 5, cocoa production declined between 2010/11 and 2012/13 while oil palm production increased during the period. Data on production of other industrial crops is not readily available.

Table 5: Production of Industrial Crops (Mt)

Year	Cocoa	Coffee	Rubber	Shea	Oil Palm
2010/11	1,024,600	n.a.	n.a.	n.a.	2,125,645
2011/12	879,348	n.a.	n.a.	n.a.	2,196,098
2012/13	835,000	n.a.	n.a.	n.a.	2,326,922

Sources: SRID, MoFA (2015).

*n.a: not available

Table 6 gives the minimum and maximum yields of some selected crops produced in the country for 2010, 2011, 2012 and 2013 as well as average yields in 2013 and yields that have been estimated to be achievable in the country. Comparison of maximum, minimum and average yields (in the case of 2013) clearly indicates a tilt towards lower yields. However, the maximum yields indicate possibilities by farmers. Using 2013 information as given in Table 6, it can be observed that it is only the average yields of cocoyam, sorghum and pineapple that are up to 55 percent or more of the achievable yield. Also except for cocoyam, the maximum yields of all other crops have been below the estimated achievable yields during the plan period.

Table 6: Comparison of Yields (Mt/Ha) of Selected Crops, 2010 - 2013

Crop	2010		2011		2012		2013		Average yields in 2013	Achievable yields
	Min	Max	Min	Max	Min	Max	Min	Max		
Tubers										
Cassava	5.12	32.00	6.00	32.60	6.25	41.82	6.70	40.00	18.3	48.7
Cocoyam	3.11	9.77	3.06	10.63	2.40	11.79	2.18	10.68	6.5	8
Taro		9.50						7.00	7.0	20
Yam	3.12	23.99	4.30	23.80	3.85	23.45	3.80	23.99	16.8	49
Sweet potato	7.46	18.55	6.54	17.40	13.20	17.50	8.00	17.03	10.0	25
Plantain ¹	3.90	19.27	0.80	19.30	0.81	19.41	0.83	19.43	10.8	20
Cereals										
Maize	0.7	2.85	0.70	2.86	0.50	3.44	0.50	3.44	1.7	5.5
Millet	0.49	1.52	0.40	1.40	0.38	1.47	0.35	1.48	1.0	2
Sorghum	0.7	2.15	0.54	2.30	0.52	2.40	0.53	1.98	1.1	2
Rice (paddy)	1.09	5.5	0.68	6.50	0.84	6.50	0.83	6.51	2.6	6.0
Legumes										
Cowpea	0.42	2.58	0.30	2.80	0.30	2.73	0.25	2.50	1.2	2.75
Soya beans	0.8	2.53	0.46	2.80	0.44	2.82	0.30	2.75	1.6	2.80
Groundnuts	0.67	2.58	0.35	2.50	0.60	2.60	0.40	2.45	1.2	2.75
Fruits and vegetables										
Pawpaw	35.30	52.75	35.20	54.50	36.80	53.60	32.50	52.60	34.5	75
Pineapple	35.60	60.20	36.10	58.80	41.20	62.30	38.40	63.70	61.8	72

Tomato	3.00	12.00	2.32	12.00	3.00	12.98	0.10	12.42	7.5	17.5
Garden eggs	6.67	9.12	6.70	8.80	6.20	9.70	6.41	9.20	7.9	15
Pepper	6.22	11.89	6.53	12.53	6.87	13.40	7.20	13.60	8.3	32.3
Tree/ industrial crops										
Cocoa	-	0.4					-	0.5	0.5	1
Coffee	-	1.5					-	1.6	1.6	n.a.
Cashew	-	0.8					-	0.5	0.5	1.8
Orange	-	35					-	39	39.0	n.a.
Mango	-	11					-	12.9	12.9	n.a.
Cotton	-	0.8					-	0.8	0.8	n.a.
Rubber	-	0.8					-	0.8	0.8	n.a.
Tobacco	-	1.6					-	1.6	1.6	n.a.

Source: SRID, MoFA (2015).

Performance of Livestock Sub-Sector

Domestic Meat Production

Available data indicate that, there has been a steady increase in domestic meat production from 2010 to 2013 (Table 7). Total domestic meat production increased from 111,392 Mt in 2010 to 135,412 Mt in 2013 representing a percentage increase of about 21.57 percent. The share of poultry production has been the highest with an average percentage contribution of 35.7 percent during the plan period (2010 - 2013), followed by beef production (17%).

Table 7: Domestic Meat Production (Mt), 2010-2013

Type of Livestock	2010	2011	2012	2013	Total	Contribution to Total (%)
Cattle	19,993	20,592	21,221	21,863	83,669	17.0
Sheep	16,916	17,491	18,087	18,703	71,197	14.4
Goat	19,226	20,341	21,198	22,429	83,194	16.9
Pigs	18,010	19,072	20,224	21,432	78,738	16.0
Poultry	37,247	41,008	46,308	50,985	175,548	35.7
Total	111,392	118,504	127,038	135,412	492,346	100.0

Source: SRID, MoFA (2015).

Imports of Livestock and Poultry Products

Beef and chicken were the most imported meat products in terms of quantity in 2013 (Table 8). The imports of beef increased from 11,175.90 Mt in 2010 to 21,250.80 Mt in 2013, an increase of 27.2 percent. Poultry imports, however, have been declining since 2011 from 87,409.50 Mt to 60,786.3 Mt in 2013. The reduction in imports between 2012 and 2013 for the commodity is 19.1 percent.

In general, there has been an increase of 3.3 percent in the importation of livestock and poultry products including milk from 2012 to 2013.

Table 8: Imports of livestock and poultry products (Mt), 2010-2013

Category	2010	2011	2012	2013	% Change (2013/2012)
Bovine:					
Beef	11,175.90	14,823.20	16,703.50	21,250.80	27.2
Buffalo	2,563.90	2,025.00	1,495.00	905	-39.5
Sub-Total	13,739.80	16,848.20	18,198.50	22,155.80	21.7
Poultry:					
Chicken	69,810.80	86,372.50	73,788.40	58,999.30	-20.0
Turkey	1,351.70	1,033.00	1,293.70	1,787.00	38.1
Duck	0	4	78.3	0	-
Sub-Total	71,162.50	87,409.50	75,160.40	60,786.30	-19.1
Others:					
Mutton	4,285.20	4,520.00	2,574.80	3,251.10	26.3
Pork	2,716.60	2,507	1,785.80	2,064.60	15.6
Sub-Total	7,001.90	7,027.00	4,360.60	5,315.70	21.9
Milk	27,323.00	27,619.00	24,727.50	38,187.50	54.4
Grand Total	119,227.20	138,903.70	122,447.00	126,445.30	3.3

Source: Veterinary Services Directorate (VSD), MoFA, (2014).

Performance of Fisheries Sub-Sector

Fish is recognized as one of the most important sources of animal protein in the country and it is expected to provide 60 percent of animal protein needs of Ghanaians. National per capita fish consumption is estimated to be 23kg, much higher than the global average of 13kg.

The country's total annual fish requirement for 2013 was estimated at 880,000 Mt as against the national production of 434,121 Mt (Table 9). The deficit in 2013 was 445,879 Mt which is partly met by imports. Marine production increased from 2010 to 2012 but decreased significantly in 2013. Inland fish production also increased from 2010 to 2011 but decreased from 2011 to 2013. Cultured fish production (aquaculture) however, has shown consistent increases from 2010 and 2013 (Table 9) due to interventions such as Tilapia breeding programme and training of culture fish producers by government and other stakeholders in the sub-sector. From Table 9, marine fisheries is the highest (74.1%) contributor to annual fish production followed by inland sources (20.8%), with aquaculture contributing the least (5.1%) but has the highest growth rate among the three sources from 2010 to 2013.

Table 9: Annual Fish Production by Source (Mt), 2010-2013

Source	2010	2011	2012	2013	Total (2010-2013)	% by source (2010-2013)
Marine	309,558	326,545	333,697	314,868	1,284,668	74.1%
Inland	83,127	95,353	95,000	86,741	360,221	20.8%
Aquaculture	10,200	19,092	27,451	32,512	89,255	5.1%
Total	402,885	440,990	456,148	434,121	1,734,144	100.0%

Source: MoFAD (2014) and SRID, MoFA (2015).

1.2.3 Agricultural Sector Performance by GSGDA Components

The main focus of Ghana's national agricultural development policy, as stated in the GSGDA I and consistent with METASIP, is to accelerate the modernization of agriculture and ensure effective natural resources management and environmental governance regime. Under GSGDA I, the stated agricultural sector development components and policy objectives are broadly divided into (a) Accelerated Agricultural Modernization and (b) Sustainable Natural Resources Management. Discussion of the agricultural sector performance between 2010 and 2013 is based on the former (Table 10) while the performance of the latter will be reported in MLNR performance report.

A) Accelerated Agricultural Modernisation

Table 10 is a summary of the performance of the agricultural sector under the accelerated agricultural modernisation components for the planned period.

Table 10: Agriculture Performance by Components, 2010 - 2013

No.	Agricultural Modernisation Components	Policy Objectives	Outputs/Indicators / targets ¹	Progress on implementation/challenges/ recommendations
1	Productivity	1. Accelerate agricultural mechanization	<p>a) At least one (private sector led) mechanization center established in each district by 2015²</p> <p>b) Private sector facilitated to establish mechanization service centers (for production and processing in specific areas where rain water harvest is a major source of water for farming).</p>	<p>a) A total of 89 AMSECs located in 62 districts.</p> <p>b) The AMSECs are private sector owned and operated.</p> <p>Though the AMSECs have been established, they face some managerial and operational challenges e.g. lack of spare parts.</p>
		2. Promote the production and use of small-scale multi-purpose machinery and equipment along the value chain.	Incentives for agro-processing industries to adopt food grade processing technologies provided by 2012	<p>Export Marketing and Quality Awareness Project (EMQAP) constructed a 40 ft temperature controlled pack house at Vakpo in the Volta Region.</p> <p>A perishable cargo centre has been established at the Kotoka International Airport.</p>

² Almost all information under this column is from METASIP (2010-2015)

³ This review is from 2010 to 2013 but it is appropriate to keep to what the METASIP proposed.

		3. Strengthen Research-Extension-Liaison Committees (RELCs)	Research Extension Linkage strengthened and made functional by 2012.	The West Africa Agricultural Productivity Programme (WAAPP) is supporting the RELCs. They are functional in all the 10 regions of the country. WAAPP also supports research through the Competitive Agricultural Research Grant Scheme (CARGS). In 2013, 88 concept notes were received. As reported by CSIR, all the problems identified and flagged before 2012 are being addressed with funding from WAAPP-2. Canadian Government also through SFASDEP, funded seventeen (17) research projects conducted by research scientists from the NARS institutions between 2009 and 2012.
		4. Promote seed development for improved yields	a) Infrastructure for seed/planting materials production, processing, storage and marketing (to facilitate private sector seed/planting materials) production expanded by plan period. b) A regional seed/planting material policy under WAAPP advocated and developed by 2013	USAID Feed the Future programme has supported the establishment of seed/planting material processing units. Foundation seeds of selected staple crops produced by the Grains and Legumes Development Board (GLDB) was 48 Mt in 2012 and 40.5 Mt in 2013. There is still over 58% shortfall. The GLDB also produced and distributed 5,000 citrus seedlings of Valencia, Blood orange, Ortanique, Satsuma mandarin, and Ponkan mandarin.
		5. Increase access to extension services and agricultural education	Use of mass communication systems and electronic media for extension delivery (radio programmes, information vans, posters etc.) intensified and in use for disseminating extension information through FBOs.	49 Agricultural Information centres were established in 2012 throughout the country. An audio visual van procured for each region for extension service delivery.
2	Agricultural competitiveness and integration into domestic and international markets	1. Improve post-harvest management practices to reduce post-harvest losses.	1. Post-harvest losses along the maize, rice, sorghum, cassava, yam, and fish value chains reduced by 30%, 35%, 20%, 40%, 50% and 30% respectively by 2015 (targets based on baseline in MoFA 2007 post-harvest study). 2. Post-harvest losses of mango, plantain, tomato,	No study has been undertaken in recent times to estimate levels of post-harvest losses. However, 14 Community warehouses and pack houses have been constructed in various localities as part of effort to reduce post-harvest losses even though research by Boateng and Nyaaba (2014) concludes that "respondents perceived that "not much have been done to reduce post-harvest losses". The NRGF has constructed 18 community warehouses with various capacities

			pineapple, papaya and citrus reduced by between 25 and 50% by 2015.	which have been certified and approved by the GGC in the three northern regions (Northern Region- 6, Upper West Region-8 and Upper East Region - 4). NRG is constructing another 10 warehouses and 4 pack houses.
		2. Establish a National Food Buffer Stock Company (NAFCO)	6-month supply of food strategic stocks (maize, sorghum, rice etc.) implemented.	NAFCO has been established. However, it is operating with just 18,000Mt storage space and that includes 4,500Mt rented facilities and 2,000Mt in pro-cocoons. It also purchased about 12,000Mt of local rice and 30,000Mt of maize across country during the planned period.
		3. Develop Product Clusters	Efficient pilot value chains developed for two selected commodities in each agro-ecological zone.	Nine pilot commodity value chains comprising sorghum, rice, oil palm, maize, mango, pineapple, soya beans, cassava, citrus and guinea fowls have been developed. Ten (10) Regional Extension Officers and 300 AEAs received training in Agricultural Value Chain analysis and development within the planned period. District Value Chain Committees (DVCC) concept is being promoted in 6 regions.
		4. Develop trade in internal markets	Income from cash crop production by men and women increased by 20% and 30% respectively by 2015.	There has not been any income study on farm households. However, METASIP mid-term review reports that beneficiaries' perception of increased income from crop production is "low".
3	Production risks and bottlenecks in agricultural industry	1. Expand agriculture-related infrastructure (main strategy is irrigation and rural roads)	a) Irrigation schemes productivity increased by 25% and intensification by 50% by 2015. b) 22,590 ha of micro irrigation schemes developed by 2015 to benefit 50,000 households. c) Feasibility studies for large scale irrigation projects in the country updated by 2012 and funds for implementation sourced by 2013.	a) Productivity on irrigated fields is increasing. b) Though scheme sites have been identified, feasibility studies are yet to be completed. c) Feasibility study on Sisili-Kulpawn basin and Pwalugu multipurpose dam projects have been completed. Nasia Naabogu Valley Irrigation project has also been done. d) There has been extensive feeder roads construction within the planned period. According to the Department of Feeder Roads, about 2,284 km of road was improved and 3,343 km rehabilitated while 54 bridges were constructed between 2011 and 2013.

