



**Ghana Agricultural Investment Plan  
(GhAIP)  
2018-2021**

**Ministry of Food and Agriculture**

**October, 2018**

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## ACRONYMS AND ABBREVIATIONS

1D1F	One District One Factory
1D1W	One-District-One Warehouse
1V1D	One-Village-One-Dam
ABFA	Annual Budget Fund Amount
ACSE	Agricultural Cluster Service Enterprise
AEA	Agricultural Extension Agent
AESD	Agricultural Engineering Service Directorate
AFIA	Agri-Food Industry Association
AGRA	Alliance for Green Revolution Africa
AgSWG	Agricultural Sector Working Group
AMSECs	Agricultural Mechanization Service Centre
APD	Animal Production Directorate
APR	Annual Progress Report
CAADP	Comprehensive Africa Agricultural Development Programme
CAPI	Computer Assisted Personal Interview
CAVA	Cassava Adding Value for Africa
CD	Chief Director
CDA	Cotton Development Authority
COCOBOD	Ghana Cocoa Board
CSIR	Centre for Scientific and Industrial Research
CSO	Civil Society Organization
DAAS	District Agricultural Advisory Services
DAD	District Agricultural Department
DAES	Directorate of Agriculture Extension Services
DCACT	District Chamber of Agriculture, Commerce and Technology
DCE	District Chief Executive
DCS	Directorate of Crop Services
DDA	District Director of Agriculture
DP	Development Partners
F&A	Finance and Administration
FAO	Food and Agriculture Organization
FBO	Farmer Based Organization
FDA	Food and Drugs Authority
FNS	Food and Nutrition Security
FSNMS	Food Security and Nutrition Monitoring System
GADF	Ghana Agricultural Development Fund
GADS	Gender and Agricultural Development Strategy

GAEP	Ghana Agricultural Engineering Policy
GDP	Gross Domestic Product
GLSS	Ghana Living Standard Survey
GSGDA	Ghana Shared Growth and Development Agenda
GSS	Ghana Statistical Service
GLDB	Grains and Legumes Development Board
GVC	Ghana Veterinary Council
GIDA	Ghana Irrigation Development Authority
GCAP	Ghana Commercial Agriculture Project
GDHS	Ghana Demographic and Health Survey
GhAIP	Ghana Agricultural Investment Plan
Ghana AGIS	Ghana Agriculture Geo-Referenced Information System
GHG	Green House Gas
GOG	Government of Ghana
GRIDF	Ghana Rural Infrastructure Development Fund
HRDMD	Human Resource Development and Management Directorate
ICOUR	Irrigation Company of Upper Regions
ICT	Information Communication Technology
IGF	Internally Generated Fund
ILO	International Labour Organization
JICA	Japan International Corporation Agency
M&E	Monitoring and Evaluation
MDA	Ministries, Departments and Agencies
MDG	Millennium Development Goal
METASIP	Medium Term Agricultural Sector Investment Plan
MESTI	Ministry of Environment, Science, Technology and Innovation
MHE	Market Hub Enterprise
MMDA	Metropolitan, Municipal and District Assembly
MoFA	Ministry of Food and Agriculture
MoF	Ministry of Finance
MoFAD	Ministry of Fisheries and Aquaculture Development
MOH	Ministry of Health
MoTI	Ministry of Trade and Industry
MLGRD	Ministry of Local Government and Rural Development
MLNR	Ministry of Lands and Natural Resources
MTDP	Medium Term Development Plan
MTNDPF	Medium-Term National Development Policy Framework
NAFCO	National Food Buffer Stock Company

NDPC	National Development Planning Commission
NGO	Non-Governmental Organization
NMTDP	National Medium Term Development Plan
OFSP	Orange Fleshed Sweet Potato
PEF	Private Enterprise Federation
PFJ	Planting for Food and Jobs
PMF	Performance Measurement Framework
POCC	Potential Opportunity Constraints and Challenges
PPMED	Policy Planning, Monitoring and Evaluation Directorate
PPPP	Public Private Producer Partnership
PPRSD	Plant Protection and Regulatory Service Directorate
RAAS	Regional Agricultural Advisory Services
RAD	Regional Agriculture Development
RELC	Research-Extension-Farmer Liaison Committee
RCC	Regional Coordinating Council
RDA	Regional Director of Agriculture
RING	Resilience in Northern Ghana
RTIMP	Root and Tuber Improvement and Marketing Programme
SDG	Sustainable Development Goal
SMRE	Small and Medium Rural Enterprise
SOE	State Owned Enterprise
SOFIA	State of World Fisheries and Aquaculture
SRID	Statistic Research and Information Directorate
TVET	Technical and Vocation Education and Training
UN	United Nation
VSD	Veterinary Service Directorate
WAAPP	West African Agriculture Productivity Programme
WFP	World Food Programme
WIAD	Women in Agriculture Development

**ACKNOWLEDGEMENTS**



**EXECUTIVE SUMMARY**

## CHAPTER ONE

### 1. Performance Review, Current Situation and Baseline

#### 1.2 Vision, Mission, Functions and Values of the Ministry of Food and Agriculture

1. **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".
2. **Mission:** 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.
3. **Functions:** (a) Agricultural policy formulation; (b) Sector planning; (c) Development and management of sector programmes and projects; (d) Preparation of annual budgets based on sector programmes and projects; (e) Generation and dissemination of agricultural technologies and advisory services; and (f) Monitoring and evaluation of agricultural sector performance.
4. **Core Values:** MoFA, like any other public service institution, strives for accountability, integrity, transparency, efficiency and effectiveness through fairness, confidentiality, meritocracy, equity and timely delivery of quality services.

#### 1.3 Performance Review

##### 1.1.1 Performance of Economy of Ghana

5. Ghana's Gross Domestic Product (GDP) growth rate continued to decline from 14% in 2011 to 3.5% in 2016 (GSS 2017). The continuous decline of the GDP after the 2011 performance is attributed to low total factor productivity - a measure of the efficiency at which labour and capital are being used to produce goods and services (World Bank, 2018). This is depicted in the slow growth rate of the productive sectors, agriculture and industry with an average annual growth rate of 3.68% and 3.34% respectively but with a strong growth rate in the services sector with an average annual growth rate of about 7.94% between 2012 and 2016. The high growth in the services sector is driven mainly by growth in less productive sub-sectors; information and communication, and the financial services. This imbalance in the economic growth is a far cry from the structural transformation expected to address the challenges with poverty, high unemployment and low private sector investment to launch the country on a sustainable growth track.
6. **Importance of agriculture in Ghana's economic development:** Ghana like other developing countries in West Africa is basically an agrarian country. The sector contributes to the economy of Ghana in many spheres which includes:
  - i. **Employment:** Agriculture provides employment for over 44.7% of the populace mainly involved in production of either crops, livestock, fishing or in processing and marketing of agricultural produce (SRID, 2016) on a formal and informal basis. Ghana's agriculture is Private Sector led and a modernize agricultural sector with thriving private sector agribusinesses will be a panacea for the

youth employment challenge by providing decent and rewarding career long the Agricultural value chain.

- ii. **Foreign Exchange:** The sector is also a major contributor to foreign exchange earnings. Between 2014 and 2016, export of non-traditional agricultural commodities increased from about GH¢ 962 Million in 2014 to GH¢ 1,901 Million in 2016 (MoFA-APR, 2017). The prevailing economic conditions characterized by currency depreciation and its attendant effects on the economy provide an opportunity to strengthen the non-traditional export sector.
- iii. **Contribution to National GDP:** Agriculture continued to provide valuable contribution to Ghana's economy although the share of its contribution continued to decline from 29.8% in 2010 to 18.3% in 2017. This trend is expected because as the economy expands, the contribution of agriculture to GDP declines as services sector (2010 – 51.1% to 2016 – 56.9) and industrial sector (2010 – 19.1% to 2016 - 24.2%) appreciates.
- iv. **Sources of Food:** The demand for food is increasing rapidly due to rapid population growth (2.2%, 2017) and the agriculture sector provides basic food supply for all the staple commodities to the individuals within the country. The rising food surplus (except for rice) from 9.06 million mt in 2011 to 11.6 million mt in 2016 (METASIP Evaluation Report, 2017), due to increasing food production and productivity tends to improve livelihood particularly in rural areas in Ghana. This was valued at GH¢ 6.9 billion in 2011 to GH¢18.07 billion in 2015.
- v. **Raw materials for industries:** Ghana's industrial crops include cocoa, oil palm, cotton, sheanut, coffee, rubber and coconut. The raw materials from these cash crops helps to feed agro-based industries both locally and abroad. The provision of food and raw materials to the non-agricultural sectors helps to trigger chain reaction in the economy by creating demand for goods produce in non-agricultural sectors to both the rural and urban areas.

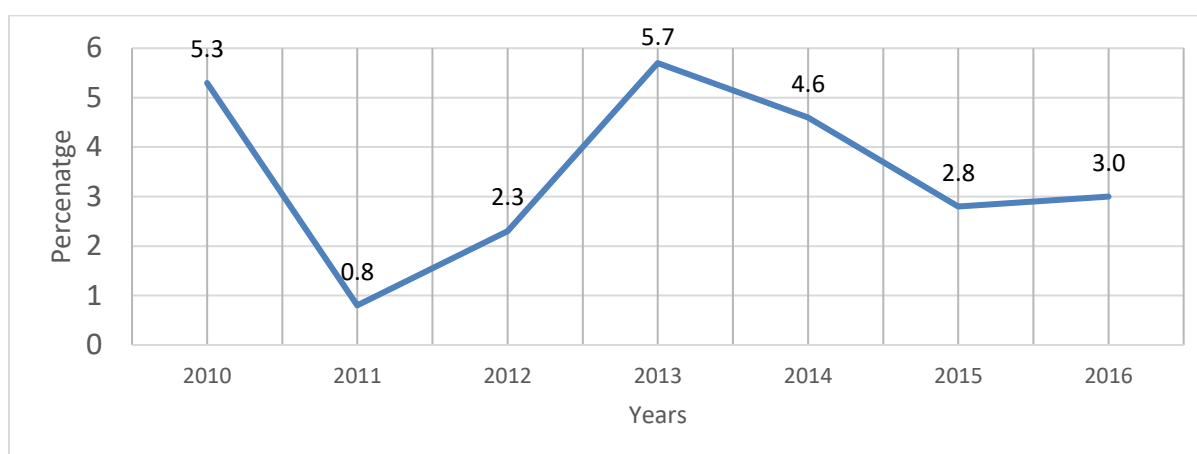
### 1.1.2 Performance of Ghana's Agriculture Sector

7. **Scope of the sector:** 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, livestock and cocoa sub-sectors while the Ministry of Fisheries and Aquaculture Development (MoFAD) is responsible for fisheries. Until recently, cocoa was under the purview of the Ministry of Finance (MoF). The Ministry of Lands and Natural Resources (MLNR) is responsible for forestry and logging while the Ministries of Roads and Highways; Environment, Science, Technology and Innovation; Health; and Trade & Industry also undertake activities that impact on the sector.

8. **Brief overview of each sub-sector:** This section assesses the attainment of national and sector targets in the Ghana Shared Growth and Development Agenda (GSGDA I&II), 2010-2017 and the Medium Term Agricultural Sector Investment Plan (METASIP I & II), 2011-2017. The METASIP was developed along the Comprehensive African Agricultural Development Programme (CAADP) guidelines.

9. The Agricultural Sector growth rates for the years 2010 to 2017, was projected at 6.0%. In this regard, all programmes and projects were designed to ensure that this target was achieved. Between 2010 and 2016, the average growth rates for the sector was 3.5%. The lowest growth rate of 0.8% was recorded in 2011

and the highest of 5.7% in 2013. This low growth rate was attributed to poor performance of the fisheries (-8.7%) and forestry/logging (-14%) sub-sectors coupled with poor rain fall in amount and distribution which resulted in low crop production. The growth rate was uneven during the period from 2010 to 2016.



**Figure 1.1: Real Annual GDP Growth Rate of the Agricultural Sector 2010 - 2016**

Source: Ghana Statistical Service, 2017

10. The contribution of the crops sub-sector to agricultural GDP at current prices, excluding cocoa, increased from 2011 (61.1%) to 2016 (67.7%). The livestock subsector however increased in growth from 2010 (6.8%) to 2011 (7.1%) and then decreased until 2014 (5.7). The cocoa sector saw the highest growth rate of 14.1% in 2011 and the lowest of 8.8% in 2016. The fisheries sector growth rate decreased from 7.8% in 2010 to 5.5% in 2014.

11. The crop sub-sector is categorized into five sub-sectors; (1) Roots and tubers, (2) Cereals, (3) Legumes, (4) Fruits and Vegetables, and (5) Tree/Industrial Crops. There was a steady increase in the production of roots and tubers from 2010 to 2016 with cassava increasing by 31.8 and yam by 24.8%. Cereal production on the other hand decreased over same the period; maize by 8.0%, millet and sorghum by 27.4% and 29.0% respectively. Rice production however increased from 492,000mt in 2010 to 688,000mt in 2016. Legume production also decreased steadily (see Table 1.1).

**Table 1.1: Production of Selected Food Crops ('000 Mt), 2010 - 2016**

Crop	2010	2011	2012	2013	2014	2015	2016
Maize	1,872	1,683	1,950	1,764	1,769	1,692	1,723
Millet	219	183	180	155	155	157	159
Rice (paddy)	492	463	481	570	604	641	688
Rice (milled)*	295	278	332	393	417	443	474
Sorghum	324	287	280	257	259	263	230
Cassava	13,504	14,240	14,547	15,990	16,524	17,213	17,798
Cocoyam	1,355	1,299	1,270	1,261	1,299	1,301	1,344
Plantain	3,538	3,619	3,556	3,675	3,828	3,952	4,000
Yam	5,960	5,855	6,639	7,075	7,119	7,296	7,440
Groundnut	531	465	475	409	427	417	426
Cowpea	219	237	223	200	201	203	206
Soybean	145	165	152	139	141	142	143

Source: MoFA APR, 2016 \* Note: Milled rice was estimated to be 69% of paddy for the base year 2013.

12. There was a decline in cocoa production from 2010/11 to 2012/13 production seasons and increased from 2012/13 to 2013/14. Oil palm production however, increased through the period from about 2.1million mt in 2010/11 to about 2.5million mt in 2014/15 as shown in table 1.2.

**Table 1.2: Production of Selected Industry Crops (mt)**

Year	Cocoa	Oil Palm	Coffee	Rubber (GREL)
2010/11	1,024,554	2,125,645	9,035	n.a
2011/12	879,348	2,196,098	48,931	18,000
2012/13	835,466	2,334,400	43,931	19,600
2013/14	896,220	2,451,130	45,093	28,754
2014/15	740,254	2,529,513	42,230	30,816
2015/16	778,043	2,701,974*	44,119*	36,816*

Sources: SRID, MoFA (2015). \* Estimates n.a: Not Available

NB: GREL production is equal 95% of national production

13. **Livestock sub-sector:** Available data as shown in Table 1.3 indicates that there has been a steady increase in domestic livestock production from 2011 to 2013. Total domestic meat production increased by 24.3% from the baseline figures of about 127million mt (an average figure for 2011 to 2013), to about 158million mt in 2016.

**Table 1.3: Domestic Livestock Production ('000 mt), 2013-2016**

Type of Livestock	Domestic Meat Production			
	Average (2011 - 2013)	2014	2015	2016
Cattle	21,225	22,781	23,841	24,961
Sheep	18,094	19,507	20,347	21,349
Goats	21,323	23,573	24,774	26,285
Pigs	20,243	22,932	24,513	26,107
Poultry	46,100	54,809	57,276	59,108
<b>Total</b>	<b>126,985</b>	<b>143,602</b>	<b>150,751</b>	<b>157,810</b>

Source: Agriculture in Ghana – Facts and Figures 2016

14. **Fisheries sub-sector:** Fish is recognized as one of the most important sources of protein in the country and it is expected to provide 60 percent of protein needs of Ghanaians. The national fish requirement is 1,088,749 mt (as at 2014) whilst national per capita fish consumption is estimated to be 23kg, much higher than the global average of 20kg (FAO SoFIA Report, 2016). Table 1.4 shows that total fish production for 2016 was 465,356mt which was the highest since 2013. The total tonnage from 2013 to 2016 was 1.7million. Marine fish capture was the highest in 2016 with a metric tonnage of 328,541 followed by inland capture (84,345mt). It constituted about 72% of the total fish supply since 2013. This goes a long way to indicate how dependent the country is on marine supply. There is the need to develop aquaculture to augment the supply of fish in the country.

**Table 1.4 : Annual Fish Production by Source (mt)**

Source	2010	2011	2012	2013	2014	2015	2016
Marine	309,558	326,545	333,697	314,868	289,147	312,535	328,541
Inland	83,127	95,353	95,000	86,741	85,383	86,268	84,345
Aquaculture	10,200	19,092	27,451	32,512	38,547	44,515	52,470
<b>Total</b>	<b>402,885</b>	<b>440,990</b>	<b>456,148</b>	<b>434,121</b>	<b>413,077</b>	<b>443,318</b>	<b>465,356</b>

*Source: Fisheries Commission, Ministries of Fisheries and Aquaculture Development (MoFAD).*

### **1.1.3 Performance under GSGDA II (2014 -2017) - Accelerated Agricultural Modernization**

15. The goal of Ghana's national agricultural development policy, as stated in the GSGDA II and consistent with METASIP II, is to accelerate agricultural modernization and ensure sustainable natural resources management. The focus was to transform the agricultural sector to increase productivity, output, create jobs, increase incomes and ensure food security over the medium term 2014 to 2017. Under GSGDA II, the stated agricultural sector development components and policy objectives are broadly divided into (a) Accelerated Agricultural Modernization and (b) Sustainable Natural Resources Management. The performance of accelerated agricultural modernization component between 2014 and 2017 is summarised in Table 1.5. The performance of the sustainable natural resources management component is reported in MLNR Annual Performance Report. Under the GSGDA, the accelerated agricultural modernization thematic area had eight focus areas with specific activities. The focus areas were (i) Agricultural Productivity; (ii) Job Creation (iii) Agricultural Competitiveness and Integration into Domestic and International Markets. (iv) Production Risks/Bottlenecks in Agricultural Industry; (v) Crops Development for Food Security, Exports and Industry; (vi) Livestock and Poultry Development; (vii) Improved Institutional Collaboration for Agricultural Development.