			<p>d) At least 70% of communities in districts linked by feeder roads to district capitals.</p> <p>e) Rural industrial processing of cassava, oil palm, Shea nut, cashew nuts, soya beans and groundnut increased by 20%, 20%, 40%, 30%, 30% and 30% respectively by 2015.</p>	<p>The NRGP also constructed about 492 km of rural roads in its project area.</p> <p>e) RTIMP through its Value Chain facilitation programme fostered four (4) key market-driven, product-based and tailor-made linkages, namely: (i) fresh Yam for export - reached the 33,000 Mt mark in 2012 with an estimated value of GH 44 million and an average growth rate estimated at 23%; (ii) Gari; (iii) High Quality Cassava Flour - a total of 475 tons were utilized; and (iv) Bonding cassava flour for plywood industry.</p> <p>f) Total area cropped under formal irrigation was 9,913 hectares in 2012 and 11,136.3 in 2013. For informal irrigation it was 10,138 hectares in 2012 and 10,541.7 in 2013 (NDPC, 2013).</p>
		<p>2. Promote sustainable management of land and the environment (main strategies include establishment of land banks, development of land use plans and establishment of agri-business zones)</p>	<p>a) 62,000 ha of sustainable water harvesting and agricultural water management schemes in Northern and Southern Savannah zones identified and developed to benefit 10,000 households.</p> <p>b) Policies and regulations to support SLM at all levels reviewed and strengthened by 2012.</p>	<p>a) 1, 270 ha of lowlands developed by RSSP (Aid Memoire, 2013) but plans to develop other lowlands have been far behind schedule.</p> <p>b) No work has been done in this regard.</p>
4	<p>Crops development for food security, exports and industry</p>	<p>1. Promote and develop selected staples and horticultural crops in the relevant agro-ecological zones (Main strategy is nucleus-outgrower concept, block farming schemes and contract farming).</p>	<p>a) Yields of maize, rice, sorghum, cassava and yam increased by 50% and cowpea by 25% by 2015</p> <p>b) Numbers of food insecure (vulnerable) households reduced by 20% by 2015 (<i>GLSS 5 2005/06 as the basis</i>)</p> <p>c) Out-grower schemes - and FBOs intensified and three-tier FBO structure achieved in all districts by 2015.</p>	<p>a) There has been marginal increases in productivity due to the challenge in financing inputs as well as putting in place basic infrastructure such as irrigation, mechanization, storage facilities and distribution systems (see Table 6 above).</p> <p>b) Ghana is currently self-sufficient in some key staple crops but there is a growing supply gap in both raw materials and processed foods. Development of agro-ecological zones for specific commodities yet to be effected.</p> <p>c) Development of out-grower schemes and FBOs are on-going. FBOs in the country have been estimated to be 25,000 but only 23.1% are functional.</p>

			<p>d) Marketed output of staple crops by smallholders increased by 50% by 2015.</p> <p>e) Export of non-traditional agricultural commodities by men and women smallholders increased by 50% by 2015</p>	<p>d) No study has been undertaken to this effect.</p>
		2. Promote organic cocoa for strategic buyers and intensification and extension of the mass spraying exercise.		<p>Though there is no information on organic cocoa production, mass spraying of cocoa against diseases has been going on for some time now. Under the program COCOBOD supplied the insecticides for the spraying and paid the spraying gangs.</p>
		3. Stimulate investments in the local processing of cocoa by local and foreign entrepreneurs.	<p>Process 60% of cocoa beans locally.</p>	<p>The installed domestic processing capacity for cocoa is estimated at 431,500 Mt. About 50% capacity is utilized in local cocoa processing. The share of cocoa output processed locally was estimated at 24% in 2012 and 27% in 2013.</p>
		4. Encourage large-scale production of dawadawa and establishment of a Shea nut Development Board.		<p>Development board not established. COCOBOD continues to support Shea Nut Unit to expand shea nut production.</p>
		5. Revive the cotton industry.	<p>Cotton industry revived by three experienced firms in cotton production by 2013.</p>	<p>A Cotton Development Authority has been established but is yet to be functional.</p>
5	Livestock and poultry development	1. Initiate research into large scale breeding and production of guinea fowls, cattle, sheep, and goats.	<p>a) Production of poultry (including guinea fowl) increased by 20% and small ruminants and pigs by 25% by 2015 through adoption of improved technologies</p> <p>b) Rural industrial processing of livestock increased by 20%.</p>	<p>a) METASIP Mid-Term review indicates that sheep and pig achieved 99% and 87% respectively of the expected 2012 production gap, while goat and poultry production achieved 150% and 307% respectively.</p> <p>Within the planned period, livestock breeding stations produced 77,809 cockerels and 49,000 livestock production manuals. Livestock demonstration centres have been established in 6 regions.</p>

				<p>WAAPP has improved hatchability of Guinea fowl eggs by supplying 40 incubators to farmers in the northern zone.</p> <p>b) There are several firms engaged in processing of livestock products in many parts of the country. Examples include Jfamco and Accra abattoir.</p>
		2. Support large scale cultivation of maize and soya beans for the formulation of animal feed.	Develop maize and soya bean value chains.	The maize/soya bean/livestock chain is yet to be effectively established.
		3. Institute mass vaccination against Pest de Petit Ruminant (PPR) in small ruminants and Newcastle disease in poultry.		Five million doses of Thermostable NDI-2 vaccines were produced and distributed for the control of Newcastle disease. The vaccines were expected to cover about 600,000 birds in 60,000 households,
		4. Address issue of Fulani herdsmen through ECOWAS protocol on trans-humans.	Fulani herdsmen issue resolved at ECOWAS level by 2013.	A 25 km ² communal paddock for grazing in place in Afram Plains. Problem of Fulani herdsmen, however, still lingers on at the ECOWAS level.
		5. Establish a National Poultry Council to promote and strengthen commercial poultry production.	Income from poultry rearing by men and women increased by 10% and 25% respectively by 2015	MoFA has established a steering committee towards the establishment of the Council.
6	Promotion of fisheries development for food security and income	1. Prevent the over-exploitation of the resources of the sea and the lagoons		Progress under these objectives (1 to 6) will be reported by MoFAD in their progress reports.
		2. Establish co-management mechanisms with local communities for fisheries resource management.		

		3. Review all existing agreements on fishing within Ghana's territorial waters/EEZ (to ensure sustained livelihoods and the long-term interests of fishing communities).		
		4. Establish effective monitoring, controls and surveillance systems and enforce fishery laws and regulations.		
		5. Establish a fisheries college to train extension officers and technicians.		
		6. Expand and upgrade existing fish landing sites and related Infrastructure for storage, processing and exports.	Rural industrial processing of fish increased by 30% within the plan period.	
		7. Support the formation of "Fish Farmers Associations" for inland fisheries and aquaculture development.	<p>a. Productivity of cultured fish increased by 50% from 10,000Mt in 2010 to 15,000 by 2013.</p> <p>b. Production of culture fisheries by men and women increased by at least 60% by 2013 (from 10,000Mt in 2011 to 16,000Mt in 2013)</p> <p>c) Fish Farmers Associations (FFAs) and Community Based Fisheries Management Committees (CBFMCs) fully developed by 2015</p>	<p>a) Culture fish production is the focus of government. It is increasing as indicated earlier.</p> <p>b) Fingerlings production increased from 36,430,390 in 2011 to 79,380,269 in 2012, an increase of 118%. Private hatcheries contributed 28,388,849, or 81%. The production in 2013 was about 91 million Mt.</p> <p>c) Pond fish production was about 1,459Mt in 2012 and 2,570Mt in 2013.</p>

7	Improved institutional collaboration for agricultural development	1. Strengthen the intra-sectoral and inter-ministerial coordination through a platform for joint planning.	Capacity for planning, policy analysis, M&E and data collection and analysis at national, regional and district level strengthened by 2015.	<p>DPs (GIZ, USAID, IFPRI, CIDA, FAO etc.) supported training of national and regional M&E officers in result based reporting.</p> <p>USAID through IFPRI has supported SRID to improve its data collection system using the GAPS.</p>
		<p>2. Facilitate the development and implementation of a communication strategy to improve institutional coordination.</p> <p>3. Strengthen the framework for coordinating activities among the range of diverse stakeholders in the sector.</p>	<p>A communications strategy within MoFA is developed and implemented by 2012.</p> <p>a) A joint platform for collaboration between MoFA and other MDAs established and strengthened by end of 2012.</p> <p>b) A platform for private sector and civil society engagement with MDAs established by end of 2011.</p> <p>c) MOFA-DPs coordination and collaboration strengthened and DPs and MDAs fund a common agriculture strategy by 2011.</p>	<p>Draft communication strategy has been produced.</p> <p>a) JSR, AgSWG, NDPC, MoF policy hearing platforms, established and functional.</p> <p>b) APPDF has been established.</p> <p>c) This has already been achieved through multi-stakeholder platforms such as JSR, AgSWG, etc.</p>

(B) Sustainable Natural Resources Management

Several of the activities required under this broad section are within the mandate of the Ministry of Land and Natural Resources (MLNR) and the Ministry of Environment, Science, Technology and Innovation (MESTI). However, the Directorate of Crops Services (DCS) of MoFA works closely with these Ministries. The performance on this sub-theme is therefore reported by MLNR and MESTI.

1.3 PROFILE OF THE AGRICULTURAL SECTOR AND CURRENT DEVELOPMENT SITUATION

1.3.1 Structure of the Ministry

National Level:

The Directorates of MoFA at the National Level are grouped into line and specified Technical Directorates. MoFA also administers some State-Owned Enterprises (SOEs) and Sub-vented Organisations. In addition, Councils have been set up to advise the Honourable Ministers on specific issues affecting the development of agriculture.

The Line Directorates are Administration Directorate (AD); Finance Directorate (FD); Human Resource Development and Management Directorate (HRDMD); Policy Planning, Monitoring and Evaluation Directorate (PPMED) and Statistics, Research and Information Directorate (SRID).

The Technical Directorates are Directorate of Crop Services (DCS), Plant Protection and Regulatory Services Directorate (PPRSD), Animal Production Directorate (APD), Veterinary Services Directorate (VSD), Agricultural Engineering Services Directorate (AESD), Directorate of Agriculture Extension Services (DAES), and Women in Agricultural Development (WIAD).

The SOEs are Ghana Irrigation Development Authority (GIDA), Irrigation Company of Upper Region (ICOUR), GLDB and National Food and Buffer Stock Company (NAFCO). A Cotton Development Authority (CDA) has also been set up but its Governing Body and Secretariat are yet to be inaugurated.

Regional Level:

The Regional Director of Agriculture (RDA) is answerable in the performance of his/her duties to the Regional Minister and the Regional Coordinating Director (Section 28 (2) of PNDCL 327). The RDA at the same time reports on technical matters to the Chief Director (CD) of MoFA.

District Level:

District Departments of Agriculture (DDAs) are in charge of managing projects and programs and implementing national agricultural policies and decisions in the districts. Under full decentralization, the district offices are departments of the District Assemblies.

The District Agricultural Officer (DAO) provides technical backstopping to District officers including Agricultural Extension Agents (AEAs). Most of the AEAs provide general extension to farmers in their operational areas while others provide specialized services including animal health, veterinary and fisheries development services.

See appendix 1: Organogram of MoFA and Links to Decentralised Levels.

⁴ PPMED has now been restructured into four, namely Policy, Planning and Budget Directorate;

⁵ Monitoring and Evaluation Directorate, Project Coordination Unit and Agribusiness Unit.

For efficient and effective service delivery, districts are demarcated into zones and operational areas. The number of zones per district varies according to land size and population. Each zone is divided into operational areas. Just as the zones, the number of operational areas per zone also varies from one District to the other. An operational area is expected to be manned by an extension agent while specialized duty AEAs operate across the district.

The District Director of Agriculture reports directly to the District Chief Executive (DCE) through the District Coordinating Director (DCD) and collaborates with the RDA on technical issues.

Human Resource Capacity

The staffing levels of the Ministry of Food and Agriculture remained constant between 2010 and 2012 and decreased very significantly in 2013 (Table 11). There has been the need to increase staff numbers especially extension personnel but that has not been feasible as a result of policy on recruitment into the public service. It is estimated that the extension personnel to farmer ratio is about 1: 2000 on the average but it is far worse in many important farming areas.

Table 11: Staffing Levels of MoFA, 2010 - 2013

Category of staff	2010	2011	2012	2013
Professional	1,362	1,362	1,362	1,335
Sub-professional	530	530	530	456
Technical	3,385	3,385	3,385	2,773
Support staff	2,376	2,376	2,376	1,945
Total	7,653	7,653	7,653	6,509

Source: HRDM, MoFA, (2013).

1.3.2 Cross-cutting Issues

Issues on climate change and environment, gender, HIV/AIDs, population, decentralization, disasters, vulnerability, culture, security and technological innovations are regarded as cross-cutting in nature. These are taken into consideration in all programmes, projects and activities of stakeholders in the agricultural sector.

HIV/AIDS

According to MoFA APR 2013, there was a gradual increase in the number of farmers sensitized on HIV/AIDS from 2008 to 2011. The highest increase of 548,386 was recorded in 2011. However, it declined in 2012 by 32.9 percent and then increased again in 2013 to 416,929. The report also indicated that HIV/AIDS awareness creation for women decreased from 51 percent in 2008 to 48.4 percent in 2009. However, there was an increase of 49.7 percent in 2010. In 2013, it further increased to 51.1 percent from the 48 percent recorded in 2012.

Gender

The sector plan is gender-sensitive through the implementation of the Gender and Agricultural Development Strategy (GADS). To ensure inclusive development, the ministry employs the strategy of affirmative action from time to time. This allows the Ministry to target and support the youth, less privileged women and physically challenged farmers. This was done in 2013, mainly through the supply of inputs including livestock species.

Climate Change

Ghanaian agriculture is climate dependent and highly vulnerable to climate change. The national response to addressing the vulnerability is the preparation of the National Climate Change Strategy in 2008. The Strategy specified 10 cross-sectoral programme areas for implementation. However, implementation of these programmes had been ad hoc and not very effective because of insufficient integration into sectoral policies and plans.

Despite the setback, the Ministry harnessed the opportunities provided by some of its policy objectives to initiate steps and build capacity of selected staff in the area of climate change. A ministerial climate change task force was established and trained on basic climate change concepts. The training of the staff set the stage for mainstreaming of climate change during the review of FASDEP and METASIP.

To improve the effectiveness of the programme implementation and the efforts to address climate change challenges in Ghana, a National Climate Change Committee (NCCC) was established in 2010 under the leadership of the Ministry of Environment Science, Technology and Innovation. The NCCC worked to develop the National Climate Change Policy (NCCP), which was launched in 2014.

The five main policy areas prioritized by the NCCP include the development of climate resilient agriculture and food systems in Ghana. MoFA recognizing the importance of mainstreaming climate change into its policy, partnered with the Climate Change Agriculture and Food Security (CCAFS) policy platform to develop the Climate Smart Agriculture (CSA) Action Plan. The plan is to address the development of climate resilient agriculture in Ghana.

The overall goal of the action plan is to operationalize the NCCP for effective integration of Climate Change into the development of the agricultural sector. The specific objectives of the action plan are to:

- a. Develop climate-resilient agriculture and food systems for all agro-ecological zones;
- b. Develop human resource capacity for climate-resilient agriculture; and
- c. Elaborate on the implementation framework and the specific activities to be carried out at the respective levels of governance.

Key stakeholders

The Ministry has a wide range of stakeholders comprising the Public and Private Sectors, Civil Society Organisations (CSOs), Development Partners (DPs), Farmer-Based Organisations (FBOs) among others. Critical among these are:

- a. Public sector - MoFA and agriculture related government agencies and decentralised departments, and the national agriculture research system (academia and scientists);
- b. Private sector - farmers, land owners, input dealers, traders, exporters, transporters, agro-processors, financial institutions, marketers etc.;
- c. Civil Society Organisations - NGOs, Think Tanks, Traditional Authorities, FBOs etc.; and
- d. Development Partners - World Bank, AfDB, FAO, IFAD, WFP, Canadian Government, USAID, GIZ, AFD, JICA etc.

1.3.3 Brief on Agriculture in Ghana

Agriculture is predominantly a smallholder activity in Ghana. About 90 percent of farm holdings are less than 2 hectares in size, although there are some relatively large farms and plantations, particularly for rubber, oil palm and coconut and to a lesser extent, rice, maize and pineapples (FASDEP II, 2007).

The main system of farming is traditional with hoe and cutlass as the main farming tools. There is little mechanized farming, but bullock farming is practiced in some places, especially in the northern parts of the country. Agricultural production varies with the amount and distribution of rainfall, as well as soil factors. Most food crop farms are intercropped whilst mono cropping is mostly associated with larger-scale commercial farms.

The agricultural sector is also characterized by low use of fertilizers. On the average, crop producers in Ghana are considered resource-poor and therefore use little inputs such as fertilizer, insecticides, high yielding varieties or irrigation-based cultivation. Fertilizer use in crop production is expensive, hence the inability of smallholder farmers to access the product. Fertilizer use in the country averages about 3.6kg/ha (Dittoh et. al, 2013), which is about half of the rate in the Sub-Saharan Africa.

According to the GSS (2013), the livestock sub-sector is dominated by small scale operators who are primarily crop farmers and are keeping livestock to supplement their incomes and/or for security purposes. There are few well organized commercial poultry and pig farms operating in many parts of the country. Estimated livestock population indicates increases over the years, especially in poultry, pigs and goats (MoFA-APR, 2014). This achievement is attributed to productivity improvement interventions in the livestock sub-sector. These include; supply of improved livestock breeds to farmers, sustainability of the credit-in-kind projects after its completion (in both pigs and small ruminants) and the cockerel project.

1.3.4 Summary of Key Development Issues Identified from the Overview of the Sector Performance

The agricultural sector is the highest employer of the country's labour force (44%). It is the most important sector because of the importance of food for survival. Despite substantial investments by the public and private sectors as well as the CSOs, and Development Partners, agricultural productivity over the years has been relatively stagnant (see Table 6). Ghana's recent economic growth has been driven largely by gains in the services, oil and industry sectors. Challenges, including institutional and structural inefficiencies, have resulted in a slow rate of transformation of the sector with persistent low productivity and competitiveness in international markets. In spite of these challenges, METASIP has made some modest achievements. Therefore, the need exists for more innovative and revolutionary ideas on how to modernise and/or transform the sector.

The following is a summary of the key development issues identified from the overview of the sector between 2010 and 2013:

- a. Low agricultural productivity;
- b. Increasing unprofitability of farming and fishing due to high costs of operations;
- c. Low access to various services along the value chain; mechanisation, inputs including credit, extension services, processing, marketing etc.;
- d. Non commercially-oriented agricultural production;
- e. Non-disaggregation of some agricultural statistics;
- f. Non-availability of agricultural statistics;
- g. Weak FBO structures for the purpose of assisting in extension service delivery;
- h. Continued high risk in farming due to erratic rainfall, climate change and limited and poorly functioning irrigation infrastructure;
- i. Poor and limited rural infrastructure (roads, industries, energy, potable water, storage etc.);
- j. Very limited market information and intelligence;
- k. High consumer preference for imported commodities that have local substitutes;
- l. Weak policy environment for sustainable land and ecosystems management;
- m. Lack of attention to non-traditional cash crops such as shea, dawadawa, baobab etc.;
- n. Non consideration of nutrition issues in agricultural development planning and practices;
- o. Little attention given to livestock and poultry development by programmes and projects;
- p. Overexploitation of fish stocks leading to declining production;
- q. Low production of culture fish; and
- r. Ineffective communication within and between agricultural directorates at the national, regional and district levels as well as between relevant ministries.