16. The Food and Nutrition Security and Emergency Preparedness programme under the Agricultural Productivity focus area, sought to promote agricultural mechanization, and enhance seed and planting material development. Two hundred and thirteen (146) Agricultural Mechanisation Service Centres (AMSECs) were supported with subsidised tractors and implements to provide services to smallholder farmers across the country. In addition, three training centres were rehabilitated to provide training for agricultural machinery operators as at 2017.

17. Two main activities; collaboration with the private sector to build their capacity to manufacture appropriate agricultural machinery, tools and other equipment; and the promotion of hire purchase and leasing schemes for agricultural machinery was minimal and could enhanced. The activities planned under the seed and planting material development sub programme includes the following; introduction of climate resilient, high yielding and short duration crop varieties, dissemination of updated crop production technological packages, facilitation of the production of seeds and planting materials, and capacity building of more seed breeders, seed growers and seed inspectors. A total of 88 varieties of food crops (including varieties of cassava, cowpea, maize, rice, soybean and yam) were released to farmers in 2016. However, very few of these varieties have so far been adapted.

18. The third focus area had irrigation development sub programme which developed a policy and legal regime for private sector participation in irrigation development and management. Other activities such as the promotion of early warning meteorological information to be provided by the Ghana Meteorological Authority at the district level has also been achieved. For example, during the period, four agro-meteorological stations were established for real time climatic data collection at Bongo, Mankessim, Weija and Wenchi. In addition, there are various initiatives across the country that generated and disseminated early warning information. These include; Northern Ghana Food Security and Nutrition Monitoring System (FSNMS); Quarterly Food Situation Monitoring Report; Pre-harvest Crop Assessment – Preliminary Crop Production Estimates (estimated cropped area and crop yields); Post-harvest Crop Assessment – Final Crop Production Estimates; and Market Information System which includes weekly/monthly/annual price data.

19. The Livestock and Poultry Development focus area also had many activities including the review of the Livestock Development Policy which was completed during the period under review. The national livestock hub, strengthening institutional collaboration for livestock and poultry statistics and monitoring, and the intensification of disease control and surveillance for zoonotic and scheduled diseases activities were conducted annually. However, the progress in the sub-sector over the period has been relatively stagnant with an average growth rate of 5%. Nutrition Sensitive Agriculture had activities to reposition nutrition as across-cutting issue and facilitate the integration and mainstreaming of nutrition into all national development efforts is on-going. The activities planned to promote production and consumption of micro nutrient rich foods by children and women of reproductive age especially in rural areas, linking bio-fortified foods to the School Feeding Programme and promotion of school and kitchen gardens were conducted annually. This has contributed to the Ghana making continuous and considerable progress in improving the nutritional status of children and women.

20. The activities planned to be implemented under the Job Creation focus area include; promotion of private sector investment in agriculture, improvement in agriculture financing and development of selected cash crops were implemented but with minimal coordination. Similarly, the planned activities under the agricultural competitiveness and integration into domestic and international markets were moderately implemented. Overall, the limited implementation of the planned activities under the programmes and sub-programmes of the Accelerated Agricultural Modernization component under the GSGDA led to modest performance of the sector as summarized in Table 1.5.

21. The strengthening of joint platforms among state and non-state actors was the main activity under the Institutional Collaboration focus area. This was achieved through the annual Joint Sector Review and quarterly meetings of the Agricultural Sector Working Group which were instituted prior to the era of METASIPs I & II but were further strengthened in order to achieve the set target. It is worth mentioning that these platforms for engaging the private sector in planning need to be reviewed.

**Table 1.5: Performance of the Agricultural Sector Focus Areas, 2014-2017**

Period (2014- 2017)	Focus Area: Agricultural Productivity						
	Policy Objectives: Increased Access to extension services and re-orient agricultural education						
	Programmes	Sub-programme	Broad Projects/activity	Indicators			Remarks
				Baseline 2013	MTDP Target	Achievement	
	Food and Nutrition Security and Emergency Preparedness	Promotion of Agricultural Mechanization	Intensify the establishment of mechanization service provision centres with backup spare parts for all machinery and equipment.	63 AMSECS	130 AMSECS	213 AMSECS by 2016	Fully implemented
			Develop human capacity in agriculture machinery management, operation and maintenance within the public and private sectors	A number of mechanisation training centres exist	Rehabilitate two (2) mechanisation training centres to provide vocational training to interested individuals as tractor/machinery operators.	In collaboration with HRDMD and JICA, two (2) training centres (Wenchi and Adidome Farm Institutes have been re-equipped to train tractors and machinery operators. In 2016, 100 tractor/ machinery operators were trained	Fully implemented
	Policy Objectives: Accelerated Creation of Decent Jobs						
	Policy Objective: Agricultural Competitiveness and Integration into Domestic and international markets						
	Marketing of agricultural products	Improvement in post-production management	Strengthen the operations of the National Food and Buffer Stock Company.	Rice-6,026 mt Maize-4,863mt, supplied		NAFCO has been re-vitalized	Fully implemented
	Livestock and Poultry Development	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 Surgeon's Law			Cabinet approved document in September 2016, Document officially launched on 9 <sup>th</sup> November 2016 and circulated to the public Vet. Surgeon law: Final validation workshop held in October,2016 Ready to be submitted to parliament	Fully implemented
2017		Enact legislations to cover poultry hatcheries, livestock breeding and meat	Advocate for the passage and enforcement of meat inspection law& regulations on hatchery			Validation workshop on meat inspection regulations held on March 2017, based on	Not implemented - meat inspection regulations. Regulations on hatchery operations contained in



		inspection.	operations from the Diseases of Animal Act,1961			the Public Health Act, 2012	the Veterinary Services and Animal Production bill
	Institutional Coordination	Seed and planting material development	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.	AGRA rice	At least 3 improved varieties released by 2017	5 millet, 5 maize	Fully implemented
		Provide selective subsidies for the procurement of improved technologies for poor peasant farmers particularly women.	Total expenditure on selective subsidies	Gh C 86.17 million		Gh C 66.27 million	Fully implemented
2016		Seed and planting material development	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.	AGRA rice	At least 3 improved varieties released by 2017	5 cowpea varieties	Fully implemented
2017			Develop framework for synergy among projects and strengthen framework for coordinating activities among diverse stakeholders in the sector.			The framework for synergy has been initiated in the last quarter of 2017.	On-going
			Create Regional Agricultural Advisory Services (RAAS) to provide advice on productivity enhancing technologies	Nil	Created 10 RAAS by end of 2017		Fully implemented
			Facilitate the production of seeds and improved planting materials and train seed growers on quality seed production and inspectors on certification.	12%	70% of improved seed and planting material requirements produced by 2017.	20%	Fully implemented

			Rehabilitate the road network in cocoa-growing areas to facilitate the evacuation of the crop.			Several cocoa roads rehabilitated (figure form COCOBOD)	Fully implemented
<b>Policy Objectives:</b>							
	Nutrition Sensitive Agriculture	Nutrition sensitive agriculture	Promote the production and consumption of micro-nutrient rich foods by children and women of reproductive age especially in rural areas.			102,954 beneficiaries reached	Fully implemented
	Nutrition Sensitive Agriculture	Nutrition sensitive agriculture	Promote the production and consumption of micro-nutrient rich foods by children and women of reproductive age especially in rural areas.			116,536 beneficiaries reached	Fully implemented
		Develop through research bio fortified high nutrient crops and link to the school feeding programme.	Evaluate progenies identified through marker Assisted Selection with farmers and other end-users.			Extensive evaluations and demonstrations carried out and released for production by farmers.	Fully implemented

**Source: Authors Generation**

### 1.1.4 Total Releases from Government of Ghana to MoFA (2014 -2017)

22. The budget for MoFA were released under three categories – personnel emoluments, goods & services and assets (Table 1.6). Data available for the period indicates that about 68.8% of the approved budget was released annually. However, the average annual release for personnel emoluments was about 97.46% of the approved budget for that category. The releases for Goods and Services was about 46.1% of the approved budget for that category, whereas the average release for the capital expenditure/assets category was about 18.03% of the approved budget for that category. Thus, the annual releases were skewed from the capital expenditure towards goods and services and personnel emoluments.

**Table 1.6: Total Releases from Government of Ghana to MoFA (2014 -2017)**

Year	(GHC million)					
	Requested (A)	Approved (B)	Released (C)	Deviation (A-C)	Actual Expenditure (D)	Variance (C-D)
<b>PERSONNEL EMOLUMENTS (i.e. wages and salaries)</b>						
2014	35.00	35.00	45.36	(10.36)	45.35	0.01
2015	53.00	53.16	59.72	(6.56)	59.72	0.00
2016	57.04	57.04	52.64	4.40	52.64	0
2017	53.91	53.91	46.57	7.34	46.57	0
<b>CAPITAL EXPENDITURE/ASSETS</b>						
2014	224.00	223.59	27.06	196.94	27.44	-0.38
2015	412.81	322.11	19.80	393.01	40.03	-20.23
2016	378.81	378.81	73.21	305.61	107.77	-34.56
2017	328.75	250.88	91.83	236.92	10.24	81.59
<b>GOODS AND SERVICES</b>						
2014	48.30	48.30	58.47	(10.17)	58.47	0
2015	39.85	36.55	14.86	24.99	50.01	-35.15
2016	353.14	65.65	71.53	281.61	69.48	2.05
2017	893.09	454.86	134.266	758.82	159.84	-25.57
<b>TOTAL</b>						
2014	307.30	306.89	131.62	175.68	153.49	-21.87
2015	505.66	411.82	94.38	411.44	149.76	-55.38
2016	788.99	501.50	197.38	591.61	229.89	-32.51
2017	1,275.75	759.65	272.67	1,003.08	216.65	56.02

Source: MoFA Financial Reports (2014-2017)

### 1.1.5 Sources of Financial Resource

23. Sources of funding for the agricultural sector is categorized into four: the GoG, ABFA, IGF and Donor Funding. However, when the need arises, Government funds the sector from the Road Fund and Infrastructure Fund.

**Table 1.7: All Sources of Financial Resources for MoFA (GHC' million)**

Source	2014			2015			2016			2017		
	Planned	Actual Received	Variance	Planned	Actual Received	Variance	Planned	Actual Received	Variance	Planned	Actual Received	Variance
GoG	73.770	73.030	0.740	59.630	62.969	-3.339	59.776	56.982	2.794	246.378	214.537	31.841
ABFA	52.180	57.570	-5.390	204.000	29.999	174.001	262.318	138.132	124.186	138.214	91.681	46.533
IGF	2.180	0.990	1.190	1.806	1.820	-0.014	4.066	2.456	1.610	2.465	3.593	-1.128
Donor	178.770	160.070		146.385	168.102	-21.717	175.342	179.724	-4.382	372.589	71.059	301.530
Non-Road fund	N/A	N/A	N/A	N/A	55.023	N/A	N/A	N/A	N/A	N/A	4.781	N/A
Ghana Infrastructure fund	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34.172	N/A	N/A	N/A	N/A
Others		23.180		-	5.440	-	-	3.002	-	-	5.364	-
<b>TOTAL</b>	306.900	314.840	-3.46	411.821	323.353	148.931	501.502	414.468	124.208	759.646	391.015	378.776

*Source: MoFA Financial Reports, 2014 - 2017*

## 1.4 Summary of Key Development Issues

24. Agriculture in Ghana within the plan period was characterised by a number of developmental issues. Key among them include: (a) low agricultural productivity; (b) low agricultural competitiveness and integration into domestic and international markets; (c) high cost and poor construction of irrigation infrastructure; (d) low flow of financial resources to the agricultural sector; (e) weak implementation of sustainable land management policies and strategies at the community level; (f) inadequate diversification and competitiveness in staples and cash crops in the sector; (g) limited commercial farms and inadequate agricultural estates, predominated smallholder agriculture; (h) weak inter and intra institutional coordination and collaboration; (i) ineffective engagement of women and people with disabilities; (j) inadequate inclusion of gender and vulnerability issues in climate change actions; and (k) degradation of protected areas and rapid loss of biodiversity due to inappropriate agricultural practices.

## 1.5 Lessons learned from the implementation of METASIPs I & II

25. METASIPs I & II were designed as a means to address the medium-term investment needs in the non-cocoa subsectors. These provided the framework to meet the programme-based budgeting of Government. Even though METASIPs I & II had targets for the three subsectors (crops, livestock and fisheries), the crops sub-sector had a higher number of programmes and projects compared to the other two

sub-sectors.

26. In the design of the METASIPs, a mechanism was put in place to ensure coordination of the programme areas in order to expedite the results but this was not effectively implemented. The investment under the METASIPs I & II were largely executed as independent projects or treated as part of a range of projects. Even though the programme areas were designed as compliments, the interventions failed to meet the design requirements.

27. The METASIPs I & II were designed to stimulate Private Sector investment in the agricultural sector. However, after the implementation period, the expected response from the Private Sector was not realized. With the exception of grant schemes, stimulation and control of private sector investments were absent in the framework. Thus, it was incumbent on the Public Sector investment to sustain the results.

## **1.6 Analysis of Existing Situation**

28. Existing situation analysed in this section is centred on: (i) Profile of the Ministry; (ii) Institutional capacity of the Ministry to implement the plan; (iii) Employment levels in the sector; (iv) Biodiversity, Climate Change and Environment; (v) Gender equality; (vi) Food and Nutrition Security; and (vi) Poverty, Inequality and Social Protection.

### **1.1.6 Profile of Ministry of Food and Agriculture**

29. MoFA leads in policy formulation and M&E for the development of agriculture in Ghana while implementation is by the decentralized levels as stipulated by the decentralized law (Local Government Act 936, 2016). MoFA and the agricultural departments of the Regional Coordinating Councils (RCCs) and MMDAs operate at three administrative levels; national, regional and district.

#### ***1.1.6.1 National Level***

30. The national directorates and agencies of MoFA perform the following roles: formulation of agricultural policies; sector planning; development and management of sector programmes and projects; formulation of annual budgets based on planned programmes and projects; adaptation and dissemination of agricultural technologies and advisory services; and monitoring & evaluation of the agricultural sector performance, among others.

31. The Directorates of MoFA at the national level are categorized into line Directorates and Technical Directorates. In addition to these directorates, there are State-Owned Enterprises (SOEs), Sub-vented Organisations, and some Commissions and Councils which are also administered by MoFA and provide advice to Government on sector-wide issues affecting the development of agriculture.

32. The Line Directorates include Finance and Administration (F&A); 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 Crops 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 Directorate (DAES), and Women in Agricultural Development Directorate (WIAD).

33. The SOEs include; Grains and Legumes Development Board (GLDB), Ghana Veterinary Council (GVC), Ghana Cocoa Board (COCOBOD), Ghana Irrigation Development Authority (GIDA), Irrigation Company of Upper Region (ICOUR), Cotton Development Authority (CDA), and National Food and Buffer Stock Company (NAFCO).

#### ***1.1.6.2 Regional Level:***

34. Regional Agriculture Departments (RADs) are responsible for the co-ordination and monitoring of agricultural projects and programmes in their respective districts. The RADs are under the Regional Coordinating Council and are expected to maintain technical relationship with national office and the districts.

#### ***1.1.6.3 District Level:***

35. The District Agricultural Departments (DADs) are responsible for the following: (i). provision of agricultural services to stakeholders; (ii) determination of district agricultural priorities; and (iii) development and implementation of plans and projects. For efficient and effective service delivery, districts are demarcated into zones and operational areas. An operational area is manned by an Agricultural Extension Agent (AEA).

#### ***1.1.6.4 Channels of Communication at the Regional and District Levels***

36. The Regional Director of Agriculture (RDA) is answerable to the Regional Minister through the Regional Coordinating Director in the performance of his/her duties (LGS Act. 936, 2016). The RDA reports on technical matters to the Chief Director (CD) of MoFA. At the district level, the District Director of Agriculture reports directly to the District Chief Executive (DCE) through the District Coordinating Director (DCD) and collaborates technically with the RDA.

### **1.1.7 Institutional Capacity Needs**

#### ***1.1.7.1 Human Resource Capacity of MoFA***

37. The Ministry ensures that there is an effective and stable human resource development and performance management framework consistent with the overall human resource needs of the sector. Table 1.8 has the breakdown of staff by category.

#### ***Staff Strength***

38. As at 2017, the Ministry had a total staff strength of 1,675 at post representing 47.6% out of the required staff of 3,517 thus leaving a deficit of 1,842 unfilled positions. The total staff strength comprises 23% females. Out of the total staff strength, 21% are professionals, 7% sub-professional, 34% technical staff and 38% support staff. Table 1.8 also shows the staff strength of MoFA by Professional Categorization.

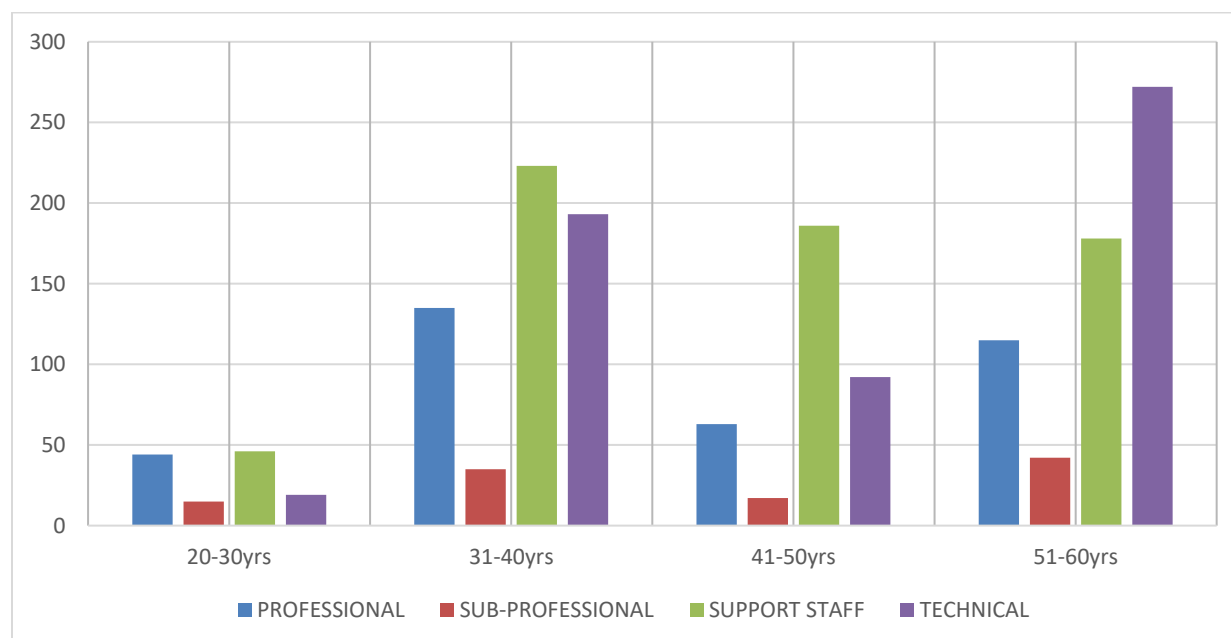
**Table 1.8: Staff Strength of MoFA (National Level) - 2017**

Staff Categorization	Age Distribution (Years)								Total
	20-30		31-40		41 - 50		51 - 60		
	Male	Female	Male	Female	Male	Female	Male	Female	
Professional Staff	37	7	99	36	46	17	83	32	357
Sub-Professional Staff	14	1	27	8	14	3	35	7	109
Support staff	34	12	166	57	147	39	140	38	633
Technical staff	16	3	141	52	71	21	216	56	576
Total	101	23	433	153	278	80	474	133	1,675

Source: HRDMD, 2017

39. Figure 1.2, depicts the age distribution of the staff. There are 603 staff (36%) who are between the 51-60 age group. This indicates an aging workforce. The Ministry has to take immediate steps to recruit young officers to augment the staff strength.

40. The Ministry as a lead agency for the agricultural sector has a clearance from Ministry of Finance (MoFA) to recruit 3,000 staff in 2018 for both MoFA (300) and the Local Government Service (2,700).



**Figure 1.2: Age Distribution of MoFA Staff by Professional Categorization**

Source: MoFA HRDMD

### ***Staff Development***

41. The Ministry provides opportunity for staff to upgrade their skills on periodic basis through both academic training programmes and short courses. Table 1.8 indicates that, a total of eighteen (18) staff participated in academic training programmes out of which 33.3% were females, whilst 348 staff participated in foreign and local training courses (including workshops, conferences and seminars) out of which 20% were females. This training arrangements is expected to continue to cover majority of staff on need basis annually. This will enhance staff capacity to plan, implement, monitor, evaluate and report effectively the plan.

### ***Institutional Capacity and Management***

42. Management Capacity Index- a group method of evaluating the capacity of an institution to implement successfully a programme/project/plan has been used. The assessment translates individual perceptions on an issue or indicator into a numerical value ranging from 1 to 10. An eleven-point indicator, Table 1.9, has been used for the assessment. An index is computed and interpreted indicating the capacity of the institution; an index of 1 to 4 indicates the institution is a low performing institution, 5 to 7 indicates an average performance and 8 to 10 shows the institution is a high performer. From the table, the ministry scored a grand average of 61.5 with an index of 5.6. The index of 5.6 means MoFA has an average capacity and management performance.

***Table 1.9: Capacity and Management Index***

<b>Indicators</b>	<b>Score = 1</b>	<b>Score = 5</b>	<b>Score = 10</b>	<b>Indicator Average</b>
<b>1. Qualifications of personnel</b>	Most staff do not have the required education	Some staff have the required education	All staff have the required education	8.5
<b>2. Staff Compliment</b>	There are numerous key positions that are unfilled	Most key positions are filled but there are still gaps	All positions in the established positions are filled	5.7
<b>3. M&amp;E Skills &amp; Knowledge</b>	Most staff do not have the requisite M&E skills and knowledge	Some staff have requisite M&E skills and knowledge	All staff have requisite M&E skills and knowledge	5.1
<b>4. Availability of Funds</b>	Funds available do not meet basic cost requirements	Funds available to meet basic costs, but will not allow the ministry to carry out all activities in the M&E plan	Funds available meet basic costs, as well as enable ministry to carry out all activities in the M&E plan	5.3
<b>5. Utilization of Funds</b>	Resources are spent at the discretion of management and not in pre-approved areas	Some resources are spent as approved but management continues to direct some funds inappropriately	Resources are spent as budgeted in accordance with the plan	5.8



<b>6. Timely Access to Funds</b>	Funds released 12 months behind schedule	Funds released 6 months behind schedule	Funds released on schedule	5.3
<b>7. Leadership</b>	Leadership is not able to address development needs due to low motivation, corruption, or lack of qualification	Leadership can complete short term tasks, but is not dynamic or able to envision the medium to long term development	Leadership is dynamic and motivates the staff and members to work together for long term development	5.8
<b>8. Management</b>	The full complement of management is not available, and what is present does not have the skills to direct DPCU activities	Partial complement of management but not able to handle all functions e.g. planning, budgeting, financial reporting, M&E, etc.	There is a full complement of management and technically skilled to handle all functions	6.8
<b>9. Workload</b>	Workload is so high that staff must work overtime to complete even basic administrative tasks	Workload forces staff to work overtime to complete planning and M&E functions	Staff can complete all jobs within regular working hours	6.8
<b>10. Motivation/ Incentives</b>	Basic central government Motivation/Incentives exist but are not accessible	Some central government motivation/incentives are accessible (training, maternity leave, overtime payment, etc)	Central government motivation/incentives are easy to access and development partners' incentives also exist	4.4
<b>11. Equipment/ Facilities</b>	Office space, furniture, and other facilities are woefully inadequate	Office space is adequate, but furniture and other facilities are lacking for some staff	All staff have access to appropriate office space, furniture and other facilities	3.8
<b>Average Score</b>				61.5

### 1.1.8 Biodiversity, Climate Change and Environment

43. Biodiversity is under serious threat as a result of human activities in Ghana. The main dangers are population growth and resource consumption, climate change and global warming, habitat conversion and urbanization, invasive alien species, over- exploitation of natural resources and environmental degradation.

44. Agriculture is predominantly rain-fed in Ghana where the climate is dominated by the intertropical convergence zone and the hot, dry Harmattan winds blowing from the Sahara. Climate change scenarios show that mean temperatures in the Savannah Zones, predominantly in the north, can be expected to increase by approximately 2°C by 2050. Rainfall is not anticipated to change much (projected decreases of 11.5%) but dry season rainfall is expected to increase by 16-20% following a cyclic pattern, with high rainfall periods being followed by droughts more or less each decade.

45. The most prominent climate related hazards affecting the agricultural sector include: (i) water stress for crops with increasing dry spells, (ii) degradation and erosion of arable land (with

compound effects across wider landscapes); and (iii) intermittent floods and the resulting damage to critical infrastructure. GoG approved a Climate Change Policy in November 2012, including sector based strategies, which include agriculture and food security as one of the five policy themes and strategic focus areas with particular emphasis on developing climate resilient agriculture and food systems. Another focus area is disaster preparedness and responses which prioritizes the building of climate resilient infrastructure and increasing the resilience of vulnerable communities to climate related risk.

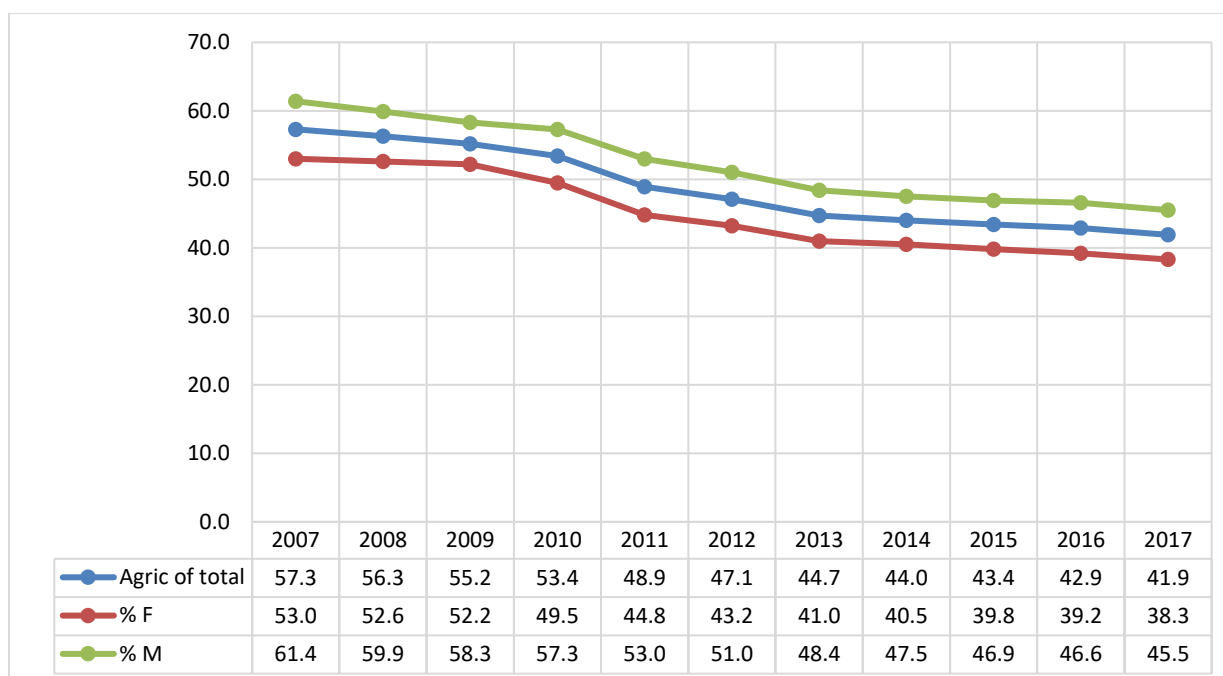
46. To mitigate the effects of climate change, Government will: (i) increase the availability and efficient use of water in smallholder crop and livestock systems to counter growing trends of water stress; (ii) mainstream on commercial basis proven technologies such as conservation agriculture, irrigation and integrated soil fertility management; (iii) additional interventions emphasizing climate data collection and management through cross-cutting institutional capacity building activities.

47. The need for mainstreaming climate variability and change into agriculture development planning is recognised as a necessity to ensure sustainability of achievements in Ghana's national climate change policy. Deepening the understanding of farmers regarding current climatic trends and also improving their skills to cope effectively is essential. Support to water conservation and irrigation systems with the aim of ensuring availability of water for multiple uses whilst reducing flood related disaster risk in rural communities; and promoting climate resilient.

### **1.1.9 Agricultural Employment**

48. Employment in agriculture (% of total employment) (modelled ILO estimate) in Ghana was 41.90 as of 2017. Its highest value over the past 26 years was 63.30 in 1991, while its lowest value was 41.90 in 2017. Employment in agriculture, female (% of female employment) was 38.30 as of same year. Its highest value over the past 26 years was 59.30 in 1991, while its lowest value was 38.30 in 2017. Employment in agriculture, male (% of male employment) (modelled ILO estimate), on the other hand, in Ghana was 45.5%. Its highest value over the past 26 years was 67.0%, while its lowest value was 45.50 in 2017, Figure 1.3.

49. Employment is defined as persons of working age who were engaged in any activity to produce goods or provide services for pay or profit, whether at work during the reference period or not at work due to temporary absence from a job, or to working-time arrangement. The agriculture sector consists of activities in agriculture, hunting, forestry and fishing, in accordance with division 1 (ISIC 2) or categories A-B (ISIC 3) or category A (ISIC 4), (International Labour Organization, ILOSTAT database. Data retrieved in November 2017).



**Figure 1.3: Percent of Employed Males and Female in Agriculture**

**Source: International Labour Organization, ILOSTAT database, 2017**

### 1.1.10 Gender Equality

50. Gender is an important dimension of poverty in Ghana where over 51% of the population are women with a gender inequality index value of 0.59 as at 2011. Discussions on job creation options in agriculture for the youth thus need a gender-sensitive approach so no one is marginalised and the expected impact is realised.

51. In the agricultural sector of many developing countries including Ghana, women represent the main driving force and spend considerable amount of time planting, weeding, ridging, and harvesting, while simultaneously doing their regular chores. However, women are often found to be less productive than their male counterparts in the agricultural sector. Indeed, empirical evidence suggests that women's deficits in agricultural productivity range from 4 to 50% across the world, but lie between 20 and 30% in the Sub-Saharan Africa region (FAO, 2011; Kilic et al, 2013). The discriminating factors generally encompass land constraints (small land size, unequal land tenure systems and property rights), low application of modern inputs (such as chemical fertilizer, improved seeds, and pesticides), and limited access to advisory service.

52. Ghana, over the years, recognizes that the fight against gender bias in agriculture is crucial to sustaining economic growth and ensuring food security. This is particularly germane in Ghana where the vast majority of the populations earn their incomes from agriculture-based activities. If the country could harness the full potential of their agricultural sector, then the impacts at household and national levels would be substantial.

53. To address the identified gender gap, 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 in the delivery of its services. This allows the Ministry to target and support less privileged women, youth and physically challenged farmers.

#### **1.1.11 Poverty, Inequality and Social Protection**

54. Ghana has done relatively well by meeting the UN Millennium Development Goal (MDG) 1 by reducing poverty by over 50%. According to the Ghana Living Standards Survey 6 (GLSS 6), poverty in Ghana declined from 51.7% in 1992 to 31.9% in 2006 and to 24.2% in 2013. Extreme poverty also declined from 16.5% in 2006 to 8.4% 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.

55. A Gini decomposition procedure was applied to the fifth and sixth rounds of the Ghana Living Standards Surveys. The results suggest that, in general, income inequality has increased marginally over the years (Gini coefficient of 0.66 in 2013 and 0.62 in 2006). Inequality was however higher in urban areas than in rural areas in 2013 with a reverse situation observed in 2006. The income component analysis suggest that wage employment income dominated household income in both rural and urban areas, even though the magnitude was higher in urban areas. Farm income was only dominant in rural communities in 2006. Self-employment and remittance income had consistent equalizing effects on total household income distribution. The findings suggest that directing poverty reduction strategies towards specific income components will be crucial for effective pro-poor income distribution, (Jacob Novignon and Genevieve Aryeetey, 2015). According to the World Bank, in 2017, the poverty gap at the rural poverty line is 13.1%. Poverty headcount ratio at rural poverty line (% of rural population), is 37.9%.

#### **1.1.12 Food and Nutrition Security**

56. The malnutrition situations have worsened in recent years among most developing countries in sub-Saharan Africa, South-Eastern Asia and Western Asia (FAO, 2017). In Ghana, 19% of children under five are stunted, 5% wasted and 11% underweight (GDHS, 2014)<sup>1</sup> - an improvement in the all three nutritional status indices in the last decade. Successive governments have addressed these challenges with key interventions. Notable among the past interventions is the release and promotion of Orange Fleshed Sweet Potato (OFSP) varieties to address vitamin A deficiency. Programmes and projects such as the West Africa Agricultural Productivity Programme (WAAPP), World Food Programme (WFP), Resilience in Northern Ghana (RING)

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<sup>1</sup> The Ghana Demographic Health Survey (GDHS) is conducted in every four years.

and Jump Start OFSP Initiative in parts of Volta, Northern and Greater Accra regions have promoted awareness on malnutrition over the past years.

57. Further efforts toward food security improvement include investment in food security and emergency preparedness programme which 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.

58. It is worth mentioning that Ghana is food self-sufficient in all the major staple crops except rice and millet as indicated in Table 1.10. The deficits in rice and millet production levels can be attributed to high national demand compared to quantity produced. From 2014 to 2017, staple crops such as roots and tubers (cassava, yam, and cocoyam) recorded sustained growth in production levels resulting in surpluses. This was stimulated by the high adoption of improved root and tuber varieties and related technologies introduced by interventions such as WAAPP and Cassava Adding Value for Africa (CAVA) and RTIMP. The net food surplus for cereals (especially maize) increased significantly (227%) over 2016 estimates. Soybean, cowpea and groundnut also recorded surpluses in 2017. Milled rice has been recording deficits over the years. The marginal increase in rice (milled) deficit over the previous year could largely be attributed to high demand for rice.

59. The impressive surpluses recorded for maize and soybean could largely be attributed to the 'Planting for Food and Jobs' campaign, as these two crops were specifically targeted by this government campaign.

**Table 1.10: Deficit/Surplus of Selected Staple Crops (MT)**

Crops	Deficit/Surplus (MT)							% CHANGE
	2011	2012	2013	2014	2015	2016	2017	
Maize	90,359	230,070	45,784	21,069	-61,007	-68,537	87,012	3.0
Rice (Milled)	-354,205	-540,280	-503,875	-497,515	-608,602	-577,977	-580,300	3.1
Millet	35,762	26,775	2,814	-88	-5,904	-3,197	-1,508	-9.5
Sorghum	125,497	114,035	91,210	90,115	85,692	58,214	96,677	8.8
Cassava	6,169,042	6,221,456	7,151,811	7,431,688	7,681,605	8,130,414	8,969,099	2.1
Yam	1,930,112	2,072,344	2,355,910	2,314,737	2,266,545	2,413,745	2,982,777	-3.9
Cocoyam	240,663	170,353	141,199	152,304	93,602	144,209	159,663	4.0
Plantain	969,579	825,877	882,737	924,762	937,416	999,816	1,181,490	5.4
Groundnuts	133,121	116,630	50,773	59,137	32,723	43,543	46,516	5.4
Cowpea	79,115	60,215	38,194	35,759	30,004	33,879	34,966	-2.8
Soya bean	90,134	77,133	65,012	66,163	63,880	65,117	87,004	1.8

Source: SRID, 2017

## 1.7 Summary of Issues under the GSGDA II

60. The activities of the agricultural sector fall under the third thematic area of GSGDA-accelerated agricultural modernization and sustainable national resource management. Key performance issues identified include; inadequate post-production infrastructure; limited funding of food and agricultural research and extension services; low use of improved technologies in crops, livestock and fisheries; low use and high cost of improved inputs; low access to mechanization services along the value chain and low use of intermediate technologies (e.g. animal traction); and inadequate disaggregated data /statistics on the sector. Details are enumerated in Table 1.11.