CHAPTER TWO

PRIORITIZATION OF KEY AGRICULTURAL SECTOR DEVELOPMENT ISSUES

2.1 INTRODUCTION

Many of the development issues dealt with during the 2010 – 2013 plan period are still relevant. These include but not limited to low use of improved technologies, limited access to agricultural extension services, and low use of inputs. There are, however, emerging issues that need to be taken into consideration. These include intensification of the effects of climate change, global push for higher sanitary and phytosanitary standards in export of agricultural commodities, among others. The focus of Agriculture in the GSGDA II (Thematic Area 3) is “Accelerated Agriculture Transformation and Sustainable Natural Resource Management”. This chapter discusses the key agricultural development issues identified under various components of the Thematic Area 3. Significant consideration has also been given to cross-cutting issues and issues related to agro-ecologies.

2.2 DEVELOPMENT ISSUES LINKED TO GSGDA II THEMATIC AREA 3: ACCELERATED AGRICULTURE TRANSFORMATION AND SUSTAINABLE NATURAL RESOURCE MANAGEMENT

2.2.1 Accelerated Agricultural Transformation

The key agricultural development issues linked to the broad sub-theme of Accelerated Agricultural transformation are as given in Table 12.

Table 12: Key Agriculture Development Issues

	Component	Key Development Issues⁶
1	Agricultural Productivity	<ol style="list-style-type: none"> 1. Inadequate post-production infrastructure.* 2. Limited funding of food and agricultural research and extension services.* 3. Low use of improved technologies in crops, livestock and fisheries.* 4. Low use and high cost of improved inputs.* 5. Low access to mechanization services along the value chain and low use of intermediate technologies (e.g. animal traction).* 6. Inadequate disaggregated data /statistics on the sector.* 7. Limited participation of beneficiaries in extension programme planning and implementation and low capacity of FBOs to access and deliver services.* 8. Limited availability of improved technological packages, especially planting materials and certified seeds. 9. Inadequate production of processing equipment (in quality and quantity) and inadequate skills training in agro-processing technologies and nutrition. 10. Poor management of agricultural research information. 11. Intensification of the effects of climate change.
2	Accelerated creation of decent jobs	<ol style="list-style-type: none"> 1. Limited numbers of commercially-oriented farms that can create high value jobs.* 2. High risks in agriculture.* 3. Few well organized actors along the value chain. 4. Limited diversification in agriculture. 5. Inadequate skills training in agro-processing technologies.

		<p>6. Ineffective Agricultural Technical and Vocational Education and Training.</p> <p>7. Inadequate dissemination of information on business opportunities along the agriculture value chain.</p> <p>8. Inadequate private investment in agribusiness ventures.</p> <p>9. Weak regulatory regime to enforce standards across board for ensuring quality and safety.</p>
3	Agricultural competitiveness and integration into domestic and international markets	<p>1. Low standardization, grading and product differentiation in domestic and international markets.*</p> <p>2. Agricultural production not driven by market demands.*</p> <p>3. High post-harvest losses along the value chain.*</p> <p>4. Low integration of commodity markets.*</p> <p>5. Inadequate agricultural commodity volumes with the required specifications and quality to supply the international markets.*</p> <p>6. High consumer preference for imported commodities that have local substitutes.*</p> <p>7. High cost of aggregation due to many scattered small producers.</p> <p>8. Limited access to input and output markets by smallholder farmers (men, women and youth).</p> <p>9. Low level of agro-processing and inadequate institutional arrangements to support medium to large-scale commercial agro-processing.</p> <p>10. Inadequate access to market information, intelligence and operations.</p> <p>11. Limited access to funds by traders, especially aggregators.</p> <p>12. Limited capacity to fully comply with international Sanitary and Phytosanitary (SPS) standards.</p>
4	Production risks and bottlenecks in agricultural industry	<p>1. Poor rural infrastructure (poor road network, limited rural industries, inadequate energy and access to potable water etc.).*</p> <p>2. Limited value chain development and mainstreaming.*</p> <p>3. High cost of production and inadequate access to appropriate financial products.*</p> <p>4. Over-dependence on rainfall and inadequate measures to mitigate climate change effects.*</p> <p>5. High levels of environmental degradation.*</p> <p>6. Disjointed value chains of most agricultural commodities.</p> <p>7. Limited availability of storage and processing facilities.</p> <p>8. Unpredictability in food supply and prices due to climate variability and other natural occurrences.</p> <p>9. Limited insurance products targeted at the agriculture sector, and absence of national agriculture land use policy.</p>
5	Irrigation Development	<p>1. Climate variability, unpredictability and over-dependence on rain-fed</p>

⁶ Issues asterisked are those of high priority. It must, however, be noted that most of the issues are interrelated.

		<p>agriculture.*</p> <p>2. Inefficient use of and low productivity of existing irrigation systems.*</p> <p>3. High cost of development and running of irrigation systems.*</p> <p>4. Poor construction of some irrigation infrastructure.*</p> <p>5. Low level of attention paid to small scale (informal) irrigation systems.*</p> <p>6. Low capacity of relevant staff in irrigated agriculture.</p>
6	Agricultural Financing	<p>1. Limited flow of financial resources to agriculture and aquaculture.*</p> <p>2. Lack of targeting in subsidy provision.*</p> <p>3. Limited insurance products targeted at the agriculture sector.*</p> <p>4. Low financial literacy among smallholder farmers.</p> <p>5. Inadequate access to appropriate financial products.*</p> <p>6. Limited specialised funding arrangement to support agriculture development.</p> <p>7. Limited knowledge in agricultural financing by most financial institutions.</p>
7	Sustainable environment, land and water management	<p>1. Weak implementation of sustainable land management (SLM) policies and strategies at the community level.*</p> <p>2. Weak collaboration among relevant agencies to ensure SLM mainstreaming.*</p> <p>3. Lack of joint planning and implementation of SLM programmes with relevant institutions.*</p> <p>4. Low capacity at all levels for implementation of SLM policies as they affect agriculture.</p> <p>5. Low adoption of SLM technologies at community level.</p> <p>6. Limited up-scaling/replication of successful pilot SLM activities.</p> <p>7. Lack of incentives for adoption of SLM technologies.</p> <p>8. Absence of national agricultural land use policy.</p> <p>9. Increasing negative impacts of climate change on agriculture.</p>
8	Crop development for food and nutrition security, exports and industry	<p>1. Inadequate diversification and competitiveness in staples and cash crops.*</p> <p>2. Inadequate development of, and investment in processing and value addition of the non-traditional cash crops including shea nuts, dawadawa, cotton and other nutrition dense foods.*</p> <p>3. High deficiency levels of vitamin A, iron and iodine in many f consumed.*</p> <p>4. Inadequate raw materials to meet increasing demand by local industries.</p> <p>5. Weak linkages within value chains.</p>
9	Development of Agricultural Estates	<p>1. Limited commercial farms and inadequate agriculture estates.*</p> <p>2. Difficulties in land acquisition for large-scale agricultural production and establishment of agriculture estates.*</p> <p>3. Constraints in provision of infrastructure (e.g. feeder roads, power etc.) for agriculture including irrigated production.*</p>

		<p>zoning and mapping.</p> <p>12. Inadequate data for fisheries management.</p> <p>13. Unsafe and unhygienic conditions at landing sites.</p> <p>14. Lack of insurance for artisanal fishing.</p>
12	Improved institutional collaboration for agricultural development	<p>1. Inadequate capacity for planning, execution, policy analysis and M&E at national, regional and district levels.*</p> <p>2. Ineffective communication within and among MoFA directorates.*</p> <p>3. Inadequate and ineffective functioning of platforms for engagement of Private Sector and Civil Society with agricultural sector agencies at national, regional and district levels.*</p> <p>4. Poor management of commissioned studies and their results.</p> <p>5. Weak sustainability of interventions.*</p> <p>6. Weak financial and asset management and reporting.</p> <p>7. Varied financial management, procurement, monitoring and evaluation systems in the agricultural sector.</p> <p>8. Weak human resource management within MoFA and other MDAs.</p> <p>9. Agricultural SWAp not fully effective.</p>

2.2.2 Sustainable Natural Resources Management

The key agricultural-related development issues linked to the broad sub-theme of Sustainable Natural Resources Management are as given in Table 13. These issues are to be addressed by agricultural-related MDAs in collaboration with MoFA.

Table 13: Key Natural Resources Development Issues

	Component	Key agricultural sector development issues
1	Natural resource management and mineral extraction	<p>1. Negative impact of some farm practices e.g. Inappropriate use of agro-chemicals.</p> <p>2. Negative impact of mining on the environment and host communities</p> <p>3. Degradation of the nation's forests.</p> <p>4. Inadequate awareness of climate change and its impact.</p> <p>5. Weak institutional and regulatory framework for natural resource management and environmental governance especially at the district level.</p> <p>6. Weak enforcement of regulations and laws governing the environment and for the management of natural resources.</p>
2	Biodiversity Management	<p>1. Weak integration of biodiversity issues in development decision-making especially at the local levels.</p>
3	Protected areas management	<p>1. High incidence of bush fires.</p> <p>2. Pressure from adjacent land use especially agriculture, mining and human settlement.</p>
4	Land management and restoration of degraded forests	<p>1. Increasing population pressure on land.</p> <p>2. Loss of soil fertility.</p> <p>3. Poor land use management.</p> <p>4. Cultivation along steep slopes leading to erosion.</p> <p>5. Forest destruction by chainsaw operators.</p>

		<ul style="list-style-type: none"> 6. Intensification of charcoal production to meet urban energy demands. 7. General indiscipline in the purchase and sale of land. 8. Inadequate spatial and land use plan. 9. Ineffective development control of human settlement. 10. Indiscriminate sand winning. 11. Increasing incidence of surface mining especially illegal mining.
5	Integrated marine and coastal management	<ul style="list-style-type: none"> 1. Water pollution from industrial waste. 2. Coastal habitat degradation. 3. Increased vulnerability of coastal communities. 4. Sea water intrusion into aquifers. 5. Weak policy framework for coastal management. 6. Marine algae bloom in some areas. 7. Depletion of marine resources. 8. Loss of unique coastal habitat and ecosystems. 9. Pollution of water ways. 10. Degradation of coastal lagoons and habitats. 11. Poor sanitation and waste management practices in coastal communities.
6	Wetlands and water resources management	<ul style="list-style-type: none"> 1. Adverse impacts of climate change conditions. 2. Inadequate harvesting of water. 3. Dwindling water resources. 4. Water pollution. 5. Increased deforestation in river catchment areas. 6. Excessive siltation of water bodies.
7	Waste management, pollution and noise reduction	Inefficient industrial waste management.
8	Community participation in natural resource management	<ul style="list-style-type: none"> 1. Limited involvement of stakeholders in natural resource management initiatives at the local level. 2. Inadequate institutional framework for community participation in natural resource management.
9	Climate variability and change	<ul style="list-style-type: none"> 1. Limited human capacity in climate change issues. 2. Limited awareness of climate change and its impact. 3. Inadequate early warning systems. 4. Inadequate infrastructure to cope with the impact of climate change
10	Natural disasters, risks and vulnerability	<ul style="list-style-type: none"> 1. Frequent droughts, floods, forest and other fire outbreaks. 2. Weak national capacity to manage the impacts of natural disasters and climate change.

2.2.3 Cross-cutting Issues

Three key cross-cutting issues, gender, climate change and nutrition, require special attention in agriculture. Thus, key agricultural development issues that relate to these cross-cutting issues have been identified (Table 14). They affect almost all the components discussed in other sections.

Table 14: Key Gender and Climate Change Development Issues

	Cross-cutting Issues	Key Agricultural Development Issues
1	Gender mainstreaming	<ol style="list-style-type: none"> 1. Inadequate integration of gender into agricultural policies and programmes.* 2. Access to productive resources, especially land and agricultural inputs such as fertilizers and credit, is largely gender insensitive. 3. Poor gender coordination among key agriculture sector MDAs.* 4. Inadequate gender mainstreaming in agricultural sector decision making at all levels. 5. Inadequate gender-sensitive research and extension linkages.* 6. Little consideration of the potentials of vulnerable farmers.
2.	Environment, climate change and green economy	<ol style="list-style-type: none"> 1. Inadequate mainstreaming of environmental concerns and climate change into agricultural policies and programmes.* 2. Limited understanding of ecosystems degradation at all levels.* 3. Inadequate human resource capacity for climate-resilient agriculture. 4. Inadequate understanding and promotion of green economy concept. 5. Inadequate information on ecological organic agriculture.
3.	Nutrition	<ol style="list-style-type: none"> 1. Inadequate consideration of nutrition issues in agriculture (nutrition sensitivity). * 2. Limited support for capacity development in nutrition in collages. 3. Limited nutrition information in extension delivery.

2.3 KEY AGRICULTURAL SECTOR DEVELOPMENT ISSUES IN OTHER GSGDA II THEMATIC AREAS

The key agricultural sector development issues in these thematic areas may not necessarily be issues to be handled by the Ministry of Food and Agriculture. The mandates of several other ministries, departments and agencies impact significantly on the agricultural sector, hence the need for effective inter-ministerial collaboration, consultation and cooperation. Table 15 gives some agricultural sector issues in the thematic areas.

Table 15: Key Agricultural Sector Development Issues in Other Thematic Areas

	Thematic Area	Key Development Issues
1	Ensuring and sustaining macroeconomic stability	Inability of the sector to effectively facilitate sustainable food security, export and stable prices of foodstuffs.
2	Enhancing Competitiveness of Ghana's Private Sector	1. Lack of conducive enabling agricultural environment for private sector activities e.g. infrastructure. 2. Poor quality of agricultural produce. 3. Low value addition.
3	Infrastructure and Human Settlement	1. Use of urban and peri-urban fertile lands for real estate. 2. Poor rural infrastructure.
4	Oil and Gas Development	Under-development of the petro-chemical industry to take advantage of the production of agro-inputs such as fertilizers.
5	Human Development, Productivity and Employment	1. Inappropriate curricula of agricultural training institutions to address challenges in the agricultural sector. 2. Trained agriculturists do not go into farming. 3. Lack of enabling framework for Agricultural Technical and Vocational Education and Training.
6	Transparent and Accountable Governance	Slow integration of District Department of Agriculture into the District Assemblies.

CHAPTER THREE

DEVELOPMENT GOAL, ADOPTED OBJECTIVES AND STRATEGIES

3.1 INTRODUCTION

The goal of the Accelerated Agriculture Modernization and Sustainable Natural Resource Management is to transform the agriculture sector to drive productivity and output, create jobs, increase incomes, and ensure food security over the medium term. Innovative interventions have been planned based on the adopted objectives and key strategies that will be systematically implemented under the programme areas to ensure that the goal set under this thematic area of the GSGDA II is achieved.

3.2 ADOPTED OBJECTIVES AND STRATEGIES

MoFA in its pursuit of the accelerated agriculture modernization goal has adopted 15 policy objectives under the GSGDA II and has developed strategies that will enable the Ministry meet its strategic policy objectives in the medium term, from 2014 to 2017. They are stated according to Key Focus Areas or Components in Table 16.

Table 16: Adopted Agriculture Policy Objectives and Strategies for 2014-2017

Key Focus Area (Component)	Adopted Policy Objectives ⁷	Key Strategies
Agricultural Productivity 1.	1.1 Increase access to extension services and re-orient agriculture Education	1.1.1 Formulate and adopt agricultural education syllabus that promotes agriculture and aquaculture as a business at all levels of education. 1.1.2 Maintain the role of Agricultural Award Winners and FBOs to serve as sources of extension in production and markets to small scale farmers within their localities to help transform subsistence farming into commercial farming. 1.1.3 Increase access and improve allocation of resources to districts for extension service delivery taking cognisance of gender and nutrition sensitivity. 1.1.4 Address socio-cultural issues that limit women's access to extension services and agriculture education. 1.1.5 Build capacity of FBOs and Community-Based Organisations (CBOs) to facilitate delivery of extension services to their members. 1.1.6 Expand the use of mass extension methods e.g. farmer field schools, nucleus-farmer out-growers schemes, extension fields in the districts through mass education via radio, TV, Junior Farm Field and Life School (JFFLS), and communication vans for knowledge dissemination. 1.1.7 Improve collaboration with NADMO in addressing gaps in disaster prevention, preparedness and response in extension delivery services.
	1.2 Improve science, technology and innovation application	1.2.1 Apply appropriate agriculture research and technology to introduce economies of scale in agriculture production. 1.2.2 Improve the effectiveness of Research-Extension-Farmer Linkages (REFLs) and integrate the concept into the agriculture research system to increase participation of end users in technology development. 1.2.3 Strengthen coordination and collaboration between research institutions, locally and international, to improve cost effectiveness of research. 1.2.4 Develop sustained funding mechanisms for research and transfer of research findings. 1.2.5 Promote demand-driven agriculture policy research and utilisation. 1.2.6 Increase capacity of research organisations to undertake demand-driven socio-economic research. 1.2.7 Promote demand-driven research into food composition, development and industrial use of local staples and livestock (food composition). 1.2.8 Intensify the incorporation of age/gender analysis into agriculture research.