*Table 1.11: Summary of Issues of GSGDA II*

<b>Thematic areas of GSGDA II</b>	<b>Identified issues (from performance review and profile)</b>
Ensuring and Sustaining Macro-Economic Stability	Inability of the sector to effectively facilitate sustainable food security, export and stable prices of foodstuffs.
Enhancing Competitiveness of Ghana's Private Sector	<ol style="list-style-type: none"> <li>1. Lack of conducive enabling agricultural environment for private sector activities e.g. infrastructure.</li> <li>2. Poor quality of agricultural produce.</li> <li>3. Low value addition.</li> </ol>
Accelerated Agricultural Modernisation and Sustainable Natural Resource Management	<p><b>Comp 1: Agriculture Productivity</b></p> <ol style="list-style-type: none"> <li>1. Inadequate post-production infrastructure. *</li> <li>2. Limited funding of food and agricultural research and extension services. *</li> <li>3. Low use of improved technologies in crops, livestock and fisheries. *</li> <li>4. Low use and high cost of improved inputs. *</li> <li>5. Low access to mechanization services along the value chain and low use of intermediate technologies (e.g. animal traction).*</li> <li>6. Inadequate disaggregated data /statistics on the sector.*</li> </ol> <p><b>Comp 2: Accelerated creation of decent jobs</b></p> <ol style="list-style-type: none"> <li>1. Limited numbers of commercially-oriented farms that can create high value jobs.*</li> <li>2. High risks in agriculture.*</li> </ol> <p><b>Comp 3: Agricultural competitiveness and integration into domestic and international markets</b></p> <ol style="list-style-type: none"> <li>1. Low standardization, grading and product differentiation in domestic and international markets.*</li> <li>2. Agricultural production not driven by market demands.*</li> <li>3. High post-harvest losses along the value chain.*</li> <li>4. Low integration of commodity markets.*</li> <li>5. Inadequate agricultural commodity volumes with the required specifications and quality to supply the international markets.*</li> <li>6. High consumer preference for imported commodities that have local substitutes.*</li> </ol> <p><b>Comp 4: Production risks and bottlenecks in agricultural industry</b></p> <ol style="list-style-type: none"> <li>1. Poor rural infrastructure (poor road network, limited rural industries, inadequate energy and access to potable water etc.).*</li> <li>2. Limited value chain development and mainstreaming.*</li> <li>3. High cost of production and inadequate access to appropriate financial products.*</li> </ol>

	<p>4. Over-dependence on rainfall and inadequate measures to mitigate climate change effects.*</p> <p>5. High levels of environmental degradation.*</p> <p><b>Comp 5: Irrigation Development</b></p> <p>1. Climate variability, unpredictability and over-dependence on rain-fed 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><b>Comp 6: Agricultural Financing</b></p> <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>5. Inadequate access to appropriate financial products.*</p> <p><b>Comp 7: Sustainable environment, land and water management</b></p> <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><b>Comp 8: Crop development for food and nutrition security, exports and industry</b></p> <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 and cotton.*</p> <p>3. High deficiency levels of vitamin A, iron and iodine in many foods consumed.*</p> <p><b>Comp 9: Development of Agricultural Estates</b></p> <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><b>Comp 10: Livestock and poultry development</b></p> <p>1. Low productivity of animal breeds.*</p> <p>2. High cost of feed and poor management practices.*</p> <p>3. Limited market linkages for livestock and poultry products.*</p> <p><b>Comp 11: Fisheries and aquaculture development for food security and income generation</b></p> <p>1. Limited availability of improved fish seed and feed.*</p> <p>2. Weak institutional framework for collaboration for extension, training and research delivery.*</p> <p>3. Insufficient monitoring and control to ensure compliance with laws and regulations on fisheries.*</p>
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	<p>4. Low production of culture fish to meet increasing demand.*</p> <p><b>Comp 12: Improved institutional collaboration for agricultural development</b></p> <p>1. Inadequate capacity for planning, execution, policy analysis and M&amp;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>5. Weak sustainability of interventions.*</p>
Oil and Gas Development	Under-development of the petro-chemical industry to take advantage of the production of agro-inputs such as fertilizers.
Infrastructure and Human Settlements	<p>1. Use of urban and peri-urban fertile lands for real estate.</p> <p>2. Poor rural infrastructure.</p>
Human Development, Productivity and Employment	<p>1. Inappropriate curricula of agricultural training institutions to address challenges in the agricultural sector.</p> <p>2. Trained agriculturists do not go into farming.</p> <p>3. Lack of enabling framework for Agricultural Technical and Vocational Education and Training.</p>
Transparent, Responsive and Accountable Governance	Slow integration of District Department of Agriculture into the District Assemblies.



## CHAPTER TWO

### 2 Development Issues for the Medium Term

61. The Government of Ghana has made significant effort in developing the agricultural sector. However, the sector is still faced with many development issues and challenges that need to be addressed to ensure the modernization goal being pursued is achieved. This chapter outlines these development issues and challenges and prioritizes those that need to be addressed immediately. The chapter also links the development issues to the relevant development dimensions of the Medium-Term National Development Policy Framework (MTNDPF) 2018 – 2021. The development issues are classified into; (i) institutional; (ii) technical; and (iii) support services.

#### 2.1 Development Issues and Challenges

##### Institutional

62. **One of the key development issue for the medium term that requires immediate and concerted effort is the low level of public sector investment in the sector.** Public sector spending in the agricultural sector is among the lowest in Africa (FAO, 2016). Agriculture expenditure over 15 years (2001 – 2014) including cocoa is below 5% of the total national spending, of which about two-thirds was spent on operational expenses. Non-recurrent spending in the sector is predominantly donor driven with Development Partners contributing about 70% (World Bank, 2015). Thus the need for the Government of Ghana to increase allocation to the sector to leverage investment from both Development Partners and Private Sector to drive production and job creation.

63. **Low institutional capacity of the public sector at all the three levels of government – national, regional and district levels to deliver the enabling environment for the growth of the sector.** The Ministries Departments and Agencies (MDAs) in the agricultural sector have inadequate resources to deliver their mandate. The inadequate resources coupled with weak coordination among the MDAs and the challenges with the implementation of the decentralization policy is impairing the public sector in its effort to modernize the sector.

##### Technical

64. **The agriculture sector over the years is characterized by a myriad of challenges that require well-coordinated and scalable Public Sector interventions to modernize the sector.** The challenges include but not limited to; (i) poor marketing systems, (ii) inadequate access to land and security of tenure for agriculture production, (iii) low transfer and uptake of research finding, (iv) low application of science and technology especially among smallholder farmers, (v) low quality of genetic material for crop, (vi) livestock and fish species, poor agronomic practices, (vii) poor husbandry practices and handling of livestock/ poultry products, (viii) inadequate quality feed and water standards for livestock and poultry, (ix) lack of modern housing for livestock and poultry production, (x) inadequate disease monitoring and surveillance system, (xi) inadequate access to appropriate mechanization services, (xii) lack of appropriate water management systems for agricultural production and, (xiii) poor construction and management of irrigation infrastructure.

## **Support Services**

65. **In addition to these systemic challenges the essential services to support proper functioning of the sector are inadequate.** The prime development issues with these essential services include: limited insurance for farming activities; inadequate start-up capital for the youth; lack of credit for agriculture; absence of risk mitigation measures for agricultural lending and innovative financing mechanism; limited and uncoordinated funding for research and technology development for the sector.

66. **The convulsion of these strands of development issues is stifling the agriculture modernization and its catalytic role of transforming the economy.** This has bestowed the sector with: high average production cost; low productivity in all sub-sectors; inadequate development of and investment in processing and value addition for agricultural produce; high cost of conventional storage solutions for smallholder farmers; high seasonal variability in food supply and prices; inadequate agribusiness enterprises along agricultural commodity value chains; ageing farmer population and lack of youth interest in agriculture.

### **2.2. Prioritisation of Development Issues Linked to Development Dimensions of the Agenda for Jobs, 2018 - 2021**

67. Table 2.1 below outlines the prioritised development issues categorised under the development dimensions of the Agenda for Jobs, 2018-2021. This prioritization was done using the Potential Opportunity Constraints and Challenges (POCC) analysis.

***Table 2.1: Prioritized Development issues as categorized under Development Dimensions***

DEVELOPMENT DIMENSION	FOCUS AREAS OF MTDP 2018-2021	ADOPTED SUSTAINABLE PRIORITISED ISSUES
Economic Development	<b>Agriculture and Rural Development:</b>	<ol style="list-style-type: none"><li>1. poor marketing systems;*</li><li>2. high cost of production; *</li><li>3. seasonal variability in food supply and prices;*</li><li>4. high dependence on seasonal and erratic rainfall;</li><li>5. encroachment on designated irrigation sites;</li><li>6. high cost of energy for irrigation;</li><li>7. poor storage and transportation systems; *</li><li>8. poor farm-level practices;*</li><li>9. high cost of conventional storage solutions for smallholder farmers;*</li><li>10. low quality and inadequate agriculture infrastructure;*</li><li>11. inadequacy of farmer insurance; *</li><li>12. inadequate agribusiness enterprise along the value chain;</li><li>13. low levels of mechanisation;*</li><li>14. low application of technology, especially among smallholder farmers, leading to comparatively low yields; *</li><li>15. low transfer and uptake of research findings by stakeholders</li><li>16. under-funding of Research Extension Liaison Committees (RELCs);*</li><li>17. ageing farmer population and declining youth interest in agriculture;</li><li>18. inadequate start-up capital for the youth;</li></ol>

		19. lack of long term credit for agriculture;* 20. inadequate access to land for agriculture; 22. untimely release of planting materials and certified seeds; 23. inadequate private investment in agribusiness ventures;* 24. inadequate dissemination of information on business opportunities along the agriculture value chain; 25. Weak regulatory regime to enforce standards.* 26. low-quality genetic material of livestock species; * 27. low level of husbandry practices;* 28. low productivity and poor handling of livestock;* 29. inadequate feed and water quality standards for livestock/poultry; and 30. Inadequate disease monitoring and surveillance system.*
Social Development	<b>Education and Training</b>	1. Poor quality of education at all levels 2. Negative perception of TVET
	<b>Food and Nutrition Security</b>	1. Prevalence of hunger in certain areas* 2. Household food insecurity* 3. Prevalence of micro and macro-nutritional deficiencies 4. Inadequate efforts in managing food maintenance systems 5. Weak nutrition sensitive food production systems* 6. Infant and adult malnutrition 7. Increased incidence of diet related diseases 8. Weak FNS institutional framework and coordination* 9. Poorly coordinated M&E for FNS across sectors 10. Inadequate FNS research, data and information systems 11. Inadequate social mobilisation, advocacy and communication on nutrition 12. Inadequate nutrition education 13. Inadequate staff training on FNS at all levels 14. Weak nutrition sensitive planning and programming 15. Weak food control System*
	<b>Population Management</b>	1. High Youth Unemployment * 2. Increasing trend of irregular and precarious migration

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

## CHAPTER THREE

### 3 Development Policy Objectives and Strategies

68. Overview of the sector policy and national overarching policies: In the medium-term, government's overall goal is to "build a prosperous society" as enshrined in the National Medium Term Development Plan (NMTDP), "Agenda for Jobs: Creating Prosperity and Opportunity for All (2018-2021). This goal entails: optimising the key sources of economic growth; building a strong and resilient economy capable of withstanding internal and external shocks; establishing a competitive and enabling business environment; transforming agriculture and industry; and developing a robust tourism and creative arts industry.

69. In order to achieve this goal, the government has strategized around five (5) Development Dimensions namely; (i) Economic Development; (ii) Social Development; (iii) Environment, Infrastructure and Rural Development; (iv) Governance Corruption and Public Accountability; and (v) Ghana's Role in International Affairs. The development of this plan (GhAIP) was informed by the NMTDP; and four out of the five development dimensions under the "Agenda for Jobs" impinge on the issues that this GhAIP addresses. The agricultural sector will play a key role by mainly contributing to the first four development dimensions, however, the sector is expected to contribute significantly to the achievement of the fifth as well.

#### 3.1 Policy Objectives and Strategies

70. The Government of Ghana under the Agenda for Jobs outlines the vision and approaches in addressing the socio-economic challenges through specific set of policies, strategies and programmes. The policies and programmes seek to remove the bottlenecks stifling the growth of the private sector and provide the enabling environment for growth, job creation and prosperity for all. The thrust of the Government of Ghana's medium-term development programmes is to stabilize the economy characterized by strong, diversified and resilient growth through the effective and efficient implementation of flagship programmes and projects such as; Planting for Food and Jobs (PFJ), One District One Factory (1D1F), One District One Warehouse (1D1W) and, One Village One Dam (1V1D) etc.

71. The Government is committed to transforming the agricultural sector with the aim to modernize the sector to catalyze industrial transformation of the rural economy resulting in national economic development. The GhAIP was developed based on the identified development issues and the seven agricultural sector policy objectives as listed below:

- i. **Promote a demand driven approach to agricultural development:** This will be done with a focus on adequate quantity, quality and timely delivery of agricultural produce. The capacity of value chain actors in negotiation and contracting will be built to enhance trade. The actions of actors will be guided by setting grades, standards and regulations within the market space.
- ii. **Ensure improved public investment:** Through enhanced inter-ministerial coordination, prioritize public investment in agriculture infrastructure such as development of feeder roads, market infrastructure, efficient transportation systems, industry grade power and

irrigation. At the decentralized level, the DCACT will be introduced to promote industry development through agriculture.

- iii. Improve production efficiency and yield:** The government will ensure effective implementation of yield improvement programme through: (a) establishment of modalities and regulation framework for production of seed/planting materials and other agro-inputs; (b) increase investment in research and development; (c) provide appropriate irrigation infrastructure; (d) intensify agricultural mechanisation; (e) reinvigorate agricultural extension services; and (f) promote commercial and block farming.
- iv. Improve post-harvest management:** Post-harvest activities such as storage, transportation, processing, packaging and distribution for selected food commodities, especially staples will be supported for the reduction of losses. Incentives to the private sector and district assemblies to invest in post-harvest activities will be made with a view to support sustained raw material supply to markets, small and medium scale agro-enterprises. This will feed into the one-district-one-factory of government. National Food Buffer Stock Agency will be re-organized to be more efficient and market oriented to give incentives for private sector participation. At the decentralized levels, the government will provide storage infrastructure, with drying system and a warehouse receipt system.
- v. Enhance the application of science, technology and innovation:** Operational cost along the agricultural value chain will be minimized through the application of ICT. This will include setting up a database on all farmers, drawn from the national identification system; promotion of an electronic payments system; technology transfer and input delivery; and dissemination of information on weather and prices.
- vi. Promote agriculture as a viable business among the youth:** Agribusiness will be promoted among the youth through extensive sensitisation, education and re-orientation. The youth will be encouraged and supported to go into agricultural enterprises along the value chain by: (a) linking the youth to financial institutions for start-up capital; (b) capacity building in agricultural operations; and (c) access to land.
- vii. Promote livestock and poultry development for food and nutrition security and income generation:** Livestock and poultry development will be pursued through the development of improved breeds, livestock housing, feed development, appropriate and cost effective feed development including the development of paddocks. Animal health will be ensured through the deployment of efficient veterinary health care across the country to combat especially zoonotic and epidemic diseases.

72. To achieve these policy objectives, the plan will employ instrument based approach to stimulate the needed investments to comprehensively address the development issues impairing the sector.

73. A primary strategy is to promote enterprise-base agriculture and inclusive value chains through the implementation of PFJ as the main driver of the 1D1F initiative. These will promote demand-driven agricultural development, focusing on improving productivity through the application of knowledge, information and technology to enhance the quantity, quality and timely delivery of agricultural produce for value addition. Another strategy is to engender a viable and

competitive private sector by developing a business-friendly mind-set among the public sector agencies with the aim of fostering an enabling environment such that rural and agri-food system-investments can respond to market demands and supply bottlenecks. Government will ensure the provision of: (i) critical public infrastructure; (ii) tailor-made agricultural financing; (iii) need-based technical assistance or extension support system; and (iv) tax relief and incentives. The key features of the transformed agricultural sector of Ghana are:

- i. Organized agricultural landscape;
- ii. Secured land tenure system;
- iii. Availability of effective de-risking measures;
- iv. Upgraded value chain organization;
- v. Increased agro-processing;
- vi. Upgraded food distribution systems;
- vii. Defined routes to markets;
- viii. Enterprise based agriculture;
- ix. Efficient small holder farmer organizations;
- x. Drudgery taken out of primary production; and
- xi. Generation of decent employment for the youth.