⁷Adopted policy objectives on Fisheries and Aquaculture development are contained in MoFAD's MTDP.

	1.3 Promote Agriculture Mechanization	<p>1.3.1 Strengthen collaboration with the private sector to build capacity to manufacture appropriate agriculture machinery, tools, and other equipment locally.</p> <p>1.3.2 Intensify the establishment of mechanisation service provision centres with backup spare parts for all machinery and equipment.</p> <p>1.3.3 Promote the availability of machinery under hire purchase and lease schemes.</p> <p>1.3.4 Develop human capacity in agriculture machinery management, operation and maintenance within the public and private sectors.</p> <p>1.3.5 Mainstream gender issues into agriculture mechanization through the development of labour saving equipment.</p>
	1.4 Promote seed and planting material development	<p>1.4.1 Support the development and introduction of climate resilient, high-yielding, disease and pest-resistant, short duration crop varieties taking into account consumer health and safety.</p> <p>1.4.2 Support production of certified seeds and improved planting materials for both staple and industrial crops.</p> <p>1.4.3 Intensify dissemination of updated crop production technological packages.</p> <p>1.4.4 Build capacity to develop more breeders, seed growers and inspectors.</p> <p>1.4.5 Improve the regulatory environment for seed and planting material production and distribution.</p> <p>1.4.6 Support the implementation of the Plant and Fertiliser Act, 2010, Act 803 as it relates to seed production.</p>
	1.5 Improve institutional coordination for agricultural development	<p>1.5.1 Strengthen the intra-sectoral and inter-ministerial coordination through a platform for joint planning.</p> <p>1.5.2 Develop framework for synergy among projects, and strengthen framework for coordinating activities among diverse stakeholders in the sector.</p> <p>1.5.3 Create District Agriculture Advisory Services (DAAS) to provide advice on productivity enhancing technologies.</p>
2. Accelerated Creation of Decent Jobs	2.1. Increase private sector investments in agriculture	<p>2.1.1 Position public sector to effectively attract private sector investment into agriculture.</p> <p>2.1.2 Develop programmes to increase the participation of the youth in agriculture and aquaculture business.</p> <p>2.1.3 Optimise the use of the e-governance platform for information dissemination and effective public engagement</p> <p>2.1.4 Promote formalisation of commodity value chain with particular attention to selected crops such as cassava, plantain, tropical fruits in partnership with the private sector and financial institutions.</p> <p>2.1.5 Promote awareness and enforce compliance to rules, regulations and standards across board to ensure quality and safety.</p>
3. Agricultural competitiveness and integration into domestic and international markets	3.1 Improve post-production management	<p>3.1.1 Strengthen the operations of the National Buffer Stock Company.</p> <p>3.1.2 Improve supply chain management for developing product clusters.</p> <p>3.1.3 Promote the patronage of locally-processed products through the production of quality and well-packaged products.</p> <p>3.1.4 Strengthen collaboration between public and private sector institutions to promote agro-processing, storage and marketing.</p> <p>3.1.5 Promote cottage level agro-processing industries with interventions to enhance access to machinery and quality of products.</p> <p>3.1.6 Develop standards to be at par with those of competing imports.</p> <p>3.1.7 Provide incentives for the development of post-harvest management infrastructure and services through direct private sector investment and partnerships.</p> <p>3.1.8 Develop effective post-harvest management strategies, particularly storage facilities, at individual and community levels.</p> <p>3.1.9 Promote Public Private Partnerships (PPPs) in the agriculture sector.</p> <p>3.1.10 Promote food safety along the agricultural value chain.</p>
	3.2 Develop an effective domestic market	<p>3.2.1 Promote accelerated construction of all-weather feeder roads and rural infrastructure.</p> <p>3.2.2 Strengthen partnership between private sector and District Assemblies to develop trade in local markets.</p> <p>3.2.3 Advocate and lobby for the improvement of market infrastructure and sanitary conditions.</p> <p>3.2.4 Operationalise the Ghana Commodities Exchange.</p> <p>3.2.5 Strengthen capacity of MoFA and MoFAD and other relevant stakeholders to provide marketing extension.</p> <p>3.2.6 Develop standards and promote good agriculture/aquaculture practices along the value chain.</p>

		<p>3.2.7 Enhance the operations of FBOs to acquire knowledge and skills and to access resources along the value chain, and for stronger bargaining power in marketing.</p> <p>3.2.8 Promote the use of ICT and media to disseminate agriculture/fisheries market information to farmers.</p> <p>3.2.9 Develop policy measures for standardisation and product differentiation in local markets.</p> <p>3.2.10 Extend the concept of nucleus-out grower and block farming schemes and contract farming to cover staple and cash crops to bridge the gap between large and small-scale producers.</p> <p>3.2.11 Initiate a programme with MLGRD to convert all major markets in the country into limited liability companies through PPPs.</p>
	3.3 Expand agriculture exports	<p>3.3.1 Provide comprehensive support for improved access of operators to market information and intelligence.</p> <p>3.3.2 Provide relevant technology, market infrastructure (e.g. cold chain facilities), and financing to enable operators to respond to the changing needs of markets.</p> <p>3.3.3 Support operators to identify market niches for new products.</p> <p>3.3.4 Promote Good Agricultural Practices (GAPs), particularly for meeting sanitary and phytosanitary requirements of importing countries.</p> <p>3.3.5 Develop and implement guidelines to support agriculture/fisheries/aquaculture production and trade contracts.</p> <p>3.3.6 Strengthen collaboration with relevant MDAs to improve road access to link production centres to air and sea ports.</p> <p>3.3.7 Encourage targeted product clustering and development of cooperatives to expand the scale of production to make local producers competitive.</p>
4. Production risks and bottlenecks in agricultural industry	4.1 Promote irrigation development	<p>4.1.1 Develop and promote appropriate and affordable irrigation schemes including dams, boreholes, and other water harvesting techniques for different categories of farmers and agro-ecological zones.</p> <p>4.1.2 Rehabilitate viable existing irrigation infrastructure and promote their efficient utilization.</p> <p>4.1.3 Promote private sector participation in irrigation development, management and utilization.</p> <p>4.1.4 Promote land reforms targeting equal access to irrigated land by men, women and persons with disabilities.</p> <p>4.1.5 Develop policy and legal regime and appropriate tenure arrangement for use of irrigation facilities.</p> <p>4.1.6 Promote the use of early warning meteorological information provided by the Meteorological Service Authority and other Agencies in agriculture and fisheries at the district level.</p> <p>4.1.7 Ensure effective implementation of the Ghana Irrigation Development Policy.</p>
	4.2 Improve Agriculture Financing	<p>4.2.1 Provide appropriate framework to ensure adequate flow of financial resources to the agriculture and aquaculture industries with particular attention to smallholder farmers.</p> <p>4.2.2 Target implementation of NEPAD's recommendations for a minimum of 10% of GoG's expenditure on agriculture.</p> <p>4.2.3 Provide improved rural infrastructure to enhance private sector investments.</p> <p>4.2.4 Provide selective subsidies for the procurement of improved technologies for poor peasant farmers particularly women.</p> <p>4.2.5 Initiate special pension scheme for farmers, particularly rural women.</p> <p>4.2.6 Promote agriculture insurance schemes to cover agriculture risks.</p>
	4.3 Promote sustainable environment, land and water management	<p>4.3.1 Resolve land acquisition and security of title problems through the establishment of a system of land banks.</p> <p>4.3.2 Promote the development of community land use plans and enforce their use, particularly in urban and peri-urban agriculture.</p> <p>4.3.3 Facilitate land tenure arrangements that yield win-win outcomes for both tenants and land holders.</p> <p>4.3.4 Mainstream sustainable land and environmental management practices in agriculture sector planning and implementation.</p> <p>4.3.5 Create awareness about environmental issues among all stakeholders and develop an effective and efficient framework in collaboration with appropriate agencies to ensure environmental compliance.</p> <p>4.3.6 Improve incentives and other measures to encourage users of environmental resources to adopt less exploitative and non-degrading practices in agriculture.</p> <p>4.3.7 Promote joint planning and implementation of programmes with relevant institutions to address environmental issues in food and agriculture.</p> <p>4.3.8 Intensify integration/mainstreaming of climate change into sectoral and district plans.</p> <p>4.3.9 Provide alternative livelihood schemes for local communities to reduce pressure on lands adjacent to protected areas and water bodies.</p>

5. Crops Development for Food Security, Exports and Industry	5.1 Promote the development of selected staple and horticultural crops	5.1.1 Promote the development of selected staple crops in each ecological zone for improved nutrition. 5.1.2 Promote the development of selected non-traditional vegetables for exports. 5.1.3 Extend the concept of nucleus out-grower and block farming schemes as well as cooperative and contract farming to cover staple and cash crops to bridge the gap between large and small scale producers. 5.1.4 Ensure implementation of the Ghana Commercial Agriculture Project (GCAP) to link both smallholder and commercial producers to industry.
	5.2 Promote the development of selected cash crops	5.2.1 Expand the production of organic cocoa for strategic buyers. 5.2.2 Intensify and extend the mass spraying exercise to include brushing, pest and disease control, shade management, pollination and fertilization. 5.2.3 Promote the commercialisation of research into the utilisation of sub-standard cocoa and cocoa waste. 5.2.4 Rehabilitate the road networks in cocoa-growing areas to facilitate the evacuation of the crop. 5.2.5 Continue to implement the policy of paying cocoa farmers at least 70% of the international producer prices. 5.2.6 Use part of oil and gas revenue to develop oil palm and rubber in the south, bast fiber in the transitional zone, cotton and shea nuts in the north. 5.2.7 Set up a Task Force to encourage large scale dawadawa tree development, processing and utilisation. 5.2.8 Modernise the indigenous shea-butter extraction process. 5.2.9 Use extension and research to support expansion in shea-butter output. 5.2.10 Support the operations of the Shea nut Development Board for effective production, post-production, research and marketing initiatives. 5.2.11 Facilitate the existing processing infrastructure in the cotton industry for wealth creation in the three northern regions. 5.2.12 Promote cotton research and development.
6. Livestock and Poultry Development	6.1 Promote livestock & poultry development for food security & income generation	6.1.1 Review and update current Livestock Development Policy, Diseases of Animal Act 1961, Act 83, and the Veterinary Surgeon's Law of 1992. 6.1.2 Establish National Livestock Policy hub. 6.1.3 Enact legislations to cover poultry hatchery, livestock breeding, and meat inspection. 6.1.4 Strengthen research into large scale breeding and production of guinea fowls, cattle, sheep, and goats especially in the northern regions. 6.1.5 Strengthen existing training facilities and establish additional ones in animal health. 6.1.6 Support the production of rabbits and grasscutters and apiculture development. 6.1.7 Support large scale cultivation of maize and soya beans for the formulation of animal feed. 6.1.8 Promote public awareness on food safety and public health. 6.1.9 Strengthen institutional collaboration for livestock and poultry statistics and monitoring. 6.1.10 Promote integrated crop-livestock farming. 6.1.11 Intensify disease control and surveillance especially for zoonotic and scheduled diseases. 6.1.12 Ensure effective implementation of METASIP to modernise livestock and poultry industry for development. 6.1.13 Support investments in meat slaughter and handling.

3.3 POLICY OBJECTIVES AND STRATEGIES WITH RESPECT TO CROSS CUTTING ISSUES - GENDER MAINSTREAMING AND CLIMATE CHANGE

As indicated earlier, cross cutting issues affect most components and their policy objectives, thus the objectives and strategies stated in Table 17 complement those of the components. They are not mutually exclusive and are usually addressed within the component objectives.

Table 17: Gender and Climate Change Policy Objectives and Strategies

Cross cutting Issue	Policy Objectives⁸	Key Strategies
Gender Main-streaming	1.1 Mainstream gender into agricultural policies, programmes and strategies	1.1.1 Strengthen institutional capacity for gender-responsive policies, programmes, projects, budgets and monitoring and evaluation within MoFA. 1.1.2 Promote gender sensitive decision-making processes in the agricultural sector at all levels. 1.1.3 Strengthen gender co-ordination among key ministries, civil society, private sector actors and development partners. 1.1.4 Harness the potentials of vulnerable farmers and promote social protection.
	1.2 Develop and disseminate gender sensitive agricultural technologies	1.2.1 Encourage gender-sensitive research and extension linkages. 1.2.2 Enhance equitable delivery of agricultural services and access to inputs by men, women and vulnerable farmers. 1.2.3 Develop and disseminate gender-sensitive appropriate technology, including climate smart practices, along the agricultural value chain.
	1.3 Promote gender-responsive agribusiness, value-addition and market access for livelihood and growth in incomes	1.3.1 Enhance access to information on land, land rights and tenure security. 1.3.2 Identify and empower different gender in appropriate agribusinesses in which they have comparative advantage. 1.3.3 Develop appropriate facilities for value addition along commodity value chains. 1.3.4 Facilitate the identification of markets for raw and processed agricultural products in the various agro-ecological zones.
Environment, climate change and green economy	2.1 Promote sustainable use of ecosystems and non-destruction of ecosystem services	2.1.1 Facilitate capacity building of decision makers in the agricultural sector on ecosystem management and ecosystem services. 2.1.2 Promote SLM activities in different agro-ecological zones. 2.1.3 Step up campaigns against use of destructive agro-chemicals.
	2.2 Integrate Climate Change and green economy concept into Agriculture Sector policies and programmes ⁹	2.2.1 Develop climate-resilient agriculture and food systems for the different agro-ecologies. 2.2.2 Undertake effective capacity building at all levels for a climate-resilient agriculture and a green economy.

⁸ These objectives and strategies are derived from GADS II developed by WIAD

⁹ This is from the National Climate Change Policy (NCCP) of 2014

CHAPTER FOUR

DEVELOPMENT PROGRAMMES AND SUB-PROGRAMMES

4.1 INTRODUCTION

The Medium Term Agricultural Sector Investment Plan II (2014-2017) will be implemented through programmes and sub-programmes that build on lessons learnt from the implementation of METASIP (2011-2015) and GSGDA I to deepen the Value Chain approach. The programmes are developed based on the key development issues identified and prioritized as well as the development policy objectives adopted and the implementing strategies outlined in Chapter 3. The main thrust of the programmes is to ensure complementarity as well as group the policy objectives to enhance their effectiveness and efficient implementation of the various programmes.

METASIP II will be implemented along programme areas that address the key challenges to the modernization and transformation of agriculture in Ghana. The current challenges identified under the relevant GSGDA II thematic area, among others, are:

- a. Low average yields of staple crops and high post-harvest losses;
- b. Poor management along the agriculture value chain;
- c. Low level of agriculture mechanisation and adoption of technology, including fertilizer application;
- d. Low use of improved planting materials;
- e. Dominance of smallholder farms and over-aged farmers;
- f. Inadequate investments in agriculture business ventures;
- g. Inadequate access to appropriate finance by smallholder farmers;
- h. Overreliance on rain-fed agriculture;
- i. Low productivity in livestock and poultry industry; and
- j. Inadequate human resources.

4.2 PROGRAMMES AND SUB-PROGRAMMES

The Sector Medium Term Investment Plan will be implemented along six programme areas and their respective sub-programmes. However, details of activities to be undertaken under the sub-programmes are given in Chapter 5 (Table 18). The six programmes are:

- a. Management and Administration;
- b. Food Security and Emergency Preparedness;
- c. Increased Growth in Incomes;
- d. Marketing of Agricultural Products;
- e. Management of Land and Environment; and
- f. Science and Technology Applied in Food and Agricultural Development.

4.2.1 Programme Area 1: Management and Administration

The Management and Administration Programme consist of two Sub-Programmes;

- (i) General Management and
- (ii) Institutional Collaboration and Coordination for Agricultural Development.

Sub-Programme 1.1: General management

It is mainly the technical directorates of MoFA that execute various projects and programmes. MoFA line directorates normally coordinate activities of the Ministry and its agencies and ensure the provision of financial resources and logistics. The line directorates also undertake planning, monitoring and evaluation, ensure the availability of relevant human resources and provide relevant and timely data for policy formulation and decision making. All those activities have been lumped into a Sub-programme (1.1).

Sub-Programme 1.2: Institutional coordination and collaboration for agricultural development

This sub-programme is concerned with improving institutional coordination and collaboration within MoFA and between MoFA and other sector ministries, departments and agencies as well as several other stakeholders. Agricultural development can only take place if there is effective coordination of all components of the sector. Programmes and projects usually do not perform well if there is ineffective institutional coordination and information sharing. With administrative and fiscal decentralization where the District Departments of Agriculture (DDAs) are now part of the District Assemblies, the issue of effective collaboration and coordination becomes even more important. The agriculture sector also transcends governmental institutions and departments. Non-governmental organizations, DPs, civil society and the private sector are important stakeholders in the sector and effective linkages with them are necessary for agricultural transformation and modernization.

Communication among stakeholders in the agricultural sector at all levels (national, regional and district) has been limited despite the increased availability of ICT and other communication enhancing tools. Greater effort is required to ensure that there is adequate information flow within and among stakeholder groups.

Agriculture is clearly a private sector activity. The greatest investment in agriculture is by the private sector, and in Ghana, the largest component of the agriculture private sector has been the small holder farmer. For agricultural modernization and transformation to take place, there is the need for effective organization of the small holder farmers, effective linkages to large scale farmers and adequate engagement with other relevant stakeholders such as NGOs and civil society.

4.2.2 Programme Area 2: Food and Nutrition Security and Emergency Preparedness

Ghana has done relatively well by meeting the UN Millennium Development Goal (MDG) 1 by reducing poverty by over 50 percent. According to the Ghana Living Standards Survey 6 (GLSS 6), poverty in Ghana declined from 51.7 percent in 1992 to 31.9 percent in 2006 and to 24.2 percent in 2013. Extreme poverty also declined from 16.5 percent in 2006 to 8.4 percent in 2013 (GSS, 2013). Poverty is a major cause and consequence of food insecurity. Thus generally, there has been significant reduction in Ghana's food insecurity. It is, however, important to note that the reduction has been varied across geographical areas and that overall, inequality has increased. Ghana's Gini Coefficient rose from 41.9 in 2006 to 42.3 in 2013 (*ibid*). That is an indication that food insecurity is still a problem. The Food Security and Emergency Preparedness programme aims at increasing productivity and total production and improving food distribution through better agricultural mechanization, irrigation development and the promotion of selected staple crops and livestock. It is also aimed at improving food distribution to vulnerable groups to enhance the food and nutrition security status of poor and disadvantaged groups especially in times of disasters and crisis.

There are seven sub-programmes under this programme, namely:

- a. Promotion of agricultural mechanization;
- b. Seed and planting material development;
- c. Irrigation development;
- d. Development of selected staple and horticultural crops;
- e. Improvement in storage facilities;
- f. Livestock and poultry development;
- g. Early warning systems and emergency preparedness; and
- h. Nutrition sensitive agriculture.

Sub-Programme 2.1: Promotion of agricultural mechanization

Key development issues identified in Chapter 3 include; low access to mechanization services along the value chain (production, processing, etc.), inadequate production (in quality and quantity) of processing equipment and inadequate post-production infrastructure (i.e. storage, processing, transport etc.). There is the need to continue the establishment of more private sector-led agricultural mechanization service centres in all districts of the country. The existing ones also have to be strengthened through provision of equipment and the training of technicians. Machinery have generally not been gender-friendly in the sense that women find some of them difficult to use. Fabrication of equipment must consider gender-related needs.

Private sector investment in mechanization centres will only take place if basic infrastructure such as roads, electricity and water at the specific locations are provided. Public investments to support the development of commercial infrastructural facilities and enabling public infrastructures will be provided.

Sub-Programme 2.2: Seed and planting material development

Highly productive seed and planting materials are important for increased agricultural productivity. Public infrastructure to support seed and planting materials production, processing, storage and marketing by the private sector will be expanded and improved during the plan period. The West Africa Agricultural Productivity Programme (WAAPP) has been pursuing a regional seed and planting material policy and that will continue to be supported and encouraged.

The negative effect of climate change on agriculture has been very evident and there is the need for climate-smart agricultural technologies and methodologies. Research centres will therefore continue to be supported financially and technically through WAAPP and other projects to produce climate resilient, high-yielding, disease and pest-resistant, short duration crop varieties suitable for the different ecological areas. There will also be countrywide training of seed growers and seed inspectors to expand the production of certified seeds and planting materials of staple and industrial crops.

Sub-Programme 2.3: Irrigation development

Given the present recognition of the effects of climate change on agricultural production and productivity and the dwindling water resources, the need for irrigation development in several parts of the country is no longer a debate. The question now is, how to undertake irrigation development in such a way to avoid past pitfalls. Irrigation development will now go beyond building of dams to the development of groundwater resources for irrigation, water harvesting at household levels for irrigation and effective use of wetlands and waste water.

Irrigation development will also ensure active involvement of farmers from the inception of projects and the promotion of public-private partnerships and the nucleus farmer-out-growers concept. This will partly be implemented through the World Bank assisted Ghana Commercial Agriculture Project (GCAP). Water harvesting for humans, animals and crops will also be promoted strongly, especially in the northern parts of the country.

Sub-Programme 2.4: Development of selected staple and horticultural crops

Value chain development of specific staple and horticultural crops in the different ecological zones of Ghana is the thrust of this sub-programme. The horticultural crops of interest are non-traditional vegetables for export. The value chain concept recognizes the complementary role of large and small scale agricultural producers; thus the concepts of nucleus farmer out-growers and agricultural clusters will be promoted in the various ecological zones. Maize, rice, soya beans, cassava as well as tomatoes and other horticultural crops are the emphasis in the medium term. The GCAP is a project that can effectively support the sub-programme. Other MoFA projects such as NRG, WAAPP and others lay emphasis on these staple and horticultural crops. Safety of peri-urban agricultural crops to support nutrition sensitivity will also be improved.

Sub-Programme 2.5: Improvements in storage facilities

Post-harvest losses are still high as a result of poor storage facilities for all types of agricultural produce. It was indicated in METASIP (2011 - 2015) that about 35 percent of maize and 34 percent of cassava produced is lost along the chain (MoFA, 2009). There is no indication that these estimates have changed. It is probably worse for other crops, livestock products and fish. The building of the capacity of agricultural producers in better harvesting, transportation and storage methods, grading methods, linkages between producers and markets will be continued. Also, the provision of storage infrastructures piloted by NRGF will be studied and up-scaled. Processing equipment and facilities at artisanal level will also be improved.

Sub-Programme 2.6: Livestock and poultry development

Livestock and poultry continue to contribute significantly to household food security and incomes, especially in the rural areas. Small ruminants and poultry (including guinea fowls) in particular are very important for food security and income generation in almost all parts of the rural areas of the country. Guinea fowl rearing is concentrated in the northern savannah areas but the demand for guinea fowl meat has increased very significantly in all parts of the country. The livestock and poultry sectors, however, face many challenges including limited access and high costs of feed and veterinary drugs, meat importation and inadequate infrastructure such as housing and processing facilities. All legal instruments related to livestock and poultry will be reviewed and the necessary amendments initiated to create a more conducive legal framework for livestock and poultry development in the country. The concept of crop-livestock integration will be promoted in rural communities and livestock and poultry value chains will be vigorously developed.

Sub-programme 2.7: Early warning systems and emergency preparedness

Emergency preparedness is the assessment of the country's readiness to respond to the needs of victims of natural hazards and other calamities including climate change impacts. In the case of food, it is the ability to provide food to affected persons in times of disaster (MoFA, 2007).

Droughts and floods have increased over time due to climate change effects. Also, pests and disease incidences have continued to be serious problems. There is the need to build capacity to respond to such emergencies. Timely weather and disease outbreak forecasts are important for effective disaster response. That can be done by effective monitoring and analysis of situations by the relevant ministries, departments and agencies. The Plant Protection and Regulatory Services Directorate (PPRSD) and the Veterinary Services Directorate (VSD) of MoFA will be empowered to undertake these activities. Support will also be given to the Ghana Meteorological Agency to provide more localised and timely weather information to farmers. The National Food Buffer Stock Company (NAFCO) will be revamped and made more functional.

Sub-programme 2.8: Nutrition sensitive agriculture

The socioeconomic development of every nation is closely linked to the nutrition of its people and this is one of the objectives of the GSGDA II. Worldwide, it is estimated that 12.5 percent of the world's population (868 million people) have low energy intake (FAO, 2013), and those affected most are young children and women, especially pregnant and lactating women. An estimated 26 percent of the world's children are stunted (UNICEF, WHO, & World Bank, 2012). Although the proportion of children under five who are underweight has been nearly halved, less progress has been made in reducing prevalence of stunting among children <5 years of age: 23 percent in 2011 (MICS, 2011) with 7 percent being severely stunted. The prevalence of underweight children in the same survey was 13 percent (3% severely underweight) while wasted children was 6 percent. Anaemia prevalence in children 6-59 months is 78 percent (GDHS, 2008). Other deficiencies of public health importance include vitamin A, iodine and zinc. Undernutrition contributes to low cognitive and physical development which invariably affects productivity. In quantifiable terms, the direct costs of undernutrition and micronutrient deficiencies are estimated at 2-3 percent of global gross domestic product (GDP) (FAO, 2013).

The Ministry of Food and Agriculture (MoFA) has a responsibility to facilitate the sustainable production of nutritious foods that would ensure optimum benefit for bodily functions and optimum health. In the review of the METASIP (2011-2015) therefore, MoFA recognizes that the ultimate goal of the food value chain i.e the food production and consumption continuum, is adequate nutrition. Strengthening the linkages between agriculture and nutrition outcomes is indispensable in order to meet overall growth and development objectives. Efforts are also underway to Scale Up Nutrition (SUN) through multi stakeholder engagements.

The main aim of this sub-programme is to integrate nutrition into agricultural policies and programmes and thereby reduce stunting, underweight and micronutrient deficiencies among children and women of reproductive age. MoFA therefore, seeks to promote the production of nutrient rich foods and through systems that will ensure availability (planting material development, small irrigation schemes, etc). This will be linked to the development of high quality staples through breeding (plant and livestock). MoFA will also intensify Nutrition Education to promote the consumption of micro-nutrient rich foods (e.g. eggs, meat/fish, leafy vegetables, fruits) by children and women of reproductive age especially in rural areas. Promote food enrichment, food safety and processing activities to ensure the intake of food that will promote growth and optimum health. Evidence based research is also crucial and MoFA will support research into the analysis of foods to promote consumption as well as monitor food intake and dietary diversity.

The Women in Agricultural Development (WIAD) directorate of MoFA, CSIR-FRI and the Universities in collaboration with the Ministry of Health (MoH) and other nutrition related institutions will be strengthened to reposition nutrition as a cross-cutting issue and facilitate the integration and mainstreaming of nutrition into all national development efforts.

4.2.3 Programme Area 3: Increased Growth in Incomes

This programme addresses the need for enhanced growth in incomes in the agricultural sector through diversification into cash crops, livestock and value addition. The programme consists of three related sub-programmes.

Sub-Programme 3.1: Promotion of private sector investment in agriculture

This sub-programme aims at creating a conducive investment atmosphere in the agriculture sector to attract private investments. Agribusiness information will be generated by ABU with the support of DPs and collaboration will be forged with GIPC and GCAP. The sub-programme will serve as a tool for catalyzing and promoting quality investments into the food and agriculture sector, while systematically ensuring their alignment with GoG strategies and enhancing harmonization with other investments using similar systemic approaches and mechanisms (including institutional arrangements, access to finance, knowledge management along the chain, incentives based risk sharing mechanism). It will facilitate the translation of priority investment areas as specified in the GSGDA II into coordinated coherent implementation-ready quality operations, while working with development partners to align and harmonize stand-alone projects to the Medium Term Investment Plan. Under the investment plan, strategic partnerships will be developed between the public sector (GoG and Donors) and private investors in order to agree on complementary schemes to support value chain development.

Sub-Programme 3.2: Improvements in agriculture financing

This sub-programme aims at ensuring increased and systematic access to and efficient use of short and long term financing by agri-food enterprises and agribusinesses along commercially viable and competitive agricultural value chains. The sub-programme will harmonize the several guiding principles based on lessons learned by Ghana's value chain finance initiatives and from international best practices in rural finance suitable to the Ghanaian environment. The primary focus will be the articulation of the value chains and the different enterprises with financial institutions which will use various instruments developed under the Agriculture Finance programme area (see Chapter 5).

Sub-Programme 3.3: Development of selected cash crop value chains

Diversification in the cash crop sub-sector of the economy has been a long term objective of MoFA and various governments over the years. There is the need to innovatively produce new products from established cash crops such as cocoa and oil palm. There is also the need to pay attention to emerging cash crops such as shea, cashew and others. This sub-programme aims at promoting the production of organic cocoa to capture the organic cocoa niche market and the production of useful products from 'cocoa wastes'. It also aims at encouraging public and private investments to develop oil palm and rubber in southern Ghana; bast fibre in the transitional zone; and cotton, shea and dawadawa in the northern parts of the country.

4.2.4 Programme Area 4: Marketing of Agricultural Products

The problems of marketing of agricultural products are very varied. They range from low demand for some products, high post-harvest losses along the value chain and low integration of markets to inadequate volumes and quality for export and for agro-industries. The issue of competition with cheap imported commodities is also a serious problem. This programme area, divided into three sub-programmes, will address post-production management, the development of an effective domestic market for agricultural produce/product and expansion of agricultural commodities for export with emphasis on food safety.

Sub-Programme 4.1: Improvements in post-production management

The development of product clusters is key to ensuring improvements in post-production management. This sub-programme aims at establishing functional commodity clusters for effective supply chain management. The National Food Buffer Stock Company will also be strengthened. Attention will also be given to the promotion of quality locally processed and well packaged products and cottage agro-processing industries in all parts of the country. Private-led individual and community level storage facilities will be encouraged through the provision of infrastructure and incentives.

Sub-Programme 4.2: Development of an effective domestic market

The domestic market is largely constrained by poor rural infrastructure. A lot of agricultural produce, especially roots and tubers, bananas and plantains, vegetables and citrus get rotten in remote areas due to lack of all-weather feeder roads. All communities should be linked to district capitals with motorable roads to enhance movement of agricultural produce from producing areas to towns and cities. The domestic market is also not organized. The District Assemblies will be encouraged and facilitated to organize the trading in local markets. The use of ICT, especially the mobile phone, in the marketing of agricultural produce is growing, and is helping to reduce the consequences of poor rural infrastructure. More use of ICT will be promoted to effectively provide market information and improve interaction between buyers and sellers.

In addition to the need to improve storage of agricultural produce, there is also the need to ensure effective grading and standardization. Consumers must know what they are buying and what quantity they are buying.

Sub-Programme 4.3: Expansion of agricultural exports

Ghana has over the years benefitted much from agricultural exports but cocoa has been the main export crop. Export of non-traditional export crops such as fruits and vegetables has faced several problems but there is the need to find solutions to the problems and to continue to expand the export of both traditional and non-traditional export agricultural products. Market information and intelligence is critical in producing what is required in foreign markets. The tastes of people do change with time and access and timely information is required for producers to respond to the changing needs of consumers. Agricultural products destined for export must meet certain sanitary and phytosanitary requirements, and farmers must have very good knowledge of the good agricultural practices (GAPs) necessary to meet those requirements.

4.2.5 Programme Area 5: Management of Land and Environment

Some agricultural practices have had and continue to have serious negative consequences on the environment. Ecosystems have been literally destroyed by some agricultural practices denying the people of important services that the ecosystems provide. It is a fact that the destruction of ecosystems is partly responsible for the kinds of climate change situations we are experiencing. This programme area, which has one sub-programme, aims at promoting the sustainable use of land and water for agriculture and also ensuring better security of land tenure. Some agricultural practices have silted and polluted water bodies and destroyed flora and fauna. Appropriate incentives will be provided to encourage farmers to adopt less exploitative and non-degrading agricultural practices, and also to adapt to climate change impacts and undertake mitigation measures such as promoting Ecological Organic Agriculture (EOA).

4.2.6 Programme Area 6: Science and Technology Applied in Food and Agricultural Development

This programme area consists of two sub-programmes; (i) Science, technology and innovation application and (ii) Access to extension services and re-orientation of agriculture education. The modernization and transformation of the agricultural sector has to be based on sound scientific knowledge and empirical evidence. Recommended agricultural practices must be evidence-based. Several interventions in the agricultural sector do not seem to be based on evidence. Sound scientific research must be carried out and the results correctly disseminated to assist the transformation of Ghana's agriculture.

Sub-Programme 6.1: Science, technology and innovation application

This sub-programme addresses appropriate agricultural research and improvements in research-extension-farmer linkages. Most evidence-based research is largely participatory and more of such needs to be encouraged. The main problem of research in Ghana is funding. Most of the limited funding for agricultural research in Ghana are from donors. There needs to be greater commitment of government to allocation of resources for agricultural research. Sustainable funding mechanisms will be put in place under this sub-programme. Research should solve problems hence demand-driven research is the way to go to meet the numerous agricultural challenges. Also, research is expected to inform policy and there should be capacity for agricultural policy research. There is limited capacity for demand-driven research, food consumption and agricultural policy research and gender analysis in Ghana. This sub-programme will promote capacity building in these research areas.