74. The specific strategies for the policy objectives of the Agenda for Jobs (2018 – 2021) are presented in table xxx below indicated below:

**Table 2.2: Specific Strategies for the Identified Development Issues and Policy Objectives**

Issues	Policy Objectives	Strategies
<input type="checkbox"/> Poor marketing systems  <input type="checkbox"/> High cost of production Inputs	4.1 Promote a Demand driven approach to agricultural development	4.1.1 Facilitate capacity building in negotiations, standards, regulations and skills development in contracting for actors along the value chain (SDG Targets 4.4, 17.9);  4.1.2 Ensure implementation of the Ghana Commercial Agriculture Project (GCAP) to link both smallholder and commercial producers to industry (SDG Targets 2.3, 2.c)  4.1.3 Develop market support services for selected horticulture, food and industrial crops to enhance production for export (SDG Target 2.3)  4.1.4 Facilitate and support the establishment of stakeholder-controlled marketing companies for grains and selected products, including a Cashew Marketing Authority (SDG Target 9.3)  4.1.5 Promote and expand organic farming to enable producers to access growing world demand for organic products (SDG Targets 2.3, 12.2)
<input type="checkbox"/> Inadequate development of and investment in processing and value addition	4.2 Ensure improved Public Investment	4.2.1 Accelerate the provision of critical public infrastructure such as feeder roads, electricity and water (SDG Targets 2.a, 9.1)  4.2.2 Develop tailor-made agricultural financing, especially long-term instruments (SDG Targets 2.3, 2.a, 9.3, 17.3)  4.2.3 Design and implement needs-based technical assistance and extension support (SDG Target 2.a)  4.2.4 Institute tax relief and incentives for agriculture investment (SDG Targets 1.4, 2.a, 9.3)  4.2.5 Restructure MOFA to have a marketing department to work with MOTI to support the demand-driven agenda (SDG Target 16.6)  4.2.6 Introduce District Chambers of Agriculture, Commerce and Technology (DCACT) with the mandate to promote agribusiness through an enhanced interface between the private and public sectors at district level (SDG Target 16.6)

Issues	Policy Objectives	Strategies
		<p>4.2.7 Support the development of at least two exportable agricultural commodities in each district (SDG Targets 1.1, 1.2, 17.11)</p> <p>4.2.8 Create District Agriculture Advisory Services (DAAS) to provide advice on productivity enhancing technologies (SDG Targets 2.3, 2.a, 16.6)</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Low application of technology especially among smallholder farmers leading to comparatively lower yields</li> <li><input type="checkbox"/> Low level of irrigated agriculture</li> <li><input type="checkbox"/> Seasonal variability in food supply and prices</li> <li><input type="checkbox"/> Erratic rainfall patterns</li> <li><input type="checkbox"/> Encroachment of designated irrigation sites</li> <li><input type="checkbox"/> Ineffective gender and disability engagement in irrigation</li> <li><input type="checkbox"/> High cost of energy for irrigation</li> </ul>	4.3 Improve production efficiency and yield	<p>4.3.1 Establish modalities and regulatory frameworks for production of seed/planting materials, and other agro inputs, (SDG Targets 2.5, 2.a)</p> <p>4.3.2 Increase investment in research and development of climate resilient, high yielding disease and pest resistant, short duration crop varieties, taking into account consumer health and safety (SDG Targets 2.1, 2.a, 2.4)</p> <p>4.3.3 Reinvigorate extension services (SDG Target 2.a)</p> <p>4.3.4 Ensure effective implementation of the yield improvement programme (SDG Targets 2.1, 2.4)</p> <p>4.3.5 Intensify and increase access to mechanisation along the agriculture value chain (SDG Targets 2.3)</p> <p>4.3.6 Promote commercial and block farming (SDG Targets 2.3, 2.4)</p> <p>4.3.7 Implement the Government flagship intervention of “One Village, One dam” to facilitate the provision of community-owned and managed small scale irrigation, especially in the Afram Plains and northern savannah (SDG Targets 1.1, 1.4, 1.5, 2.3, 2.4)</p> <p>4.3.8 Mobilise investment to expand and rehabilitate irrigation infrastructure including formal schemes, dams and dugouts (SDG Targets 1.1, 1.4, 1.5, 1.a, 2.a, 17.3)</p> <p>4.3.9 Support the development of both public and private sector large-scale irrigation schemes (SDG Targets 2.4, 17.17)</p> <p>4.3.10 Develop systems to harvest excess water for irrigation (SDG Targets 2.4 and 12.2)</p> <p>4.3.11 Develop and promote appropriate and affordable and modern irrigation technologies for all agro-ecological zones (SDG Targets 2.4, 12.2)</p> <p>4.3.12 Promote the use of solar and wind energy for irrigation (SDG Target 7.2)</p> <p>4.3.13 Advocate for differential energy pricing for irrigation schemes (SDG Targets 2.3, 2.a)</p> <p>4.3.14 Secure land title for designated irrigation sites (SDG Target 16.6)</p> <p>4.3.15 Mainstream gender and disability issues in irrigated agriculture (SDG Targets 1.4, 5.1, 10.2, 10.3)</p> <p>4.3.16 Develop policies and legal regime, and appropriate tenure arrangements for irrigation facilities (SDG Target 16.6)</p> <p>4.3.17 Develop the capacity of farmers to use meteorological information (SDG Target 12.8)</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Poor storage and transportation systems</li> <li><input type="checkbox"/> Poor farm-level practices,</li> <li><input type="checkbox"/> High cost of conventional storage solutions for smallholder farmers</li> <li><input type="checkbox"/> Low quality and inadequate agriculture infrastructure</li> </ul>	4.4 Improve Post-Harvest Management	<p>4.4.1 Support selected products beyond the farm gate in post-harvest activities, including storage, transportation, processing, packaging and distribution (SDG Target 12.3)</p> <p>4.4.2 Provide incentives to the private sector and District Assemblies to invest in post-harvest activities (SDG Target 17.17)</p> <p>4.4.3 Provide support for small- and medium-scale agro-processing enterprises through the One District, One Factory initiative (SDG Targets 1.2, 1.4, 2.3, 2.4, 2.a, 2.c, 8.3, 9.3, 9.4)</p> <p>4.4.4 Ensure continuous expansion and upgrading of road infrastructure connecting farms to marketing centres (SDG Targets 1.4, 2.3, 2.c)</p> <p>4.4.5 Re-organise the National Food Buffer Stock Agency to be more efficient and market oriented to give incentives for private sector participation (SDG Targets 16.6, 17.17)</p> <p>4.4.6 Facilitate the provision of storage infrastructure with drying systems at district level, and a warehouse receipt system (SDG Targets 2.3, 12.1, 12.3, 12.a)</p>

Issues	Policy Objectives	Strategies
		<p>4.4.7 Facilitate trade and improve the environment for commercial activities (SDG Targets 2.b, 17.10, 17.12)</p> <p>4.4.8 Implement commodities trading centres ( i.e. modern farmers’ markets) across all MMDAs focusing on grain, vegetable and tuber marketing (SDG Target 2.c)</p>
<p>Lack of database on farmers</p> <p><input type="checkbox"/> Limited insurance for farming activities</p> <p><input type="checkbox"/> Inadequate agribusiness enterprise along the value chain</p> <p><input type="checkbox"/> Low transfer and uptake of research finding</p> <p><input type="checkbox"/> Limited application of science and technology</p>	<p>4.5 Enhance the application of science, technology and innovation</p>	<p>4.5.1 Promote the application of information and communications technology (ICT) in the agricultural value chain in order to minimise cost in all operations (SDG Targets 2.4, 2.c, 5.b, 9.c, 17.8)</p> <p>4.5.2 Improve the effectiveness of Research-Extension-Farmer Liaison Committees (RELCs) and integrate the concept in the agriculture research system to increase participation of end users in technology development (SDG Target 2.a)</p> <p>4.5.3 Establish a database on all farmers, drawn from the national identification system (SDG Targets 16.9, 17.18)</p> <p>4.5.4 Promote insurance schemes to cover agriculture risks (SDG Targets 8.10, 10.5)</p> <p>4.5.5 Disseminate information on weather and prices (SDG Target 12.8)</p> <p>4.5.6 Strengthen research programmes of the Council for Scientific and Industrial Research (CSIR), as well as of the agricultural and related sciences departments of public universities and other institutions (SDG Target 2.a)</p> <p>4.5.7 Develop local fertiliser industry based on gas and petroleum resources to improve agricultural yield and save foreign exchange (SDG Target 2.3)</p>
<p><input type="checkbox"/> Ageing farmer population</p> <p><input type="checkbox"/> Lack of youth interest in agriculture</p> <p><input type="checkbox"/> Inadequate start-up capital for the youth</p> <p><input type="checkbox"/> Lack of credit for agriculture</p> <p><input type="checkbox"/> Inadequate access to land for agriculture production</p>	<p>4.6 Promote agriculture as a viable business among the youth</p>	<p>4.6.1 Support youth to go into agricultural enterprise along the value chain (SDG Targets 2.1, 2.3, 8.6)</p> <p>4.6.2 Develop and implement programmes to attract youth into off-farm activities such as handling, processing, packaging and transportation (SDG Targets 1.1, 2.1, 2.3, 8.6)</p> <p>4.6.3 Provide financial support for youth by linking them to financial institutions for the provision of start-up capital (SDG Target 8.3)</p> <p>4.6.4 Design and implement special programmes to build the capacity of the youth in agricultural operations (SDG Target 4.4)</p> <p>4.6.5 Support the youth to have access to land (SDG Target 1.4)</p>
<p><input type="checkbox"/> Low quality genetic material of livestock species</p> <p><input type="checkbox"/> Low level of husbandry practices,</p> <p><input type="checkbox"/> Low productivity and poor handling of livestock/poultry products</p> <p><input type="checkbox"/> Inadequate feed and water quality standards for livestock</p> <p><input type="checkbox"/> Inadequate and poor quality data</p> <p><input type="checkbox"/> Inadequate disease monitoring and surveillance system</p> <p><input type="checkbox"/> Low levels of value addition to livestock and poultry produce</p>	<p>4.7 Promote livestock and Poultry development for food security and income generation</p>	<p>4.7.1 Finalize the Veterinary Services and Animal Production Bill and amend the Veterinary Surgeon’s Law of 1992 (SDG Target 16.6)</p> <p>4.7.2 Enact legislation to cover poultry hatchery, livestock breeding, meat inspection and dumping of poultry (SDG Target 16.6)</p> <p>4.7.3 Ensure effective implementation of METASIP to modernise livestock and poultry industry development (SDG Target 2.3)</p> <p>4.7.4 Strengthen research into large-scale breeding and production of livestock across the country (SDG Targets 2.3, 2.a)</p> <p>4.7.5 Strengthen training facilities and establish additional ones in animal health (SDG Target 2.a)</p> <p>4.7.6 Intensify disease control and surveillance, especially for zoonotic and scheduled diseases (SDG Target 2.3)</p> <p>4.7.7 Promote cattle ranching and provide incentives to the private sector to develop grazing reserves for ruminants and livestock (SDG Targets 2.4, 16.1)</p> <p>4.7.8 Facilitate the establishment of Livestock Development Centres in the three agro-climatic zones in collaboration with the private sector, to promote the production of cattle and small ruminants like sheep and goats (SDG Target 2.4)</p> <p>4.7.9 Facilitate access to credit by the industry (SDG Targets 8.3, 8.10)</p> <p>4.7.10 Strengthen livestock and poultry research and adoption (SDG Target 2.a)</p>



75. This Plan provides a comprehensive instrument-based framework with well-crafted policy tools designed based on adopted policy objectives and strategies. In addition, it also took into consideration other development dimensions of the “Agenda for Jobs” that have bearing in agricultural development. The instrument based framework will empower the Government to: (i) align all donor interventions in the agricultural sector to Government priorities and flagship programmes; (ii) harmonize all interventions with the Government policy tools; (iii) effectively stimulate and leverage private sector investments; (iv) plan and manage for results; and (v) keep all partners accountable.

76. For Agricultural and Rural Development, the GhAIP provides policy actions to support the implementation of flagship programmes, including; (i) Planting for Food and Jobs, (ii) Aquaculture for Food and Jobs, (iii) One Village One Dam, (iv) One District One Warehouse, (v) Planting for Export and Rural Development, and provides clear mechanisms to support other initiatives in other sectors including One District One Factory, and Ghana Beyond Aid. The approach employed provide explicit sub-programmes and specific policy implementation tools to support the implementation of each of these flagship programmes. The specific policy tools is structured to ensure the target beneficiaries under each flagship programme can be reached with the strategic intervention(s) the GoG intends to roll out under each flagship programme.

### **3.2 Alignment to International Frameworks**

77. The GhAIP is aligned to the both the Comprehensive Africa Agriculture Development Programme (CAADP) at the continental level and the Sustainable Development Goals (SDGs) at the Global Level. The formulation of the Plan employed the CAADP principles to critically review the state of Ghana’s agricultural sector and have outlined the critical investments that will inure to the optimal impact and returns that will transform the agricultural sector and put it on a growth to attain a 6% annual growth rate in agricultural GDP. The GhAIP provides a framework and the mechanisms to ensure that at least 10% of the public sector spending is allocated to the sector to develop the critical infrastructure, build the agricultural sector and direct transfer payments to actors along the agriculture value chains. The Plan is formulated to enhance the sectors performance through its direct impact on (i) jobs creation and commercially viable opportunities for women and youth to create wealth, (ii) increase productivity to ensure food security and improved nutrition, and (iii) ensure smallholder farmers have access to all the improved and climate smart technologies to strengthen resilience to climate change; among others as stipulated in the international frameworks.

78. In the same vein the GhAIP encompasses the SDGs by providing the implementing policy actions to end poverty, protect the planet and ensure all people enjoy peace and prosperity. The 2018 -2021 investment plan for Ghana’s agri-food system provides clear and concise policies to promote: wealth creation, zero hunger, decent work and economic growth, industry, innovation and infrastructure, reduce inequality, promote sustainable agri-food communities, responsible consumption and production, climate action, protect our water bodies, life under water and create platforms for partnerships among governments, development partners, private sector actors, Civil Society Organizations, academia and smallholder farmers.

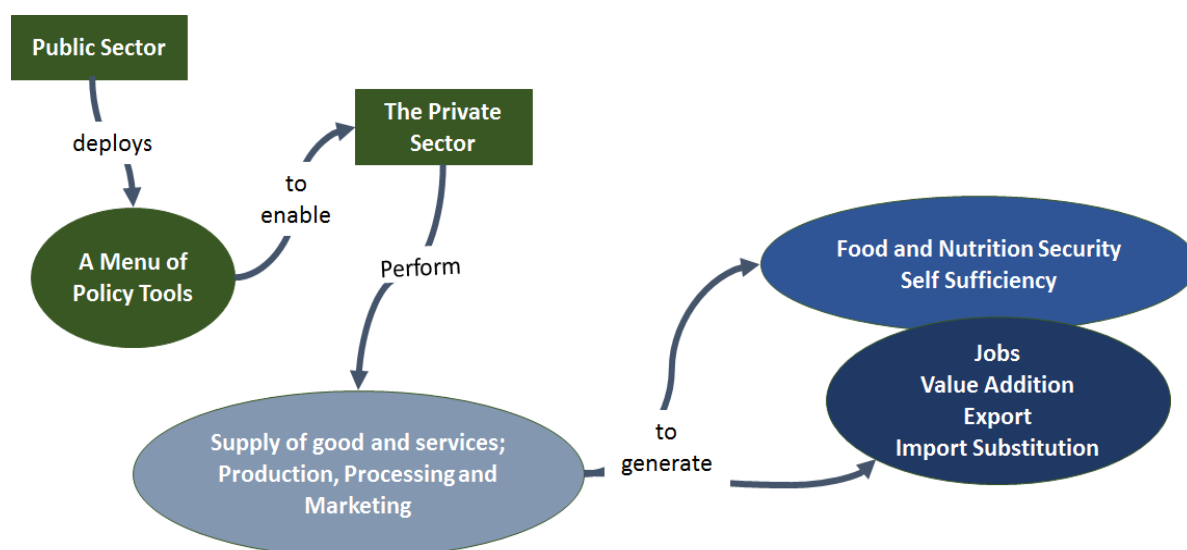
## CHAPTER FOUR

### 4 DEVELOPMENT PROGRAMMES AND SUB-PROGRAMMES

79. Chapter four provides the programmes and Sub-programmes areas together with the strategic framework within which the GhAIP will operate. These were developed from the Policy Objectives and Strategies of the NMTDF (2018 – 2021) as described in Chapter Three (3) to address identified development issues as outlined in Chapter Two (2).

#### 4.1 GhAIP Strategic Framework

80. To achieve the objectives of the sector the plan adopts the Instrument-Based approach which has a menu of policy tools, informed by the Theory of Change as describe in Figure 4.1.



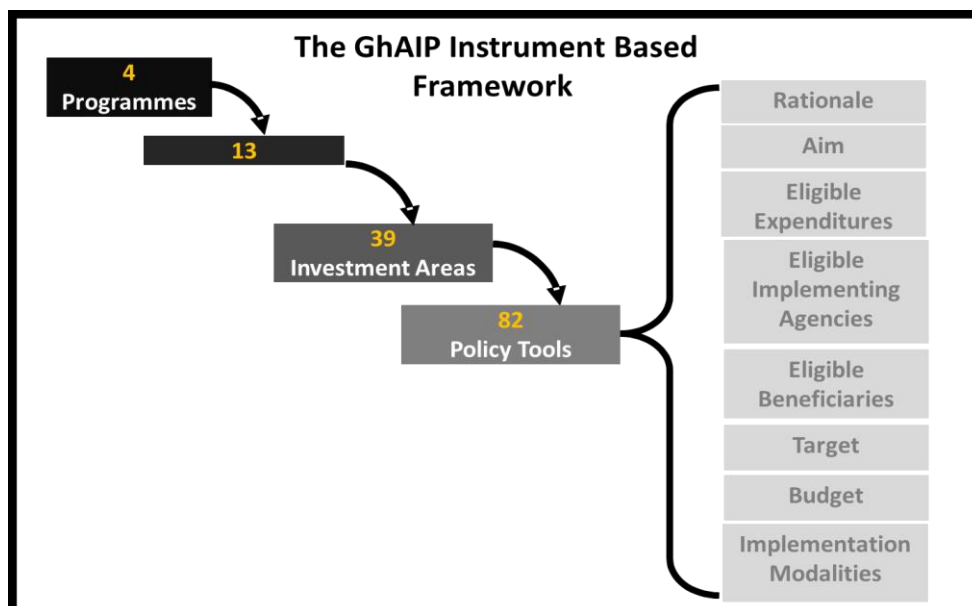
*Figure 4.1: Theory of Change*

#### 4.2 The Instrument Based Approach

81. This approach consists of 4 exclusive Programmes. Each Programme consists of distinct sub-programmes (SP), and each SP consists of distinct Investment Areas (IA). Finally, under each IA, the policy tools (PT) to be implemented by the Government are presented (see figure 3.2). Each policy tool is clearly spelled-out by providing clear answers to the following 8 questions: (1) What is the rationale; (2) What is Government's aim in implementing this measure; (3) What expenditures are eligible; (4) Which agencies are eligible to implement the policy tool; (5) Who are the eligible beneficiaries; (6) What are the target results; (7) What is the budget (what amount of resources Government is going to devote to implementing the policy tool); and (8) What are the implementation modalities.