Sub-Programme 6.2: Access to extension services and re-orientation of agriculture education

This sub-programme aims at advocating for increased allocation of resources to districts for agricultural extension service delivery and a comprehensive review and re-orientation of the extension delivery system to include not only technical issues but also business, finance, risk management and market orientation. The real agricultural activities are at the community level and the District Departments of Agriculture are the closest to farmers. They should be resourced adequately if agricultural extension is to have any meaning. Also, agricultural extension will be easier and more effective if farmers are better organized. Capacity building of FBOs into very viable and strong organizations will greatly enhance extension service delivery.

Ghana's agriculture education syllabi tend to be theoretical with little emphasis on practice and the business nature of agriculture. Agricultural activities along the whole value chain need to be business oriented for them to thrive or even survive, thus students need to be trained. This sub-programme also aims at initiating and implementing reforms in the agriculture syllabuses of agriculture training institutions throughout the country. The reforms will be more practical and business orientated, and realigned towards Agriculture Technical and Vocational Education and Training (ATVET) schools.

CHAPTER FIVE

PROGRAMME OF ACTION

This Chapter outlines the strategies, activities to be undertaken and corresponding indicative budget from 2014 to 2017. It also identifies implementing agencies for the specific activities.

Table 18 summarizes the links between the key focus areas, the adopted objectives and strategies, programmes, sub-programmes and key activities. It shows the indicative budgets and implementing agencies by activities. The total budget for the 4-year period is GH¢1.615 billion (Table 19).

Table 18: Programme of Action for the Planned Period (2014 - 2017)

Focus Area (FA)	Adopted Strategies	Key Activities	Major Targets	Indicative Budget from 2014 to 2017 (GH¢million)	Implementing Agencies	
					Lead	Collaborating
Programme 1: Management and Administration				11.630		
Sub-Programme 1.1 General Management						
	General Management			0.600		
Sub-total (sub-programme 1.1)				0.600		
Sub-Programme 1.2: Institutional Coordination and Collaboration						
	1.2.1 Strengthen intra-sectoral and inter-ministerial institutional coordination through a joint platform for joint planning.	Provide administrative support.	-	6.789	PPBD	Other MoFA directorates, and key stakeholders
	1.2.2 Develop framework for synergy among projects and strengthen framework for coordinating activities among diverse stakeholders in the sector.	Coordinate activities of local and international affiliated organisations.	-	3.722	PCU	Other MoFA directorates, and key stakeholders
	1.2.3 Create Regional Agricultural Advisory Services (RAAS) to provide advice on productivity enhancing technologies.	Advocate for the establishment of RAAS.	RAAS created in 54 Districts by 2017	0.519	DAES	MLGRD, LGSS and Other MoFA directorates
Sub-total (sub-programme 1.2)				11.030		

Focus Area (FA)	Adopted Strategies	Key Activities	Major Targets	Indicative Budget from 2014 to 2017 (GH¢million)	Implementing Agencies	
					Lead	Collaborating
Programme 2: Food and Nutrition Security and Emergency Preparedness				757.959		
Agricultural Productivity	2.1.1 Strengthen collaboration with the private sector to build capacity to manufacture appropriate agriculture machinery, tools, and other equipment locally.	Organise stakeholder workshops on Research & Development on fabrication of simple parts of agriculture equipment & tools.	-	0.296	AESD	GRATIS, Universities, GhIE, GSAE, NBSSI, Suame Magazine, Artisans, MMDAs, MOTI, PEF
	2.1.2 Intensify the establishment of mechanization service provision centres with backup spare parts for all machinery and equipment.	Facilitate the importation, clearing, assembling of agriculture machinery/ equipment for establishment of AMSECs.	Establishment of 41 additional AMSECs.	199.319	AESD	MOF, Private Sector
	2.1.3 Promote the availability of machinery under hire purchase and lease schemes.	Source and secure funding for the importation of agriculture machinery for small/medium holder farmers at subsidised prices.	-	36.643	AESD	MOF, GLC
	2.1.4 Develop human capacity in agriculture machinery management, operation and maintenance within the public and private sectors.	Rehabilitate two (2) mechanisation training centres to provide vocational training to interested individuals as tractor/machinery operators.	-	4.924	AESD	MMDAs, Other MoFA Directorates, Universities
	2.1.5 Mainstream gender issues into agriculture mechanization.	Facilitate the provision of gender friendly machinery/equipment		1.378	AESD	WIAD, DCS, MMDAs, MOF
	Sub-total (sub-programme 2.1)				242.561	
Sub-Programme 2.2. Seed and planting material development						
	2.2.1 Support the development and introduction of climate resilient, high-yielding, disease and pest-resistant, short duration crop varieties taking into account consumer health and safety.	Develop and release improved varieties (high yielding, short duration, disease and pest resistance etc) following accepted procedure.	At least 3 released by 2017	3.394	DCS	CSIR, Universities,
	2.2.2 Support production of certified seeds and improved planting materials for both staple and industrial crops.	Facilitate the production of seeds and improved planting materials and train seed growers on quality seed production and inspectors on certification.	70% of improved seed and planting material requirements produced by 2017.	17.613	DCS	PPRSD, SEEDPAG, GLDB

	2.2.3 Intensify dissemination of updated crop production technological packages.	Organise field demonstrations /field days and study tours.	-	0.485	DAES	DCS, APD, DAs
	2.2.4 Build capacity to develop more breeders, seed growers and inspectors.	Build capacity of growers on Seed Trade Negotiations, Record Keeping, processing, packaging, and marketing; as well as seed breeders and inspectors.	-	3.518	PPRSD	DCS, SEEDPAG, Universities, CSIR
	2.2.5 Improve the regulatory environment for seed and planting material production and distribution.	Support production of foundation seeds, vegetative planting materials and seedlings.	-	5.038	PPRSD	GLDB, DCS
	2.2.6 Fully implement the Plants and Fertiliser Act, 2010, Act 803 as it relates to seed production.	Support sensitisation of stakeholders and disseminate the Act widely.	-	1.359	PPRSD	DCS, GLDB, EPA
	Sub-total (sub-programme 2.2)			31.407		
Production risks/ bottle-necks in Agriculture Industry	Sub-Programme 2.3 Irrigation development					
	2.3.1 Develop and promote appropriate and cost effective irrigation schemes including dams, boreholes, and other water harvesting techniques for different categories of farmers and agro ecological zones.	Explore the potential and implement ground and surface water irrigation and agriculture water management including water harvesting.	-	7.369	GIDA	AESD, DCS, DAES
	2.3.2 Rehabilitate viable existing irrigation infrastructure and promote their efficient utilisation.	Prepare designs for the rehabilitation, sensitize farmers and undertake rehabilitation with active involvement of farmers and opinion leaders.	-	399.954	GIDA	DAs, MOF, DAES, AESD
	2.3.3 Promote private sector participation in irrigation development, management and utilisation.	Develop PPP concept for irrigation based on research and good practices elsewhere.	-	1.058	GIDA	WUAs, Private Sector
	2.3.4 Promote land reforms targeting equal access to irrigated land by men, women and persons with disabilities.	Organize four stakeholder sensitisation workshops on irrigated land reforms.		0.479	GIDA	DAs, Community and opinion leaders
	2.3.5 Develop policy and legal regime and appropriate tenure arrangement for use of irrigation facilities.	Organize stakeholder workshop to collect views. Advocate for the development of the policy and legal frameworks.		0.305	GIDA	DA's
	2.3.6 Promote the use of early warning meteorological information provided by the Meteorological Authority and other Agencies in agriculture and fisheries at the district levels.	Monitor and report on food situation in the country quarterly.		0.292	SRID	GMA, DCS, MED, RDAs, DAs
	Sub-total (sub-programme 2.3)			409.457		

Crops development for Food Security, Exports and Industry	Sub-Programme 2.4: Development of selected staple and horticultural crops					
	2.4.1 Promote the development of selected staple crops in each ecological zone.	Identify and select staple crops with competitive advantages in each ecological zones. Support the promotion and development of selected crops.		2.925	DCS	DAs, GIDA, Other MoFA Directorates
	2.4.2 Promote the development of selected non-traditional fruits and vegetables for exports.	Identify and select exportable horticulture crops for export. Enforce marketing quality standards (quality certification) nationwide.		0.697	DCS	PPRSD, DAs, FAGE, FBOs, VEPEAG and other Export Associations
	2.4.3 Extend the concept of nucleus-out-grower and block farming schemes as well as cooperative and contract farming to cover staple and cash crops to bridge the gap between large and small scale producers.	Facilitate market linkages between small scale farmers and other value chain actors.		0.014	DCS	DAES, ABU, FBOs
	2.4.4 Ensure implementation of the Ghana Commercial Agriculture Project (GCAP) to link both smallholder and commercial producers to industry.	Build capacity of at least 30 Grantees and out-growers to facilitate linkages between smallholder, commercial farmers and industry.		0.440	GCAP	DCS, SADA, DAs, FBOs
Sub-total (sub-programme 2.4)			4.077			
Livestock and Poultry Development	Sub-Programme 2.5: Livestock and poultry development					
	2.5.1 Review and update existing Livestock Development Policy, Diseases of Animal Act 1961, Act 83, and Veterinary Surgeons' Law of 1992.	Facilitate the review of Livestock Development Policy, Act 83 and the Veterinary Surgeons' Law of 1992.		1.823	VSD	SRID, M&E, APD
	2.5.2 Establish National Livestock Policy hub	Undertake stakeholder fora on data collection at entry points and facilitate the establishment of livestock policy hub		0.421	APD/VSD	SRID, DAs, and other MoFA directorates
	2.5.3 Enact legislations to cover poultry hatcheries, livestock breeding and meat inspection.	Advocate for the passage and enforcement of Meat Inspection Law & Regulation on Hatchery Operations from the Diseases of Animals Act 1961.		0.446	VSD	APD, MOH, MMDAs
	2.5.4 Strengthen research and adoption into large scale breeding and production of guinea fowls, cattle, sheep, and goats especially in the northern regions.	Conduct research into large scale breeding. Organise fora to sensitize major stakeholders on artificial insemination services.		1.093	APD	VSD, ARI, Universities
	2.5.5 Strengthen existing training facilities and establish additional ones in animal health.	Rehabilitate existing Animal Health training facilities and build capacities of personnel. Carry out survey on state of slaughter		0.780	VSD	DAs, SRID

		house and discuss results with major stakeholders and sensitize major stakeholders on meat inspection.				
2.5.6 Support the production of rabbits and grass-cutters and apiculture development.		Provide enabling environment and incentive for production of rabbits, grasscutters and honeybees.		2.850	APD	VSD, ARI, Private Sector, other MoFA Directorates
2.5.7 Promote public awareness on food safety and public health.		Conduct Food Safety Awareness on processing of agricultural produce on Radio and TV and screen dairy cattle in peri-urban milk collection areas for Tuberculosis & Brucelosis		2.412	VSD	FDA, WIAD, DAs, MoH, APD
2.5.8 Strengthen institutional collaboration for livestock and poultry statistics and monitoring.		Organise bimonthly meeting with stakeholder associations. Conduct Livestock and poultry survey. Build a comprehensive data base in the livestock industry.		8.611	APD	SRID, VSD, ARI, GSA, DAs, RELCs
2.5.9 Promote integrated crop-livestock farming.		Develop alternative livelihood projects. Support the development of integrated crop and livestock farming.		3.420	APD	DCS, WIAD, DAs
2.5.10 Intensify disease control and surveillance especially for zoonotic and scheduled diseases.		Organize and monitor nationwide vaccination campaign of small ruminants against PPR; and chickens and guinea fowls against NCD using thermostable 1-2 vaccine.		19.512	VSD	DAs, APD, RDAs
2.5.11 Ensure effective modernisation of the livestock and poultry industry.		Support livestock farmers with improved breeds and monitor livestock activities in all regions. Also monitor quality of feed and veterinary drugs.		20.223	APD	DAs, RDAs, ARI, Universities
Sub-total (sub-programme 2.5)				61.591		

Nutrition sensitive agriculture	SP 2.6 Nutrition sensitive agriculture					
	2.6.1 Promote the production and consumption of micro-nutrient rich foods by children and women of reproductive age especially in rural areas.		0.960	WIAD	MoH, CSIR-CRI, Academia	
	2.6.2 Develop through research bio fortified high nutrient crops and link to the school feeding programme.		1.598	FRI	MoH, CRI, WIAD Academia	
	2.6.3 Facilitate the development of high quality staples through breeding and promotion of regenerative health and nutrition.		4.138	WIAD	MoH, CSIR-CRI, Academia	
	2.6.4 Reposition nutrition as a cross-cutting issue and facilitate the integration and mainstreaming of nutrition into all national development efforts.		1.171	WIAD	MoH, CSIR-CRI, Academia	
	2.6.5 Promote school and kitchen gardens.		0.235	WIAD	MoE, Universities	
	2.6.6 Education campaigns on nutrition to enhance dietary diversification		0.067	WIAD	CSIR-FRI	
2.6.7 Research to measure impact of nutrition intervention		0.698	PPBD	SRID, WIAD, Academia		
Sub-total (sub-programme 2.6)			8.867			
Programme 3: Increased Growth in Incomes			546.391			
Sub-Programme 3.1: Promotion of private sector investment in agriculture						
Job Creation	3.1.1 Position public sector to effectively attract private sector investment into agriculture.	Develop documents on investment opportunities in the agriculture sector with support from DPs, generate agribusiness information and strengthen collaboration with GIPC and GCAP. Conduct studies on agriculture investments to learn lessons. Organise annual agribusiness and investments roundtables.		37.876	ABU	GIPC, GIZ, DCS, SRID, APD, DAS, GCAP, JICA, GASIP
	3.1.2 Develop programmes to increase the participation of the youth in agriculture and aquaculture business.	Provide relevant, adequate and effective extension knowledge and implement youth in agriculture programme.		50.653	YIAP.	DAs, DAES, MoFAD, VSD, APD, DCS
	3.1.3 Optimize the use of the e-agriculture platform for information dissemination and effective public engagement.	Train DAES staff in e-agriculture and promote its use by the private sector and all actors along the value chain.		0.467	DAES	DAs, FBOs, other MoFA Directorates

3.1.4 Promote formalization of commodity value chain with particular attention to selected crops such as cassava, enforce standards across plantain, tropical fruits in partnership with the private sector and financial institutions.	Develop commodity profiles on selected value chains. Develop production and export strategies for selected commodities.		103.292	ABU DCS	APD, SRID, GEPA
3.1.5 Promote awareness and enforce compliance to rules, regulations and standards across board to ensure quality and safety.	Sensitise phytosanitary inspectors and horticultural crop exporters on marketing quality standards and enforce compliance. Promote Ecological Organic Agriculture Development.		0.572	PPRSD	GEPA,, SEEDPAG, DAs, FAGE and other Exporter Associations
Sub-total (sub-programme 3.1)			192.860		
Sub-Programme 3.2: Improvements in agriculture financing					
3.2.1 Provide appropriate framework to ensure adequate flow of financial resources to the agriculture and aquaculture industries with particular attention to smallholder farmers.	Upscale the adoption of cashless credit and other financial instruments being pursued in the Agricultural sector.		0.617	ABU	DAs, MoFA Directorates and other on-going agriculture financing projects
3.2.2 Target implementation of NEPAD's recommendations for a minimum of 10% of GOG's expenditure on agriculture.	Conduct Agricultural expenditure review. Develop a budget-tracking tool to track GoG expenditure against Maputo Declaration.		0.200	PPBD	DAs, Major agricultural sector stakeholders
3.2.3 Provide improved rural infrastructure to enhance private sector investments.	Facilitate the provision of infrastructure to support private sector investment in agriculture.		300.000	GIDA/AESD	ABU, DAs, OTHER MoFA Directorates
3.2.4 Provide selective subsidies for the procurement of improved technologies for poor peasant farmers particularly women.	Provide subsidized inputs to farmers.		300.000	MoFA	DAs
3.2.5 Initiate special pension scheme for farmers, particularly rural women.	Facilitate the development of the concept at stakeholder fora.		32.000	PPBD	DAs, SRID
3.2.6 Promote agriculture insurance schemes to cover agricultural risks.	Sensitize stakeholder on agricultural insurance in all region. Organise review meeting on existing crop insurance policy. Facilitate research into new crop insurance cover.		1.112	DCS	GAIP, DAs, DAES, PPBD, Insurance companies, GASIP
Sub-total (sub-programme 3.2)			331.929		

Job Creation	Sub-Programme 3.3: Development of selected cash crops					
	3.3.1 Expand the production of organic cocoa for strategic buyers.			6.100	COCOB OD	DAs
	3.3.2 Intensify and extend the mass spraying exercise to include brushing, pest and disease control, shade management, pollination and fertilization.			0.900	COCOB OD	DAs
	3.3.3 Promote the commercialization of research in the utilization of sub-standard cocoa and cocoa waste.			0.027	Cocoa Research Institute	CSIR
	3.3.4 Rehabilitate the road network in cocoa-growing areas to facilitate the evacuation of the crop.			3.200	COCOB OD	DFR
	3.3.5 Continue to implement the policy of paying cocoa farmers at least 70% of the international producer prices.			0.005	COCOB OD	Parliament
	3.3.6 Use part of oil and gas revenue to develop oil palm and rubber in the south, bast fibre in the transitional zone, cotton and shea nut in the north.	Amend NLCD Act 353 or adopt the proposed draft legal framework submitted by World Bank study. Facilitate the establishment of Cotton Development Authority to regulate the industry.		0.015	MOF	MoFA, Parliament, COCOBOD, CDA
	3.3.7 Set up a Task Force to encourage large scale dawadawa tree development, processing and utilization.	Establish a task force to encourage dawadawa tree development. Obtain appropriate information on dawadawa production, processing and utilization.		1.420	DCS	SRID, SADA, DAs, CSIR
	3.3.8 Modernise the indigenous shea butter extraction process.	Obtain appropriate processing equipment and train shea nut producers.		6.800	COCOB OD	DAs, NGOs, CSIR, AESD
	3.3.9 Use extension and research to support expansion in shea butter output.			0.800	COCOB OD	MoFA, DAs, CSIR
	3.3.10 Support the operations of the Shea nut Development Board for effective production, post-production, research and marketing initiatives.			3.800	COCOB OD	MoFA, CSIR
3.3.11 Facilitate the existing processing infrastructure in the cotton industry for wealth creation in the three northern regions.	Liaise with SADA to establish at least 50,000ha of new farms and collaborate with relevant institutions to strengthen the FBOs through regular meetings.		0.084	DCS	DAs, Wienco and Masara N'Arziki, SADA, DAES	
3.3.12 Promote cotton research and development.	Participate in BT cotton studies at Nyankpala.		0.053	DCS	SARI, SADA, DAs	
Sub-total (sub-programme 3.3)			21.598			

Programme 4: Marketing of Agricultural Products			143.488			
Agriculture Competitiveness and Integration into Domestic and International Markets	Sub-Programme 4.1 Improvements in post-production management					
	4.1.1 Strengthen the operations of the National Food and Buffer Stock Company.	Evaluate NAFCO and consider support of its operations.		113.405	PPBD	NAFCO
	4.1.2 Improve supply chain management for developing product clusters.	Build capacity of stakeholders on the concept and importance of engaging in commodity supply chains.		0.525	DCS	PS, Das
	4.1.3 Promote the patronage of locally processed products through the production of quality and well packaged products.	Facilitate agro processors' access to appropriate agro processing & packaging machinery. Train agro processors in the use of agro processing machinery for production and packaging.		15.549	AESD	MMDAs, GSA, FDA, CSIR, MOTI, GRATIS
	4.1.4 Strengthen collaboration between public and private sector institutions to promote agro-processing, storage and marketing.	Organise demonstration and field days on the use of super & triple bags as non-chemical storage facilities for storage of cereals, grains and legumes. Support existing platforms to promote agro processing and marketing of agriculture products.		1.285	AESD	MMDAs, GSA, FDA, FRI, MOTI
	4.1.5 Promote cottage level agro-processing industries with interventions to enhance access to machinery and quality of products.	Source for and distribute cottage level processing equipment to agro processors. Encourage and build the capacity of existing agro processors at the cottage level.		1.403	AESD	MMDAs, GSA, FDA, CSIR, MOTI, WIAD
	4.1.6 Develop standards to be at par with those of competing imports.	Establish ITD committee Strengthen ITD activities to serve as a single service point for trade information and Analysis in MOFA.		0.080	ABU	GSA, PPRSD, other MoFA Directorates
	4.1.7 Provide incentives for the development of post-harvest management infrastructure and services through direct private sector investment and partnerships.	Distribute and install 200,000mt capacity grain pro-cocoons for warehouse managers. Train warehouse owners on warehouse management and stocking.		0.185	AESD	MMDAs, GSA, FDA, FRI, MOTI, Ghana Grains Council, NAFCO
	4.1.8 Develop effective post-harvest management strategies, particularly storage facilities, at individual and community levels.	Obtain detailed information on strategies. Initiate appropriate strategies in the different ecological zones.		0.032	DCS	DAs, AESD, DAES, SADA
	4.1.9 Promote Public-Private Partnerships (PPPs) in the agriculture sector.	Sensitize relevant stakeholders on PPP and provide incentives for PPPs.		0.0109	ABU	GCAP, GIPC, DAs, GIDA, AESD, DAES, MoF, PPBD

	Sub-total (sub-programme 4.1)		132.573			
Agriculture Competitiveness and Integration into Domestic and International Markets	Sub-Programme 4.2: Development of an effective domestic market					
	4.2.1 Promote accelerated construction of all-weather feeder roads and rural infrastructure.	Sensitize and lobby for feeder roads to link District capitals.		0.200	PPBD	DAs, DFR, COCOBOD
	4.2.2 Strengthen partnership between private sector and District Assemblies to develop trade in local markets.	Collaborate with MOTI and GSA in grading weights in agriculture trade in domestic and international market. Organization of agribusiness fairs collaborate with MOTI and District Assemblies to develop local markets.		0.439	SRID ABU	MOTI, DAs, AGI, PPRSD, GSA
	4.2.3 Improve market infrastructure and sanitary conditions.	Undertake Educational Campaign on improved sanitation at markets		0.252	WIAD	FDA/MLGRD, DAs
	4.2.4 Operationalise the Ghana Commodities Exchange.	Develop a legislative instrument to govern the operations Ghana Commodities Exchange. Initiate stakeholder fora on establishing an efficient Ghana Commodities Exchange.		0.603	MOTI	GGC, DAs, DCS, SRID
	4.2.5 Strengthen capacity of Ministry of Food and Agriculture and Ministry of Fisheries and Aquaculture Development and other relevant stakeholders to provide marketing extension.	Build capacity of all key stakeholders in marketing extension.		0.401	DAES	MoFAD, DAs, SRID, APD, DCS, NAFCO
	4.2.6 Develop standards and promote good agriculture/aquaculture practices along the value chain.	Build capacity of stakeholders on GAPs in selected districts along the value chain.		4.240	PPRS	DCS, MoFAD, DAs, ABU, APD
	4.2.7 Enhance the operations of Farmer-Based Organisations to acquire knowledge and skills for stronger bargaining power in marketing.	Collaborate with RDAs to organize farmers into groups. Organize at least a review meeting in all regions annually.		0.092	DAES	DCS, DAs, APD, RDAs, FBOs
	4.2.8 Promote the use of ICT and media to disseminate agricultural/fisheries market information to farmers.	Organize stakeholder workshops to develop an efficient system to gather and collate market information on livestock.		0.259	SRID	DAES, APD, DAs, RDAs, MoFAD, Media
	4.2.9 Develop policy measures for standardisation and product differentiation in local markets.	Facilitate the use of standards in local markets.		0.804	PPRS	GSA, DAs, MED, SRID
4.2.10 Extend the concept of nucleus-out grower and block farming schemes and contract farming to cover staple and cash crops to bridge the gap between large and small scale producers.	Monitor the Development of oil palm cultivation in Brong-Ahafo Region. Develop national outgrower scheme and contract farming.		0.925	GCAP	DCS, DAs, DAES, ABU	

Agriculture Competitiveness and Integration into Domestic and International Markets	4.2.11 Roll out a programme to convert all major markets in the country into limited liability companies through PPPs.	Catalogue all the major markets in the country.		0.015	ABU	LGSS, DAS
	Sub-total (sub-programme 4.2)			6.230		
	Sub-Programme 4.3: Expansion of agricultural exports					
	4.3.1 Provide comprehensive support for improved access of operators to market information and intelligence.	Organize a workshop for M&E and MIS officers and market enumerators on improved market data collection to facilitate improved data collection.		1.752	SRID	RDAs, ABU and DAS
	4.3.2 Provide relevant technology, market infrastructure (e.g. cold chain facilities), and financing to enable operators to respond to the changing needs of markets.	Support operators along the value chain for appropriate infrastructure to respond to market needs. Develop a framework for the management and disposal of agricultural infrastructure.		0.013	AESD	VSD, PPRSD, GEPA, DAS, DCS, MoFAD, MED
	4.3.3 Support operators to identify market niches for new products.	Facilitate the identification and promotion of niche market for new products.		0.015	ABU	SRID, GEPA, DAS, DCS, APD, MoTI, WIAD
	4.3.4 Promote GAP's, particularly for meeting sanitary and phytosanitary requirements of importing countries.	Train 150 horticultural crop exporters from the 10 regions on GAPs in compliance with sanitary and phytosanitary requirements of the importing countries.		0.635	PPRSD	FAGE, MoTI, DCS, DAS
	4.3.5 Develop and implement guidelines to support agriculture/ fisheries/ aquaculture production and trade contracts.	Facilitate development of guidelines for trade contracts.		0.526	MoFAD	PPBD, ABU, MED, DAS
	4.3.6 Strengthen collaboration with relevant MDAs to improve road access to link production centres to air and sea ports	Facilitate identification of critical road projects Organise sensitisation workshops on the concept of local governance.		0.042	MoFA	MDAs, DAS, DFR, GHA
	4.3.7 Encourage targeted product clustering and development of cooperatives to expand the scale of production to make local producers competitive.	Facilitate the formation of commodity specific FBOs in 20 districts.		1.703	ABU,	APD, DCS, MoFAD, DAES, DAS
Sub-total (sub-programme 4.3)			4.686			

Programme 5: Management of Land and Environment				12.876		
Sub-Programme 5.1 Sustainable environment, land and water management						
	5.1.1 Resolve land acquisition and security of title problems through the establishment of a system of land banks.			2.020	GCAP	MoFA, MLNR, DAs
	5.1.2 Promote the development of community land use plans and enforce their use, particularly in urban and peri-urban agriculture.	<p>- Develop the capacity of pesticide/fertilizer inspectors, agro-input dealers, AEAs and farmers on safe use, handling and storage of pesticides and fertilizers.</p> <p>- Support the improvement of the mechanism for facilitating access to secure land by reducing the search costs to potential investors through an expansion of a database of land suitable and available for investors.</p>		1.521	PPRSD	DAES, DCS, DAs
	5.1.3 Facilitate land tenure arrangements that yield win-win outcomes for both tenants and land holders.	Liaise with LAP to facilitate arrangements.		0.027	GCAP	MLNR, DCS, DAs
	5.1.4 Mainstream sustainable land and environmental management practices in agriculture sector planning and implementation.	<p>Develop and incorporate a climate smart agriculture action plan into agricultural sector planning.</p> <p>Develop an ecological organic agriculture policy.</p> <p>Train 200 tractor/machinery operators on soil conservation practices and environmental issues.</p>		0.654	DCS	DAs, Private sector, AESD, PPBD, MED
	5.1.5 Create awareness about environmental issues among all stakeholders and develop an effective and efficient framework for collaboration with appropriate agencies to ensure environmental compliance.	Sensitise 200 stakeholders (50 agro-input dealers, 10 importers, 40 AEAs, and 50 farmers) in the pesticides and fertilizer industry to ensure environmental compliance.		1.527	PPRSD	DCS, EPA, DAs, DAES, FBOs, GAIDA
	5.1.6 Improve incentives and other measures to encourage users of environmental resources to adopt less exploitative and non-degrading practices in agriculture.	Support implementation of community watershed and fisheries management plans.		5.203	DCS	EPA, MLNR, DAs, MoFAD

	5.1.7 Promote joint planning and implementation of programmes with relevant institutions to address environmental issues in food and agriculture.	Participate in policy and planning meetings of Ghana Environmental Management Project and REDD+.		0.293	DCS	EPA, WRC, FC, DAS
	5.1.8 Intensify integration/mainstreaming of climate change into sectoral and district plans.	Build capacity of MoFA staff on Participatory Scenario Planning (PSP).		0.645	DCS	APD, MED, PPBD, DAS
	5.1.9 Provide alternative livelihood schemes for local communities to reduce pressure on lands adjacent to protected areas and water bodies.	Train farmers in alternative livelihood activities. Support 120 Farmers with foundation stock annually.		0.987	WIAD	DAs, APD, RDAs, DAES
	Sub-total (sub-programme 5.1)			12.876		
Programme 6: Science and Technology Applied in Food and Agricultural Development				142.512		
Sub-Programme 6.1: Science, technology and innovation application						
	6.1.1 Apply appropriate agricultural research and technology to introduce economies of scale in agricultural production.	Demonstrate all year round production of vegetables and other crops, promote ICT to support activities, and develop and disseminate appropriate technologies.		80.953	DAES	SRID, ICTU, DAs, RDAs
	6.1.2 Improve the effectiveness of Research-Extension-Farmer Linkages (REFLs) and integrate the concept into the agricultural research system to increase participation of end users in technology development.	Make RELCs functional at national, regional and district levels and monitor extension activities. Monitor the results of RELC activities. Upscale/replicate and disseminate results of successful technologies.		3.454	DAES	CSIR, DAs, RDAs, MED
	6.1.3 Strengthen coordination and collaboration between research institutions, locally and internationally, to improve cost effectiveness of research.	Organize innovative platforms e.g. plantwise health clinics and establish effective education, research and agribusiness linkages.		5.102	PPRSD	Universities, DAES, ABU, CSIR, DAs
	6.1.4 Develop sustained funding mechanisms for research and transfer of research findings.	Provide support for research proposal to solve farmers constraints emanating from regional RELC planning session		1.823	DAES	Universities, CSIR, DAs
	6.1.5 Promote demand-driven agriculture policy research and utilisation.	Review of Agricultural Policy Implementation, identify demand-driven policy research issues and implement research agenda.		7.518	PPBD	STEPRI, DAs, RDAs, MED

6.1.6 Increase capacity of research organisations to undertake demand-driven socio-economic research.	Organise training workshop in socio economic research. Provide support for demand driven research.		2.490	CSIR	MoFA, Universities, DAs
6.1.7 Promote demand-driven research in the development of industrial use of local staples and livestock.	Organise sensitization workshop in the development of industrial use of selected commodities.		0.670	CSIR	Universities, DAs, other MoFA directorates
6.1.8 Intensify the incorporation of age/gender analysis into agriculture research.	Support the development of gender sensitive plans of MoFA Directorates.		1.040	WIAD	PPBD, CSIR, MED
Sub-total (sub-programme 6.1)			103.049		
Sub-Programme 6.2: Access to extension services and re-orientation of agriculture education					
6.2.1 Formulate and adopt agriculture education syllabus that promotes agriculture and aquaculture as a business at all levels of education.	Set-up a 15-member review committee to review curricula for the Diploma, Certificate and Vocational Programmes of agricultural institutions. Development of farming business module as a key development issue. Development of a 5year strategic plan for six (6) ATVET institutions. Development of ATVET policy. Development of curricular along value chains Facilitate accreditation of farm institutes and agricultural colleges by COTVET.		18.854	HRDM	NAB, COTVET, UCC, ATVET, Agricultural Colleges, Farm Institutes, DAES, ABU, DAs, PPBD
6.2.2 Maintain the role of Agriculture Award winners and FBOs to serve as sources of extension in production and markets to small scale farmers within their localities to help transform subsistence farming into commercial farming.	Participate in Agric. Shows and National Farmers' Day celebration and build capacity of FBO leaders and mentors.		2.832	AD	Other MoFA directorates
6.2.3 Increase access and improve allocation of resources to districts for extension service delivery taking cognisance of gender sensitivity.	Conduct technical training on extension material production for regional and district extension officers.		3.075	DAES	DAs, RDAs, SRID, MED

6.2.4 Address socio-cultural issues that limit women's access to extension services and agricultural education.	Carry out gender and agriculture sensitive research needs assessment on diverse groups in the sector in collaboration with Agric. Research Institutions.		0.201	WIAD	DAES, CSIR, DAs
6.2.5 Build capacity of FBOs and Community-Based Organisations (CBOs) to facilitate delivery of extension services to their members.	Build the capacity of 5 to 10 commodity based FBO Apex bodies in the management of their database and provide training.		1.970	DAES	GFAP, DAs, RDAs
6.2.6 Expand the use of mass extension methods e.g. farmer field schools, nucleus-farmer out-growers schemes, extension fields in the districts through mass education via radio, TV, Junior Farm Field and Life School (JFFLS), communication vans, for knowledge dissemination.	Produce and telecast video documentary on priority commodities.		11.676	DAES	Other MoFA Directorates, DAs
6.2.7 Improve collaboration with NADMO in addressing gaps in disaster, preparedness and response in extension service delivery system.	Collaborate with NADMO to train 50 spray gangs in strategic locations in all regions.		0.854	PPRSD	DAES, NADMO, DAs
Sub-total (sub-programme 6.2)			39.462		

Table 19: Medium Term Agricultural Sector Investment Plan (2014-2017) Cost Estimates (GH¢)