82. The approach empowers Government to: (i) align all donor interventions in the agricultural sector to Government priorities and flagship programmes; (ii) Harmonize all interventions with the Government policy tools; (iii) effectively stimulate and leverage private sector investments; (iv) plan and manage for results; and (v) keep all partners accountable.

*Figure 4.2: The GhAIP Instrument Based Framework*

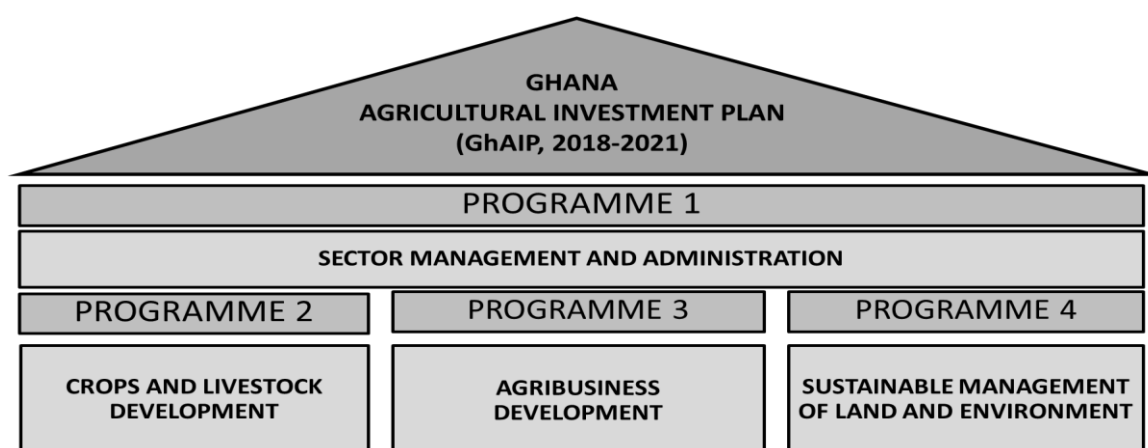


*Source: FAO*

83. The 4 Exclusive Programmes (Figure 4.3) are:

- **Programme 1 – Sector Management and Administration:** 4 Sub-programmes and 18 Investment Areas.
- **Programme 2 – Crops and Livestock Development:** 5 Sub-programmes, 13 Investment Areas and a total of 57 Policy Tools.
- **Programme 3 – Agribusiness Development:** 2 Sub-programmes, 5 Investment Areas and a total of 15 Policy Tool
- **Programme 4 – Sustainable Management of Land and Environment:** 2 Sub-programmes, 3 Investment Areas and a total of 10 Policy Tools.

**Figure 4.3: The 4 Programme Areas**



### **4.3 Programme Description**

#### **4.3.1 Programme 1: Sector Management and Administration**

84. The objective of this programme is to: (i) improve institutional coordination within MoFA and other relevant stakeholder institutions; (ii) strengthen institutions within the Ministry; and (iii) strengthen policy, planning, monitoring and evaluation. The programme also seeks to: set the policy direction through the reviews, formulation and coordination of policies and programmes; and Manage human resource, budget, finance, central procurement, stores and logistics, ICT services, public relations, organisational development and corporate training.

85. The programme consists of four (4) sub-programmes: SP.1.1 Finance and Administration; SP.1.2 Human Resource Development and Management; SP.1.3 Policy, Planning, Budgeting, Monitoring and Evaluation; and SP.1.4 Research, Statistics, Information, Communication and Public Relations.

##### **4.3.1.1 Sub-Programme 1.1: FINANCE AND ADMINISTRATION**

86. This sub-programme seeks to support an effective and efficient financial and administrative management within the Ministry. This is to be done by developing an effective electronic framework for financial, asset management and administrative reporting. It also seeks to ensure the provision of adequate logistics for implementation of planned activities.

Government will provide services in the following five (5) Investment Areas: IA.1.1.1 Management of Assets and Liabilities; IA.1.1.2 Procurement processes; IA.1.1.3 Policy development processes and related issues; IA.1.1.4 Auditing financial transaction; and IA.1.1.5 Provision of legal services.

#### ***4.3.1.2 Sub-Programme 1.2: HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT***

87. This sub-programme seeks to manage and improve the human resource capacity for all MoFA directorates and agencies through capacity building to enhance agricultural productivity. In addition, the sub-programme will support the training of middle level personnel and vocational training. It will also ensure collaboration between HRDMD and other Tertiary institutions on graduate and post-graduate training.

88. This sub-programme will be implemented through three (3) Investment Areas: IA.1.2.1 Facilitate staff training; IA 1.2.2 Conducting tracer studies and outreach programmes; and IA1.2.3 coordinate staff progression activities.

#### ***4.3.1.3 Sub-Programme 1.3: POLICY PLANNING, BUDGETING, MONITORING, EVALUATION AND COORDINATION***

89. This sub-programme aims at improving planning, policy formulation and implementation in the agricultural sector. It seeks to strengthen engagements among stakeholders to enhance monitoring & evaluation, and coordination of policies and programmes that address issues and mitigate risks to achieving the sector objectives.

90. This sub-programme has four (4) Investment Areas: IA 1.3.1 Conduct monitoring and evaluation of all policies/ programmes/ projects; IA 1.3.2 Develop and implement Policies, Plans and Annual Budgets; IA 1.3.3 Prepare investment guide for the agricultural sector in Ghana; and IA 1.3.4 Coordinate programmes/projects implementation in the agricultural sector.

#### ***4.3.1.4 Sub-Programme 1.4: RESEARCH, STATISTICS, INFORMATION, COMMUNICATION AND PUBLIC RELATIONS***

91. The main aim of this sub-programme is to provide, timely and reliable data for policy formulation and decision making. This is to be done through: establishment and maintenance of a computer database for the agricultural sector; collaborating with relevant institutions to provide statistics; promoting E-agriculture to support operations of the agricultural sector; and strengthen the convergence of agricultural information to improve knowledge sharing and public access to information.

92. This sub-programme has six (6) Investment Areas: IA 1.4.1 Collection, processing and analysing crop production related data; IA 1.4.2 Collaboration with relevant stakeholders to collect, process and analyse livestock and poultry data; IA 1.4.3 Monitoring agricultural trade statistics, producer prices, farm input prices and transport charges for agricultural commodities; IA 1.4.4 Collection and analysis of weekly market prices of various agricultural produce at wholesale and retail levels; IA 1.4.5 Preparation of annual crop budget for major crops; and IA 1.4.6 Establish and maintain a national operational and geo database.

### 4.3.2 Programme 2: Crops and Livestock Development

93. This programme seeks to increase agricultural productivity through modernization of the agricultural sector resulting in increased food production, improved incomes and jobs. As part of the strategies to achieve these, the government will motivate farmers to adopt certified seeds, fertilizers, improved livestock and poultry breeds through the implementation of the *Planting for Food and Jobs Campaign (PFJ)*. The campaign is private sector led and founded on five (5) pillars namely improved seed, fertilizer, extension, marketing and E-agriculture. The focus is to increase food production and productivity for food security and to meet industry demands, while creating jobs for the youth.

94. The government, through this programme is also committed to creating an enabling environment for more farmers to invest in the sector by subsidizing agricultural input (fertilizer and seeds), provision of extension services, mechanization services, irrigation services and ready markets for the produce, through License Buying Companies (LBCs) and National Food Buffer Stock Agency (NAFCO). The programme also seeks to improve warehousing with the focus on reducing postharvest losses. Nutrition sensitive agriculture and livelihood diversification options will also be promoted through this programme.

95. This programme consists of five (5) Sub-programmes (SP): SP.2.1 Productivity Improvement; SP.2.2 Mechanisation, Irrigation and Water management; SP 2.3 Postharvest management and Agricultural Marketing; SP 2.4 Nutrition Sensitive Agriculture; and SP2.5 Emergency Preparedness.

#### 4.3.2.1 Sub-Programme 2.1: PRODUCTION AND PRODUCTIVITY IMPROVEMENT

96. The agricultural value chain players require the use of improved technology to enhance productivity. Quality agricultural inputs such as certified seeds, fertilizers and improved livestock breeds are major determinants of high productivity and production in the agricultural sector. The high cost, coupled with unavailability of improved agro-inputs including seeds and fertilizers constrain farmers to low adoption and utilisation of these inputs. Inadequate and uncoordinated agricultural research and limited number of Agricultural Extension Agents (resulting in high AEA – farmer ratio of 1:1,885 as at 2017) are also challenges to value chain development.

97. Under the sub-programme, farmers' access to improved inputs will be enhanced through: the adoption of regulation on certification procedures; enhanced capacity of certification agencies; provision of incentives to farmers. The Government will improve extension service delivery through: the use of e-Agriculture; recruiting more AEAs to improve on technical service provision and technology dissemination to farmers; and building capacities of actors along the value chain.

98. Sub-programme 2.1 will be implemented through five (5) Investment Areas: IA 2.1.1 Promoting Improved Genetic Resources; IA 2.1.2 Enhancing Farmers' Access to Fertilizers, Agro-chemicals and Veterinary Medicines; IA 2.1.3 Promoting the Production and Use of Quality Feed; IA 2.1.4 Promoting Cost Effective Technology Development and Adaptation; and IA 2.1.5 Promoting Technology Dissemination.

99. *Investment Area 2.1.1 PROMOTING IMPROVED GENETIC RESOURCES*

100. **PT 2.1.1.1 – Promotion of genetic improvements in livestock and plants to increase productivity and disease resistance.** The Government is committed to ensuring adequate production of high quality (high yielding, resistance to diseases, climate resilient, etc.) genetic resources (seeds, plant propagating materials, livestock breeds, etc) on a sustainable basis for priority commodities to enhance competitiveness. Government is committed to providing logistic support to researchers and protect their intellectual properties for the purpose of developing improved breeds of priority crops and livestock through grants and legislations. It is expected that at least one improved breed will be developed to address the specific needs of each priority commodity by 2021.

101. **PT 2.1.1.2 – Enhancing seed certification capacity.** Certified seed is the starting point to a successful crop (productivity and competitiveness) as well as an important risk management tool. Government is therefore committed to maintain genetic identity and genetic purity of notified kind and varieties of high quality seeds and propagating materials through a robust certification system. This will be done by regulating certification procedures, strengthening certification agencies, bearing administrative cost and providing subsidy to enhance capacities of certification bodies. It is expected that the policy tool will enhance the national seed certification capacity to meet the national requirements.

102. **PT 2.1.1.3 – Enhancing the production and utilisation of certified seeds (including plant propagating materials).** Use of good quality seed is a prerequisite for increased production. High quality seeds contribute to: increase agricultural productivity; improve food security; lower food prices and imports; and raise domestic economic activity. Government is therefore committed to promoting sustainable access to commercially viable high quality seeds through provision of matching grants to seed producing enterprises and providing subsidize seeds to farmers.

103. **PT 2.1.1.4 – Enhancing the production and utilisation of improved livestock breeds.** Just like crops, high quality animal breeds help to increase livestock productivity; improve food security; lower food prices and imports and raise domestic economic activity. Government is committed to promoting sustainable access to commercially viable improved livestock breeds through promotion of private breeding ventures, matching grant support to breeding enterprises and provision of incentives to livestock farmers to use improved breeds. The six livestock stations will be strengthened to deliver more effectively on their mandate. This will cover improved breed requirements for all the priority livestock species by 2021.

104. *Investment Area 2.1.2 ENHANCING ACCESS TO FERTILIZER, AGRO-CHEMICALS AND VETERINARY MEDICINES*

105. **PT-2.1.2.1 - Promotion of fertilizer blending.** To ensure efficiency in fertilizer use, Government is committed to promoting fertilizer blends that suit soil types and crop requirements. Government will support fertilizer blending companies through tax incentives on fertilizer blending equipment and revenues. The target is to get the required number of fertilizer blending plants to meet the demand for blended fertilizers by smallholder farmers

based on the value chain profiling by 2021.

**106. PT-2.1.2.2 - Promotion of soil testing services.** Even though Government has been subsidizing fertilizer since 2008, yields have not increased significantly. Soil testing is not only useful, but also indispensable for economically sound fertilizer recommendations. Government is committed to ensuring the delivery of sustainable and commercially viable soil testing services to farmers to complement and enhance the effectiveness of the fertilizers as yield enhancing inputs by subsidizing training of soil testing service providers, establishment of soil information system and supporting farmers to carry out soil testing. The target is to have soil testing services readily available to 3 million smallholder farmers in the production clusters by 2021.

**107. PT-2.1.2.3 - Enhancing access to blended fertilizer.** Government is committed to providing financial incentive for farmers and fertilizer dealers to enhance farmers' access to blended fertilizer that meets their soils and crops requirements during a 3 year period. Government will provide a digressive fertilizer subsidy. The subsidy will target smallholder farmers in well-organized value chains. The target is to reach 3 million smallholder farmers aggregated into the inclusive value chains.

**108. PT-2.1.2.4 - Promoting the safe use of agro-chemicals.** Effective use of agrochemicals ensures increased crop production, while wrongful use of these chemicals have severe effects on environment, the health and safety of smallholder farmers. The Government is committed to ensuring that agro-chemicals are of the right quality and applied appropriately to enhance productivity and environmental sustainability. This will be achieved through developing and implementing strong regulatory system on quality of agro-chemicals and improving capacity of the users to handle agro-chemicals. The target is to reach all the users involved in the production clusters by 2021.

**109. PT-2.1.2.5 - Promoting access to veterinary medicines.** Effective use of veterinary medicines ensures increased livestock production. However, livestock producers have limited access to these medicines and in most cases livestock producers have limited know-how to effectively administer these medicines. Improper administration of veterinary medicines has severe effects on public health and safety. The Government is committed to ensuring that veterinary medicines are of the right quality, right quantity and are administered per producer recommendations to enhance productivity through regulation, tax incentives and subsidy. The target is to reach all the livestock production clusters by 2021.

**110. PT-2.1.2.6 Promoting access to plant disease prevention and control methods.** Loss of crops from plant disease is a perennial problem which often causes poor yields and stunts economic growth. Prevention, diagnosis, treatment and control of plant diseases are key to high yields and for thriving agricultural economy. Ensuring that farmers have access to plant disease prevention and control methods should be a priority. To ensure farmers access to quality plant disease prevention and control methods, Government will bear the cost of the design and operation of early warning systems to detect pest diseases and develop and implement a riposte plan by 2019.



**111. *Investment Area 2.1.3 PROMOTING THE PRODUCTION AND USE OF QUALITY FEED***

**112. PT-2.1.3.1 Promotion of feed production.** Improved feed is critical in enhancing livestock productivity and competitiveness. Government will promote the production of quality feed for livestock and aquaculture to enhance productivity and competitiveness of the sub-sectors through incentives and capacity building. The target is to support feed production enterprises to produce high quality feed for livestock and aquaculture by 2021.

**113. PT-2.1.3.2 Enhancing access to quality feed.** Access to improved feed is critical in enhancing livestock and aquaculture productivity and competitiveness. Government will promote access to quality feed for livestock and aquaculture to enhance productivity and competitiveness, to generate value addition and jobs. This will be achieved through digressive subsidy. The target is to reach all livestock and aquaculture production clusters by 2021.

**114. *Investment Area 2.1.4 PROMOTING TECHNOLOGY DEVELOPMENT AND ADAPTATION***

**115. PT-2.1.4.1 Development and adaptation of technologies** Government recognizes the critical role of research and knowledge generation for the transformation of the agri-food sector and is committed to enhancing the capacity of research institutions to respond to the needs of value chain actors. Government will support the setting-up of a mechanism to keep research institutions accountable to value-chain actors and promote the development and adaptation of technologies that targets the needs of value chain actors through provision of research grants as well as support to apex industry association to establish their own research fund.

**116. PT-2.1.4.2 Development and adaptation of knowledge packages for smallholder farmers.** Farmers need functional literacy and knowledge to move from subsistence farming to enterprise based agriculture. Knowledge packages on the basic know-how to enhance the capacity of smallholder farmers for inclusion in the upgraded commodity value chains is important. The knowledge packages will be developed in various formats for easy dissemination among all categories of smallholder farmers. It is expected that the knowledge packages will be developed by 2019 and will be disseminated to all the 3 million smallholder farmers enrolled in FBOs by 2021.

**117. PT-2.1.4.3 Promotion of agricultural research for plant/livestock breeding and disease and pest control.** Agricultural Research is vital for generating new knowledge and technology that drive productivity. In that vein, Governments should fund and promote agricultural research on plant/livestock breeding and disease & pest control to generate new knowledge and technology for improvement. Government will bear the cost of developing a government run agricultural research facility to fund research institutions, universities, to engage in more agricultural research, also provide grants to private citizens and value chain players to fund innovative projects and initiations, cost of knowledge transfer to the farmers and other value chain actors, and tax breaks to private firms who will meet the government set requirements for agricultural research and development.

**118. *Investment Area 2.1.5 PROMOTING TECHNOLOGY DISSEMINATION***

**119. PT-2.1.5.1 Dissemination of technologies to meet value chain players' demand.**

Value chain players require the use of improved technologies to enhance productivity of their operations in order to be competitive in both domestic and export markets. The limited number of Agricultural Extension Agents (1:1,885 *as at 2017*) is a challenge to extension service delivery. Government will improve extension service delivery through e-Agriculture system that will make knowledge and technology dissemination more effective, readily available to meet the need of value chain players. The support for accessing the e-Agriculture system will be part of the incentives for smallholders to form FBOs.