Programme/Sub-programmes	2014	2015	2016	2017	Total
Programme 1: Management and Administration	2,608,175.0	2,807,384.0	3,586,080.5	2,627,911.0	11,629,550.50
1.1 General management	110,256.00	131,000.00	166,832.00	191,912.00	600,000.00
1.2 Institutional coordination and collaboration	2,497,919.00	2,676,384.00	3,419,248.50	2,435,999.00	11,029,550.50
Programme 2: Food and Nutrition Security and Emergency Preparedness	86,959,730.50	169,660,718.80	219,271,325.00	282,067,426.82	757,959,201.12
2.1 Promotion of agricultural mechanization	12,012,936.50	88,818,105.80	69,056,305.80	72,673,134.50	242,560,482.60
2.2 Seed and planting material development	7,857,127.00	8,598,567.00	9,897,676.70	5,053,093.37	31,406,464.07
2.3 Irrigation development	52,484,590.00	50,925,266.00	123,587,438.00	182,459,786.00	409,457,080.00
2.4 Development of selected staple crops	348,407.00	1,173,871.00	1,344,960.50	1,209,231.95	4,076,470.45
2.5 Livestock and poultry development	10,389,368.00	15,144,909.00	15,384,944.00	20,672,181.00	61,591,402.00
2.6 Nutrition sensitive agriculture	1,523,455.34	2,216,825.50	1,667,756.95	3,459,264.21	8,867,302.00
Programme 3: Increased Growth in Incomes	10,809,840.00	159,059,817.00	174,602,158.00	201,914,038.34	546,385,853.34
3.1 Promotion of private sector investment in	10,734,390.00	87,314,457.00	44,101,108.00	50,709,668.34	192,859,623.34
3.2 Improvements in agricultural financing	50,000.00	71,222,090.00	130,057,200.00	130,599,350.00	331,928,640.00
3.3 Development of selected cash crops	25,450.00	523,270.00	443,850.00	20,605,020.00	21,597,590.00

Programme 4: Marketing of Agricultural Products	31,066,550.00	33,147,536.75	46,982,471.75	32,291,805.21	143,488,363.71
4.1 Improvements in post-production management	29,642,120.00	29,983,761.00	43,803,966.00	29,143,098.88	132,572,945.88
4.2 Development of an effective domestic market	1,259,230.00	1,607,680.00	1,764,175.50	1,598,887.75	6,229,973.25
4.3 Expansion of agriculture exports	165,200.00	1,556,095.75	1,414,330.25	1,549,818.58	4,685,444.58
Programme 5: Management of Land and Environment	1,125,012.50	4,694,477.00	2,227,956.00	4,828,183.90	12,875,629.40
5.1 Sustainable environment, land and water management	1,125,012.50	4,694,477.00	2,227,956.00	4,828,183.90	12,875,629.40
Programme 6: Science and Technology Applied in Food and Agricultural Development	8,787,650.00	16,087,879.00	58,493,007.80	59,143,096.10	142,511,632.90
6.1. Science, technology and innovation application	4,335,990.00	6,094,857.00	42,626,462.70	49,992,020.69	103,049,330.39
6.2. Access to extension services and re-orientation of agriculture education	4,451,660.00	9,993,022.00	15,866,545.10	9,151,075.41	39,462,302.51
Total	141,356,959.00	385,457,812.55	505,162,999.05	582,872,461.37	1,614,850,230.97

CHAPTER SIX

MONITORING AND EVALUATION PLAN

6.1 INTRODUCTION

Monitoring and Evaluation of sector performance contributes to increase effectiveness, accountability, transparency, learning of lessons, among others, in programme implementation. There is the need to provide adequate, accurate and timely information on activities by all stakeholders to ensure that plan implementation achieves the desired objectives. This chapter presents a framework for the M&E plan. An elaborate M&E Plan is to be prepared for the planned period. It will follow the Programme of Action and Projections in Chapter Five.

6.2 MONITORING AND EVALUATION SYSTEM IN THE AGRICULTURAL SECTOR

An M&E system for the agricultural sector has been in place since 2007. Since then, there has been significant improvement in the system as a result of adequate resourcing and capacity building of officers. This has reflected in the quality of data collected, analysis and streamlining of data management procedures. However, the system needs further improvement. The M&E system has been used in undertaking a number of actions at all three administrative levels (National, Regional and District). These include:

- a. Preparation and dissemination of annual progress reports;
- b. Conducting and reporting of annual Joint Sector Performance Reviews;
- c. Supporting programmes and project implementation and policy formulation;
- d. Generating inputs for NDPC's Annual Progress Reports (APR); and
- e. Mid-term review of METASIP.

Generally, the overall goal of an M&E system is to enable effective tracking of plan implementation and effectiveness, as well as the challenges and constraints faced by stakeholders. The specific objectives of the M&E Plan to be developed are:

- a. To produce an effective system for collecting reliable, relevant and timely data for evidence-based decision making;
- b. To provide a structure for the assessment of progress made in the plan towards expected outcomes;
- c. To manage an effective feedback system that makes information available in usable forms;
- d. To improve coordination of all stakeholders including the private sector in the plan implementation; and
- e. To design a holistic approach to M&E which captures all stakeholders including the private sector.

6.3 INSTITUTIONAL ARRANGEMENTS

A participatory M&E system is envisaged to enable all stakeholders to identify their roles and responsibilities to participate effectively and efficiently. Monitoring and Evaluation is critical at all levels of governance (National, Regional and District). The main institutions that are responsible for routine M&E under this plan include: MoFA; Office of the President; Parliamentary Select Committee on Food, Agriculture and Cocoa Affairs; NDPC; MoF; GSS; LGSS; other MDAs; Private sector; CSOs; and NGOs.

The Monitoring and Evaluation Directorate in collaboration with SRID of MoFA will have the responsibility of coordinating the agricultural sector M&E and lead in the collection, collation and analysis of M&E data.

CHAPTER SEVEN

COMMUNICATION STRATEGY

7.1 THE NEED FOR A COMMUNICATION STRATEGY

Effective communication is a very important tool in the implementation of a development plan. Stakeholders who had been consulted during the preparation of the plan must be aware of what the plan entails and how it is going to be implemented. The process of getting real time information to and from stakeholders is critical for effective implementation of the plan. Thus, a communication strategy is essential to facilitate information sharing among stakeholders.

The implementation of the decentralization policy has made the DDAs part of the District Assemblies under the Local Government Service. Funding of the activities of the departments has to be from the districts' budgets. The DDAs have to submit acceptable proposals to the district assembly authorities for funding.

The Districts' Agriculture Departments must not only understand the various aspects of the plan but must incorporate relevant aspects into the district assembly MTDP and also be able to convince the district authorities why priority should be given to planned activities in order to receive funding. All stakeholders in the agricultural sector must be well sensitized with relevant aspects of the plan and that will be done by effective communication at all levels. The ultimate purpose of the communication strategy is for farmers, processors, marketers etc. to adopt technological packages, messages and methodologies that will transform Ghana's agriculture as envisaged in this plan.

7.2 OBJECTIVES OF THE COMMUNICATION STRATEGY

The overall objective of the strategy is to create awareness among all stakeholders and good understanding of all aspects of this plan. By so doing, all stakeholders will be informed about the programmes, sub-programmes and activities that are proposed to be implemented during the period 2014-2017.

Specifically, the following are the objectives of the communication strategy:

- a. To communicate effectively the Vision, Mission, Goal and Objectives of the agricultural sector as outlined in this plan;
- b. To promote appreciation of the need for a coordinated approach to the implementation of agricultural development interventions by sustaining stakeholder participation, consultation, support, and collaboration in the implementation of this plan;
- c. To promote coordination among stakeholders, including national and international partners;
- d. To ensure consistency of messages in the sector;
- e. To identify, develop and utilize appropriate communication channels, tools and activities to implement this plan; and
- f. To disseminate achievements and progress to the general public and the world at large.

7.3 TARGET GROUPS, APPROACHES AND CHANNELS OF COMMUNICATION

7.3.1 Target Groups

The following are the major target groups of the Communication Strategy; they are the key stakeholders for the implementation of the plan:

- a. Office of the President;
- b. Ministers, Deputy Ministers, Chief Directors, Directors, Deputy Directors, Heads of Departments and units and staff of MoFA and related MDAs;
- c. Parliament;

- d. Regional Coordinating Councils;
- e. Metropolitan, Municipal and District Coordinating Councils;
- f. Traditional authorities and opinion leaders as well as land owners;
- g. Private sector operators;
- h. Financial institutions and input dealers;
- i. Agricultural research institutions and academia;
- j. FBOs, NGOs, CBOs and CSOs;
- k. Development Partners;
- l. NDPC; and
- m. Others.

7.3.2 Approaches and Channels of Communication

Approaches and channels of communication will vary depending on the target group and whether the group is at the national, regional, district, sub-district or community levels. Several participatory platforms will be used to ensure that all stakeholders will be reached. In many cases existing participatory platforms such as Departmental meetings, District Assembly meetings, farmers' fora, Agriculture Sector Working Groups etc. will be used. New platforms will be established, if necessary. Table 20 is a summary of the target stakeholders of the agricultural sector's communication strategy.

Generally, the following means will be used as channels to reach the various target groups:

- a. Print media: Newspapers, newsletters, briefs, manuals, brochures, etc.;
- b. Broadcast media: TV and radio, information and audio-visual vans etc.;
- c. Workshops, seminars, conferences and durbars;
- d. Focus Group Discussions;
- e. Consultations;
- f. Face-to-face discussions;
- g. Briefings; and
- h. Digital media (e.g. websites, social media platforms etc.)

Table 20: Summary of target stakeholders, objectives of communication and means of communication

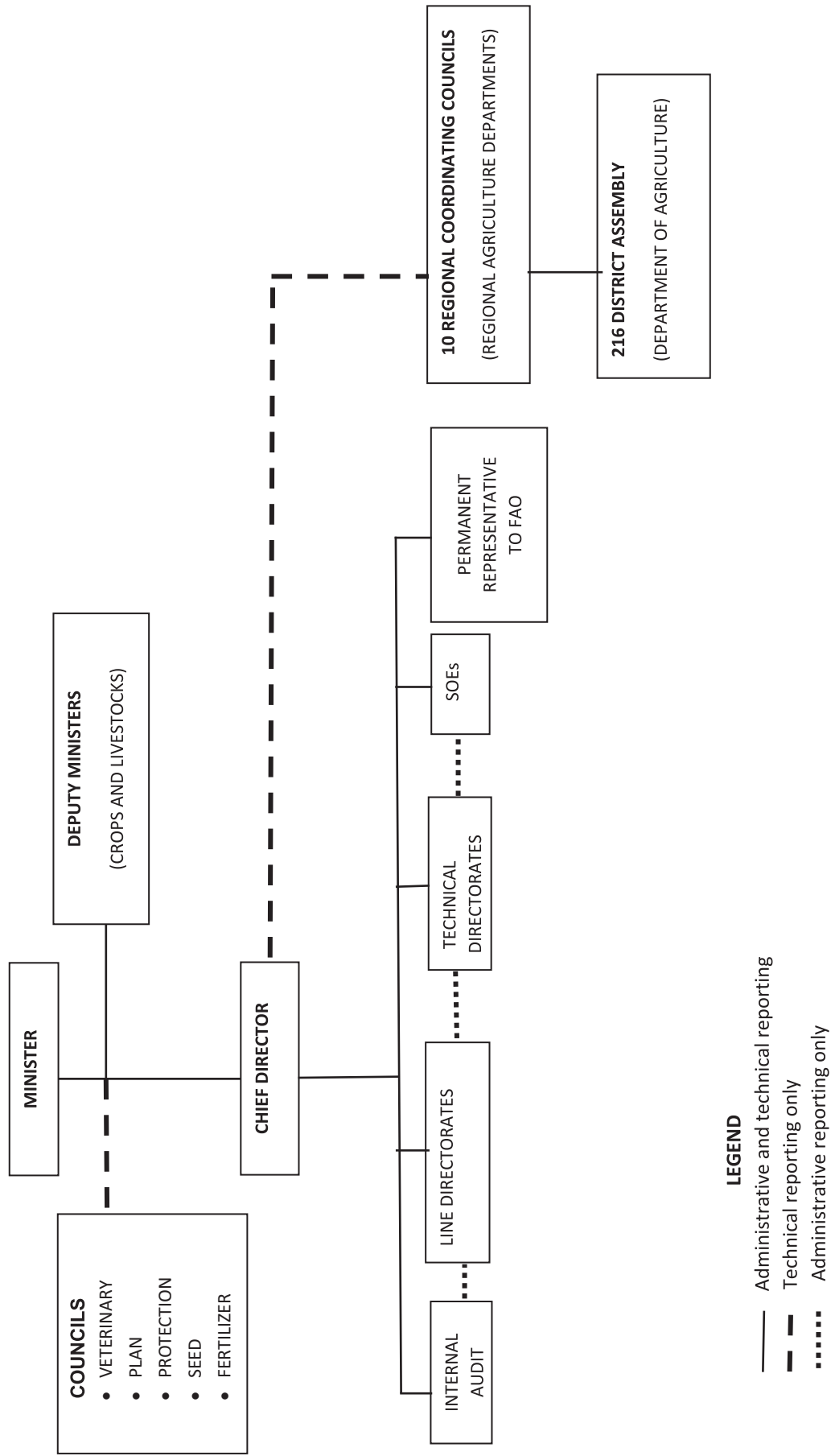
Target Institutions	Target stakeholders	Main objectives of communication	Means of Communication
Ministries, Departments and agencies	Ministers, Deputy Ministers, Chief Directors, Directors, Deputy Directors, Heads of Departments and units and staff of MoFA and agricultural related MDAs	<ol style="list-style-type: none"> 1. Obtain political commitment and top management support. 2. Create an enabling environment for all staff members to be actively involved in plan implementation. 3. Ensure deep understanding of the plan and how it will be implemented. 	<ul style="list-style-type: none"> ▪ Seminars ▪ Policy Fora ▪ Workshops ▪ Consultations ▪ Face-to-face discussions ▪ Policy briefs ▪ Brochures ▪ Stakeholder platforms
Parliament	Members of Parliament and Members of relevant Select Committees	<ol style="list-style-type: none"> 1. Obtain political commitment and goodwill. 2. Create an atmosphere for continuous dialogue with the legislature. 3. Advocate for adequate resource allocation. 	<ul style="list-style-type: none"> ▪ Seminars ▪ Policy Fora ▪ Workshops ▪ Consultations ▪ Face-to-face discussions ▪ Policy briefs ▪ Brochures

RCCs and MMDAs	Regional Ministers, Chief Executives and all relevant staff members of Regional Coordinating Councils and Metropolitan, Municipal and District Assemblies.	<ol style="list-style-type: none"> 1. Obtain political commitment at lower levels. 2. Create an understanding of the plan at the implementing levels. 3. Create a sense of ownership of development programmes and projects that come with the plan. 4. Impart knowledge and skills to implementing agencies at the regional and district levels. 	<ul style="list-style-type: none"> ▪ Seminars ▪ Policy Fora ▪ Workshops ▪ Consultations ▪ Face-to-face discussions ▪ Durbars ▪ Policy briefs ▪ Information brochures
Sub-District Council Levels	Traditional Authorities, Opinion leaders, Councilors, etc.	<ol style="list-style-type: none"> 1. Create sense of ownership of development interventions. 2. Create a participatory learning culture. 3. Build strong bridges among stakeholders 	<ul style="list-style-type: none"> ▪ Training workshops ▪ Follow-ups ▪ Community durbars ▪ Consultations
FBOs private sector actors and CSOs	Farmers, aggregators, processors, NGOs, marketers, consumers, financial institutions, input dealers etc.	<ol style="list-style-type: none"> 1. Create sense of ownership of development interventions. 2. Create a participatory learning culture. 3. Build strong bridges between MoFA and other stakeholders. 4. Advocate for strong private sector investment in the sector. 5. Advocate for coherence in the operations of CSOs in the sector. 	<ul style="list-style-type: none"> ▪ Training Workshops ▪ Follow-ups ▪ Community durbars ▪ Consultations ▪ Policy briefs ▪ Brochures ▪ Investment briefs
Research and knowledge institutions	Agricultural researchers and academia	<ol style="list-style-type: none"> 1. Provide demand-driven research information. 2. Provide knowledge and databases. 3. Provide training support and feedback 4. Advocate for action research that involves the participation of the people. 	<ul style="list-style-type: none"> ▪ Seminars ▪ Policy Fora ▪ Workshops ▪ Consultations ▪ Face-to-face discussions ▪ Websites
Development Partners (national, regional and global levels)	Multilateral and bilateral agencies	<ol style="list-style-type: none"> 1. Provide information on developments and progress towards objectives. 2. Advocate and lobby for financing support. 	<ul style="list-style-type: none"> ▪ Workshops ▪ Consultations ▪ Face-to-face discussions ▪ Policy briefs ▪ Brochures ▪ Investment briefs ▪ Websites ▪ Stakeholder platforms

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APPENDIX 1: Organogram of MoFA Linked to Decentralised Levels



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