**120. PT-2.1.5.2 Dissemination of knowledge packages.** Knowledge packages developed by research and extension to enhance the efficiency of actors along value chains will be disseminated in various formats. Government will support the development, adaptation and dissemination of knowledge packages on functional literacy and agriculture. It is expected that the knowledge packages will be developed by 2019 and will be disseminated to all the 3 million smallholder farmers enrolled in FBOs by 2021.

**121. PT-2.1.5.3 Promotion of access to skill-based trainings for Youth.** The Government is committed to creating sustainable jobs in the agri-food sector for young women and men through access to innovative knowledge and skills using competency based learning approaches. This will be done through curriculum review and equipping the existing training centres and building capacity of tutors. It will also include grant for trainees to establish their businesses. About 15,000 women and men (youth will be targeted for training by 2021.

#### ***4.3.2.2 Sub-Programme 2.2: MECHANISATION, IRRIGATION AND WATER MANAGEMENT***

**122.** Agricultural mechanization is essential for increased production and productivity. However, the spatial arrangement of farm lands are not conducive for mechanization service delivery. As part of a broad strategy to intensify the usage of mechanisation services, Government will support the re-organisation of farmlands into clusters to facilitate their access to agricultural machinery and thus create a thriving market for mechanization services. Government will also facilitate the establishment of Farm Service Centres which will provide services along the value chain (land preparation to post harvest) as well as backup spare parts for all agricultural machinery and equipment, in line with the Ghana Agricultural Engineering Policy (GAEP). It is expected that about 1 million additional hectares will be put under mechanization through this process by 2021.

**123.** Agriculture in Ghana is predominantly rain fed which contributes to low productivity in the crop sub-sector. This sub-programme seeks to expand access to irrigated agriculture. In order to ensure sustainability and efficiency of irrigation schemes, there should be: farmer participation in scheme management (operation and maintenance); expansion and improvement in irrigation infrastructure; facilitation of the setting and collection of irrigation service charges; and strengthening of the irrigation value chain.

**124.** Government will also incentivize the private sector to invest in irrigation development through: de-risking investment in irrigation; using innovative financing schemes such as taxation, insurance of bonds etc; using Public-Private-Producer-Partnership (PPPP), joint

ventures; strengthening governance in the irrigation sector; and support effective linkages between actors in the irrigation value chain.

125. Sub-programme 2.2 will be implemented through two (2) Investment Areas: IA 2.2.1 Promoting Agricultural Mechanization; and IA.2.2.2 Promoting Irrigation and Water Management.

126. ***Investment Area 2.2.1 PROMOTING AGRICULTURAL MECHANIZATION***

127. **PT-2.2.1.1 Promoting re-organization of farm lands to enable the delivery of mechanization services to smallholder farmers.** The current spatial arrangement of farm lands is not conducive for the delivery of mechanization services to smallholder farmers. Another key constraint is the state of agriculture lands that are not properly developed for mechanization. Thirdly, the available technology use by many smallholder farmers is obsolete. Government is committed to providing incentives for farmers to organize and properly clear and develop their farmlands to create a thriving market for mechanization services. Government will bear the cost of subsidy for farm lands clearing and development. These incentives will be provided to farmers who have been properly organized within agricultural clusters, linked to an ACSE and profiled. It is expected that about 1 million additional hectares will be put under mechanization through this process by 2021.

128. **PT-2.2.1.2 Promoting mechanization service enterprises.** There is ample evidence which suggests that productivity of smallholder farmers improves dramatically with usage of more farm power. Establishment of agricultural mechanization hiring enterprises and development of an institutional framework for managing these centres are essential to enhance access of mechanization services to smallholder farmers. Government will continue to promote agricultural mechanization hiring enterprises in collaboration with ACSEs to provide full range custom hiring services from land development to harvesting for the smallholder farmers. These will be done by establishing more Agricultural Service Centres and upgrading the existing AMSECs to the same level. Government will achieve this through joint venture arrangements, financial arrangements and support repairs and maintenance service providers. It is expected that institutional framework for custom hiring mechanization services will be in place by May 2019.

129. **PT-2.2.1.3 Promotion of farm and post farm machinery manufacturing.** The domestic supply of agricultural machinery, farm implements and equipment, primary processing machines is critical for the transformation of the agri-food sector and job creation. Government is committed to developing the domestic manufacturing of quality and functionally advanced machinery, farm implements and equipment at competitive prices to drive the transformation of the agri-food sector. It is expected that about five production enclaves for the manufacturing of farm and post farm machinery are to be revamped along the production clusters by July 2021.

130. **PT-2.2.1.4 Modernization of agricultural holdings:** Agricultural modernization is essential to the increase in food production. Many African farmers still employ manual farming, which is the least efficient of farming methods. Modernization of farms means investing in machinery and mechanization to improve farm productivity and efficiency and

ultimately the intensification of agricultural growth countrywide. Government is committed to helping farmers get the funds needed to invest in modernizing their farms. Government's aim of improving the efficiency of the agricultural sector through modernisation will be achieved through trainings and incentives for machinery imports and financial institutions to give loans. These will be implemented mainly through the banks and other financial institutions to finance the modernization of Ghana's agriculture.

**131. PT 2.2.1.5 – Support to livestock housing:** Livestock Housing and Management Systems are usually treated from the standpoint of the level of intensification and three (3) are identified in the country, namely, i) intensive system, ii) semi-intensive system and iii) extensive / free range. Generally, only commercial chicken and pig farmers use the intensive system of keeping in Ghana. They invest substantially in housing, feed and equipment necessary for effective feeding, watering and for safety of eggs. The non-conventional livestock such as rabbits and grass-cutters are predominantly kept under intensive management systems with very low investment in housing. Farmers, particularly in the rural areas (who raise poultry of all types and pigs) use the free range system with little investment in housing. Cattle, sheep and goats are also kept mainly under extensive system with very low investment in housing (kraal) and equipment, but a few keepers use the semi-intensive system.

132. Government in its commitment to modernize agriculture will support farmers with long-term agricultural credit facilities through innovative financial products such as the GIRSAL to invest in livestock housing and equipment. The Government will also undertake the necessary trainings for livestock farmers to appreciate the importance of appropriate livestock housing. This will be accomplished through the establishment of efficient and improved model livestock housing units for training purposes.

### **133. *Investment Area 2.2.2 PROMOTING IRRIGATION***

**134. PT-2.2.2.1 Delegation of public sector role in the development and management of large scale irrigation schemes.** Irrigation has mainly been supply-driven with Government providing the infrastructure and the management at full cost. Government is committed to supporting demand-driven instead of supply-led schemes for smallholder farmers. Under the demand orientation, Government responsibilities will be limited to major rehabilitation works on irrigation schemes, facilitate establishment of scheme management body, improve energy efficiency on the scheme and build capacities of Water User Associations. It is expected that all government irrigation schemes will be transferred to demand oriented schemes by December 2021.

**135. PT-2.2.2.2 Promoting community based managed small and medium scale irrigation schemes.** The current management of irrigation schemes needs to be improved and made more effective by reducing government involvement in frequent rehabilitation. Government is committed to ensuring sustainability and efficiency through farmer participation in scheme management (operation and maintenance). Government will provide main irrigation infrastructures, facilitate setting and collection of irrigation service charges and strengthen the irrigation value chain. It is expected that about **xxxx ha** of irrigated land will be

under community management by 2021.

**136. PT-2.2.2.3 Promoting individual micro and small-scale irrigation schemes.** A major constraint to the development of micro and small private schemes is the high cost of basic irrigation infrastructure. This includes construction of runoff reservoirs, drilling of underground water and use of perennial water bodies and rivers. Government is committed to addressing the constraints to investment and encouraging private investment in micro and small-scale irrigation: surface water, ground water and rainwater harvesting schemes. It is expected that about xxxxx ha will be supported under micro and small scale irrigation for production of high value crops.

**137. PT-2.2.2.4 Promoting enhanced water management in rain-fed agriculture.** The main challenge to enhancing productivity under rain-fed agriculture is the lack of improved water management systems in Ghana. Though the average annual rainfall in Ghana is about 1000 mm, its distribution poses problem for crop production because the critical crop water requirements are not met. Government is committed to ensuring water availability at critical production periods of crop growth by promoting simple techniques of water conservation, building capacity of farmers to store water for increased crop yield. It is expected that about 3000 ha will be supported under enhanced water management in rain-fed agriculture.

**138. PT-2.2.2.5 Promoting market-oriented irrigation development.** The growth in irrigated agriculture has been very slow due to the dependence on public investment. Government is committed to improving the growth in irrigation development through risk sharing and incentives to increase investment in irrigation development through blended financing for efficient and effective water service delivery. This will be achieved through the development of effective Public-Private-Partnership (PPP), joint ventures, strengthening governance in the irrigation sector and support effective linkages between actors in the irrigation value chain.

**139. PT-2.2.2.6 Addressing irrigation sector risks<sup>2</sup>.** Risks associated with irrigation development impede private sector investment in irrigation schemes. Government seeks to address these risks by partnering and providing the needed incentives to leverage private investment in irrigation. Government is committed to de-risking investment in irrigation development and management in order to incentivize private sector engagement in PPP schemes. It is expected that a set of de-risking tools are designed and operational by end of 2019.

**140. PT-2.2.2.7 Mobilizing public resources to finance the development of irrigation schemes.** Government is to provide the enabling environment to attract private investment for irrigation development. Government will use innovative financing schemes to attract investment required to develop the needed irrigation schemes. This will include taxation, issuance of bonds etc. It is expected that the irrigation and drainage fund/facility is designed and operational by end of 2019.

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<sup>2</sup> Country risks, commercial risks, water-specific risks, matching currencies, grace or transition period at commencement, financial third party partial risk guarantees, and termination payments.

#### **4.3.2.3 Sub-Programme 2.3: POSTHARVEST MANAGEMENT AND AGRICULTURAL MARKETING**

141. Government recognises that reducing post-harvest losses is critical for the development and profitability of value chains and thereby promoting access to markets. In order to increase farmers' access to markets, government must promote the aggregation of smallholder farmers into upgraded value chains. This will provide the value chain players access to the goods and services they need, including seed money subsidy in a commercially viable way. This enhanced system will reduce their cost of production and consequently increase their competitiveness and wealth. It is also important to develop feeder roads and other infrastructure specifically the geographic areas where value chain clusters are located to reduce transaction cost, post-harvest losses and drive private sector investment. To foster the penetration of produce into the market, this sub-programme will: create a national market information system to gather, analyse and disseminate relevant information for agricultural sector; promote farmers' and community markets; promote SPS measures; quality foods and establish quality assurance certification process in food production, processing and distribution.

142. Sub-programme 2.3 will be implemented through three (3) Investment Areas: IA.2.5.1 Value Chain Development; IA.2.5.2 Market Intervention Schemes; and IA.2.5.3 Promotion of Quality Measures.

##### **143. Investment Area 2.3.1 VALUE CHAIN DEVELOPMENT**

**144. PT-2.3.1.1 Promoting the aggregation of smallholder farmers into upgraded value chains.** Government is committed to promoting the aggregation of smallholder farmers into banks of production clusters. The inclusion of these clusters in upgraded value chain is critical for improving the competitiveness of the agricultural sector and wealth creation. In upgraded agri-food-systems, all value chain players have access to the goods and services they need, including seed money subsidy in a commercially viable way. It is expected that about 3 million smallholder farmers will be aggregated into agricultural production clusters by 2021.

**145. PT- 2.3.1.2 Promoting the development of private sector led post-harvest facilities.** Government recognises that reducing post-harvest losses is critical for the development of value chains. Government is therefore committed to effectively addressing this challenge by supporting the development of post-harvest facilities and promoting the management of these facilities. This will enhance the performance of the agri-food-systems and leverage these facilities to reduce market risk.

**146. PT-2.3.1.3 Development of feeder roads and other transport infrastructure.** Government will develop feeder roads and other transport infrastructure in the districts, specifically, the geographic areas where value chain clusters are located to reduce the transaction cost, post-harvest losses and drive private sector investment. The development of feeder roads and other transport infrastructure provide incentives for value chain actors to engage in upgrading agri-food-systems. It is expected that the roads and other transport infrastructure will be provided for all production clusters that will be established.

**147. PT-2.3.1.4 Creating a national market information system to gather, analyse and disseminate relevant information for agricultural sector.** Government is committed to

investing in market intelligence that will track developments in the domestic, regional and global markets to inform public and private investments. The aim is to provide the agriculture and food sector with accurate information and smart analyses on the current market trends. To implement this policy measure, Government will support the establishment, operationalization and management of market observatory for priority commodities.

**148. PT-2.3.1.5 Promotion of farmers markets and community markets.** Smallholder farmers require easy access to markets to sell their produce. The government is committed to providing accessible markets to enable easy trading of agricultural commodities in the bank of agricultural clusters. The aim is to provide modern infrastructure that will ease the trading of agricultural commodities. To implement this policy tool, Government will bear the cost of providing public lands and facilities for agricultural commodity markets. This policy will be implemented by the MLGRD and the MMDAs.

**149. Investment Area 2.3.2 MARKET INTERVENTION SCHEMES**

**150. PT-2.3.2.1 Developing and enacting market intervention schemes for specific agriculture products.** Market Intervention Scheme is a price support mechanism implemented by the Government for storage of agricultural commodities in the event of a fall in market prices. Typically, an ad-hoc mechanism, its objective is to protect farmers from making distress sales in the event of bumper harvest during the peak arrival period when prices fall to very low level. Government is prepared to enact market intervention schemes when needed to stabilize agri-food market. Government will develop a robust criterion that will be used to determine the commodities that require such an intervention. This policy will be implemented by both DDAs and MoFA (SRID-Market Observatory unit) - providing the technical determination of the market. Market studies conducted by the Market Observatory Unit to determine market stabilization prices and providing advisory services to producers through the MLGRD – DDAs. MoTI will provide information on the regional trade implications of the stabilization prices and restrictions on the importation of such commodities from neighboring countries. This policy measure will introduce the commodity registers using the VC profiling to register all farmers that will benefit from the scheme and using the market information system to model the Government support.

**151. PT-2.3.2.2 Establishing minimum support price for key commodities.** A minimum support price or a price floor is the minimum price allowable for product set and enforced by the Government. Governments set price floors to assist farmers and protect them from unsustainable market prices. The government is prepared to set up minimum support prices for key products where necessary. This will be implemented by the National Buffer Stock Company (NAFCO) to protect smallholder farmers and stabilize markets by undertaken studies to determine the optimum minimum price and set-up an agency to manage the market prices.

**152. PT-2.3.2.3 Government procurement from domestic farmers.** When market prices for certain agricultural products fall below a predetermined level, the government may intervene to stabilize the market by purchasing surplus supplies, which may then be stored until the market price increases. The government also intervenes to buy and store products to influence markets and to build up reserves for emergencies. This policy aims at stabilizing markets in emergency situations and building up Ghana's food reserves. NAFCO will be the

main implementing agency.

**153. *Investment Area 2.3.3 PROMOTION OF QUALITY MEASURES***

**154. PT-2.3.3.1 Promoting SPS measures.** Sanitary and Phytosanitary (SPS) agreements are measures to protect humans, animals, and plants from diseases, pests, or contaminants. The government is committed to set and enforce standards that meet the requirements of the WTO's SPS agreement to ensure that food is safe for consumers, and to prevent the spread of pests or diseases among animals and plants. This policy will require the strong collaboration among MoFA-PPRSD, Food and Drugs Authority (FDA) and the Ghana Standards Authority (GSA).

**155. PT-2.3.3.2 Promoting food quality labels.** Quality food labels are critical to ensure tradability of commodities, competitiveness in the global market and compliance to sanitary norms. Government's aim is to promote food quality in all aspects of food production, processing and distribution. To implement this tool, Government will strengthen capacity of actors in food safety activities along the value chain and enhance the capacity of quality agencies to enforce the regulation.

**156. PT-2.3.3.3 Establishing quality assurance certification process in food production, processing and distribution.** To ensure food safety, the government is committed to strengthening PPRSD, FDA and GSA to provide quality assurance in food production, processing and distribution to enhance the growth of Ghana's agricultural market, both domestically and internationally. To implement this policy, Government will update, develop and enforce standards in food production, processing & distribution sectors. Government will also provide equipment & infrastructure for testing and enforcing assurance schemes.

**157. PT-2.3.3.4 Participation of farmers in food quality schemes.** Food quality schemes are critical to ensure food safety and quality standards are adhered through the food production, processing and distribution processes. Government will provide the required regulatory and market environment as well as support farmers to invest in food safety and quality schemes. These food safety and quality schemes will be designed to ensure the farmers derived benefits from the schemes using traceability and good market information system. The Government will promote food safety and quality schemes by providing one-time cost sharing incentive for the certification and traceability systems to farmer organization who will want to participate in such schemes.



#### 4.3.2.4 *Sub-Programme 2.4: NUTRITION SENSITIVE AGRICULTURE*

158. Ghana continues to make progress in improving nutritional status of children. In recent times, Ghana has not suffered widely from food insecurity due to improved food production. The domestic production of selected staples continues to exceed national requirements. However, there is household food insecurity in some parts of the country. There is also high child malnutrition and prevalence of micro and macro nutritional deficiencies and increased incidence of diet-related non-communicable diseases.

159. This sub-programme seeks to sustain and improve upon the gains made over the years with regard to nutrition and address the associated challenges. Over the medium-term, this sub-programme aims at addressing: prevalence of hunger; weak nutrition-sensitive food production system; infant and adult malnutrition, inadequate public education and communication on nutrition.

160. Sub-programme 2.4 will be implemented through one (1) Investment Area IA.4.2.1 Promotion of nutrition rich foods.

##### 161. *Investment Area 2.4.1 PROMOTION OF NUTRITION RICH FOODS*

162. **PT-2.4.1.1 Implementing food fortification measures.** Micronutrient deficiencies are more likely to be found amongst the most resource poor, food insecure and vulnerable households in the country. Food fortification programmes make an important contribution to the reduction of micronutrient malnutrition. This is especially important where existing food supplies, due to limited access, fails to provide adequate levels of some micronutrients and essential vitamins in the diet. This policy tool aims at implementing food fortification programs to combat nutrient malnutrition in vulnerable populations. Government will set fortification standards and create the necessary legislation and enforce them.

163. **PT-2.4.1.2 Promoting measures to strengthen dietary diversity.** The more diverse a households' diet is, the healthier it will be. This is especially important amongst resource poor and food insecure communities and households. Hence, this policy tool aims at promoting measures to strengthen dietary diversity. Government will educate and train consumers on appropriate food combinations of available foods to improve nutrition. It will also develop and enforce policies for serving locally available foods (Fresh foods, vegetables) at workplaces and public functions. Government will also develop and promote food-base dietary guidelines and responsible for social marketing of the programme.

164. **PT-2.4.1.3 Implementation of measures to provide and distribute specific foods for therapeutic and nutritional purposes to targeted demographics where needed.** Therapeutic foods are foods designed for specific, usually nutritional, therapeutic purposes as a form of dietary supplement. The primary examples of therapeutic foods are foods used for emergency feeding of malnourished children or to supplement the diets of persons with special nutrition requirements, such as the elderly. The Government will develop and disseminate knowledge packages on the production of therapeutic foods.

165. **Policy Tool 2.4.1.4 – Enhancing the production and consumption of improved**

**livestock breeds.** High quality animal breeds help to increase livestock productivity; improve food security; lower food prices and imports and raise domestic economic activity. Government is committed to promoting farmers' access to sustainable and commercially viable improved livestock breeds. The Government will bear the cost of: (i) promoting private breeding enterprises including as a joint venture between livestock value chain actors (ACSE model); (ii) matching grant to private breeding enterprises (farms and hatcheries) to cover the cost of infrastructure, equipment, bio-security systems and training of staff; (iii) subsidy to farmers (50%) to cover the cost of improved breeds the first 2 years. (iv) Government will strengthen the six breeding stations (improved infrastructure and restocking of improved breeds where necessary). This will cover the improved breed requirements for all the priority livestock species by 2021.

#### **4.3.2.5 Sub-Programme 2.5: EARLY WARNING SYSTEMS AND EMERGENCY PREPAREDNESS**

166. Emergency preparedness describes the country's readiness to respond to need of victims of natural hazards and other calamities such as floods, pest and disease outbreaks, climate change etc. This can be attained by building capacities to respond to such emergencies. This sub-programme aims at ensuring appropriate and efficient emergency preparedness and response in-country with respect to agricultural commodity supply.

167. Sub-programme 2.5 will be implemented through two (2) Investment Areas IA.2.5.1 Emergency Readiness; And IA.2.5.2 Emergency Response.

##### ***Investment Area 2.5.1 EMERGENCY REDINESS***

168. **PT-2.5.1.1 Surveillance and prevention of plant pest and diseases.** Effective national capacity to detect and monitor plant pests and diseases is critical in creating an enabling environment for private sector led agriculture transformation. Hence, this policy tool aims at preventing and controlling plant pest and diseases that may have substantial effect on the stability of food supply through direct losses. Government will bear the cost of: (i) design and operation of early warning system to detect pest diseases, develop and implement riposte plans; (ii) implementing riposte plans; and (iii) strengthening the capacity of SPS services (lab equipment, training of staffs, international accreditation....)

169. **PT-2.5.1.2 Surveillance and prevention of animal pest and diseases.** Effective national capacity to detect and monitor animal diseases is critical in creating an enabling environment for private sector led agriculture transformation. Hence, this policy tool aims at preventing and controlling animal diseases. Government will bear the cost of: (i) developing a veterinary legislation on the prevention and control of animal diseases; (ii) the design and operation of early warning system to detect animal diseases and implement a riposte plan; (iii) implementing riposte plan and (iv) livestock vaccinations.

170. **PT-2.5.1.3 Early warning system for natural disasters.** Early warning systems are a means by which farmers and affected communities are given relevant and timely information in a systematic way prior to a disaster in order to be able to make informed decisions and take action. Hence, this policy tool aims at establishing a functional early warning system for natural

disasters. Government will bear the cost of (i) creating a national agency responsible for coordinating hazard identification, vulnerability and risk assessment; (ii) creating a monitoring and warning service; (iii) creating functional communication channels; (iv) instituting appropriate disaster preparedness measures and (v) Administrative cost for the preparation and adoption of an early warning system regulation.

**171. PT-2.5.1.4 Knowledge dissemination measures and training of farmers in disaster preparedness methods.** Disaster preparedness is essential to the reduction of disaster risk and to quick recovery from disasters. Effective disaster preparedness requires the heavy involvement of farmers and communities at risk because they would be the ones instituting disaster preparedness methods on their farms to minimize damage by unavoidable disasters. Hence, this policy tool aims at informing and training farmers in proper disaster preparedness methods. Government will bear the cost of: (i) Consultancy to develop best disaster preparedness farm practices; and (ii) Training and knowledge dissemination measures to educate farmers.

**172. PT-2.5.1.5 Provision of subsidized disaster insurance products.** Farmers and other value chain players are incredibly vulnerable to the unpredictable nature of weather. Flooding from rainfall, monsoons, tornadoes etc which farmers have no control over, can severely set farming operations back or even sound a death knell to a farmer's business. Disaster insurance is a cost most smallholder farmers cannot afford but is essential to helping them recoup their losses and recover from the damage of unpredictable weather phenomenon. Farmers who are covered by insurance are also more likely to invest more in their farm, move toward cash crops which might be riskier but more lucrative and be eligible for capital loans which grow their enterprises. Governments who subsidize disaster insurance to vulnerable farmers see their agricultural sector grow substantively as a result. Hence, this policy tool aims at protecting farmers against lasting damage from disasters. To implement this policy measure, Government will bear the cost of (i) incentivizing insurance companies to provide disaster insurance packages for insurance companies; (ii) subsidizing of disaster insurance; and (iii) educating farmers on the importance of disaster insurance.

**173. PT-2.5.1.6 Promotion of seed and grazing reserves, and storage facilities.** Access to quality seed is essential to crop production and the livelihood of farmers. Disasters, both natural and manmade, can have a devastating effect on seed availability and consequently, the agricultural market. Governments do well to invest in and encourage investment into seed reserves and storage facilities to ensure farmers have seed security after disasters. Hence, this policy tool aims to promote disaster preparedness measures in the form of seed and grazing reserves and storage. Government will bear the cost of (i) knowledge dissemination of the importance of seed storage and storage measures; (ii) building warehouses and storage facilities for national seed reserve; (iii) subsidizing seed and grain storage for qualifying farmers; and (iv) Cost of managing storage facilities and minimizing deterioration of stored seed.

## ***Investment Area 2.5.2 EMERGENCY RESPONSE***

**174. PT-2.5.2.1 Rapid response and control of plant pest and diseases.** While prevention is the most effective pest management strategy, it is vital to have a rapid response strategy in place to address inevitable plant pests and diseases. Hence, this policy tool aims at establishing a rapid response strategy for plant pests and diseases. Government will bear the cost of (i) establishment/strengthening of plant pest disease control agency; (ii) Information dissemination and training of farmers to recognize signs of an infestation; (iii) Establishment of communication channels to allow farmers to report incidents of infestations and (iv) Incentivizing research institutions to research and provide rapid response solutions for pest diseases.

**175. PT-2.5.2.2 Rapid response and control of animal pest and diseases.** While prevention is the most effective pest management strategy, it is vital to have a rapid response strategy in place to address inevitable animal pests and diseases. Hence, this policy tool aims to establish a rapid response strategy for animal pests and diseases. Government will bear the cost of (i) establishing/strengthening an animal pest and disease regulation body; (ii) Information dissemination and training of farmers to recognize signs of an infestation; (iii) Establishment of communication channels to allow farmers to report incidents of infestations and (iv) Incentivizing research institutions to research and provide rapid response solutions for pest diseases.

**176. PT-2.5.2.3 Rapid Response and control of natural disasters.** This aims at establishing a system for rapid response to the incidence of natural disasters in order to control the impact of the natural disasters on farmers, their activities and on other stakeholders in commodity value chains. It seeks to strengthen the links between the appropriate disaster management institutions and the farmers in order to reduce the devastating impacts of natural disasters on farming populations and farm operations. This will be achieved by strengthening collaboration with the National Disaster Management Organization (NADMO) and other CSOs which are active in that space. Capacities of these identified institutions will also be built to enable them carry out their mandates effectively.

**177. PT-2.5.2.4 Provision of ex-post/ante aid to compensate for natural disasters and disease epidemics.** Disasters and disease epidemics often do lasting damage to farm enterprises because farmers often do not have the financial means to recover from them. Governments should make a commitment to provide post ante aid to help farmers recover after natural disasters and epidemics. Hence, this policy tool aims at helping farmers recover from natural disasters and disease epidemics. Government will bear the cost of (i) Creation of a disaster relief agency and (ii) direct payments to farmers for damages not covered by insurance.

**178. PT-2.5.2.5 Rehabilitation of affected areas.** Rehabilitation and reconstruction are often required after a natural disaster if the economy is to recoup and recover from it. Governments should make a commitment to help in rebuilding efforts after disasters. Hence this policy tool aims at rehabilitating disaster affected areas. Government will bear the cost of (i) funding the

rebuilding and rehabilitation of damaged infrastructure; (ii) Supporting NGOs who engage in rehabilitation and rebuilding work; and (iii) Offering tax breaks to for profit organization supporting the rehabilitation of affected areas.

### **4.3.3 Programme 3: Agribusiness Development**

179. Agriculture in Ghana is Private sector led. The key role of the public sector therefore, is to create an enabling environment for private sector to invest and grow in the Agricultural sector. This Programme is mainly aimed at achieving this goal by facilitating access to appropriate/innovative agricultural finance; investing in adequate public infrastructure to leverage private sector investment in the sector; and promoting agricultural trade.

180. This programme consists of 2 Sub-programmes (SP): SP. 3.1: Promotion of Private Sector Investment in Agriculture; SP. 3.2: Agricultural Financing.

#### ***4.3.3.1 Sub-Programme 3.1: PROMOTION OF PRIVATE SECTOR INVESTMENT IN AGRICULTURE***

181. The role of private sector in agricultural development in Ghana cannot be over emphasized. Majority of investment in the sector is borne by the private sector. In order to take advantage of public sector investments and optimise returns, the private sector needs to coordinate and collaborate effectively among themselves. This coordination however is weak and needs to be strengthened. This sub-programme seeks to create a platform to promote private sector operations and linkages in the agricultural sector.

182. Sub-programme 3.1 will be implemented through two (2) Investment Areas: IA.3.1.1 Promoting A Nexus of Essential Agriculture and Food System Private Enterprises; and IA.3.1.2 Promoting Agricultural Industry Associations.

#### ***183. Investment Area 3.1.1 PROMOTING A NEXUS OF ESSENTIAL AGRICULTURE AND FOOD SYSTEM PRIVATE ENTERPRISES***

184. **PT-3.1.1.1 Promoting Agriculture Cluster Service Enterprises (ACSE) and their sector or regional apexes.** The aim is to promote ACSEs as value chain driver enterprises. The ACSEs can own and operate processing plants. These hub enterprises will be set-up as joint ventures between farmer organizations, private operators, and Government (Central and Local) which will progressively transfer its shares to the general public through equities or debts. ACSEs will be licensed to manage warehouses as collateral.

185. **PT-3.1.1.2 Promoting Market Hub Enterprises (MHEs).** The aim is to promote MHEs as drivers to transform food distribution system in Ghana. MHEs will own and operate food market hubs equipped with adequate infrastructures close to major cities. They will be specialized in grouping food commodities and distributing to wholesalers. MHEs will be promoted as joint venture between ACSEs, Banks, private firms, and Government (Central, Local) that will progressively transfer its shares to the general public through equities or debts.

186. **PT-3.1.1.3 Promoting Small and Medium Rural Enterprises (SMRE).** Government's aim is to promote a wide range of small and medium enterprises needed to provide required goods and services to enhance the effectiveness and efficiency of commodity value chains. This will also create off-farm employment especially for the youth.

187. *Investment Area.3.1.2 PROMOTING AGRICULTURAL INDUSTRY ASSOCIATIONS*

188. **PT-3.1.2.1 Promoting the creation of an industry apex agency.** Government's aim is to promote the setting-up and operation of the AFIA as the apex organization to protect the interest of all commodity value chain players. AFIA will facilitate and support government to manage the GADF to ensure proper accountability. AFIA will be an autonomous (admin and finance) private sector agency, equipped with a corporate governance system that meets international standards. Under this PT. The AFIA is expected to reach its financial autonomy by end of year 3.

*4.3.3.2 Sub-Programme 3.2: AGRICULTURAL FINANCING*

189. This sub programme aims at ensuring increased and sustainable access to innovative financing by agri-food enterprises and agribusinesses along commercially viable and competitive agricultural value chains. The focus of this sub-programme is to de-risk and eliminate bottlenecks regarding financing the agricultural sector through the use of innovative instruments.

190. Sub-programme 3.2 will be implemented through 3 Investment Areas: IA.3.2.1 Agricultural Risk Sharing; IA.3.2.2 Agricultural Finance and Credit Facilities; and IA.3.2.3 Capital Market Instruments for Agriculture.

191. *Investment Area 3.2.1 AGRICULTURAL RISK SHARING*

192. **PT-3.2.1.1 Developing and enacting regulation on agricultural clusters and monitoring its implementation.** The aim is to secure formal contractual relationships between value chain players, specifically, farmers and ACSEs and other firms. This will contribute to creating an enabling environment for smallholders' inclusive value chains. Government will support the process of developing, validating, and enacting the regulation, and monitoring its implementation.

193. **PT-3.2.1.2 Promotion of specific market and production contracts.** The aim is to strengthen farmers and firms' capacity with regard to signing and implementing specific market and production contracts, e.g. derivative contracts or future contracts, and option contracts. Under this PT, Government's expenditures will focus on developing and disseminating knowledge material (i.e. models, guidelines, and training materials) on such contracts.

194. **P-3.2.1.3 Promotion of agriculture insurance instruments.** Government's aim is to provide a suite of agricultural insurance products to value chain players in order to enhance their access to finance and mitigate climate shocks. Government will facilitate the development of insurance packages by insurance companies as well as provide tax break as incentive for

insurance companies that offer agriculture insurance instruments such as peri-crop insurance, index-based crop insurance, livestock insurance and reinsurance schemes.

**195. P-3.2.1.4 Promoting warehouse receipts system.** The aim is to promote the use of warehouse receipts as collateral. This is critical in enabling smallholder farmers' access to bank financing. To implement this policy measure, Government will facilitate the enactment of a regulation on warehouse receipts as collateral. Government will also revamp and monitor the implementation of warehouse receipts systems and build the capacity of firms licensed to manage stocks in warehouses as collateral.

**196. PT-3.2.1.5 Setting-up of public mutual fund for residual risks.** The aim is to provide alternative short-term and long-term finance to the agri-food sector. Government is committed to create an enabling environment for the public to invest in agriculture by pooling funds through mutual fund schemes. Under this policy tool, Government will design, set-up and invest in the mutual fund.

**197. *Investment Area 3.2.2 AGRICULTURAL FINANCE AND CREDIT FACILITIES***

**198. PT-3.2.2.1 Promoting agency banking.** The aim is to promote Agency Banking as a means to expand the outreach of banks in rural areas. Agency Banking allows Banks to expand their outreach in rural areas by delivering a series of services to farmers at their door step: cash deposit, cash withdrawal, third party payments, payment of goods and services. To implement this policy measure, Government will bear the cost of packaging and disseminating Agency Banking as a means to expand the outreach of banks in rural areas. Also, Government will incentivise financial institutions to expand their reach in rural areas to deliver financial services to the rural smallholder actors in commodity value chains.

**199. PT-3.2.2.2 Subsidizing interest rates to facilitate access to credit.** Government's aim is to provide a window to support the acquisition of productivity enhancing technologies to drive the transformation of the agri-food-systems. High interest rate on equipment financing is one of the main reasons for the low level of technology in agriculture. To implement this measure, Government will cover the cost of subsidies of interest rates on smallholder farmer loans for long term investments, specifically farm equipment that will enhance productivity and quality.

**200. PT-3.2.2.3 Promoting adjusted requirements for small loans.** Majority of smallholder farmers and other value chain players might not be able to meet banking loan requirements, therefore making it difficult to obtain capital and achieve growth. It may be necessary that banks and other financial institutions offer adjusted loan requirements to make small loans accessible to value chain players. Government will incentivize financial institutions to make loans accessible to value chain players. To implement this measure, Government will facilitate the development of adjusted loan packages and disseminate knowledge packages.

**201. PT-3.2.2.4 Providing support to farmers through financial institutions that manage public resources for agricultural purposes.** Traditional banks are less likely to lend to small farmers and other value chain players. Where necessary, Governments can incentivize such institutions to provide continued support to the agricultural market by using institutional

mechanism through structured farmer organizations such as the ACSEs and MHEs. The aim is to enhance smallholders' access to financial resources. To implement this measure, Government will cover the cost of: incentivizing traditional banks and other financial institutions to use institutional lending mechanism to reach out the smallholders through the various ACSEs and MHEs.

## **202. Investment Area 3.2.3 CAPITAL MARKET INSTRUMENTS FOR AGRICULTURE**

**PT-3.2.3.1 Creation of a capital market for the agricultural sector.** Financing instruments for agricultural activities in the Ghana country has been mainly short term instruments which don't support the needed technologies to modernize the sector. Coupled with this are the regulatory constraints on the percentage of depositors' funds that financial institutions can lend and the interest rates. To address these triple constraints to agricultural financing, the Government will facilitate the creation of a capital market to mobilize financial resources that will be channelled to finance the medium and long term investment required to modernize agriculture at competitive interest rate. The aim of this measure is to mobilize private resources to finance agri-food-systems development. Government's expenditure under the PT will cover the cost of developing – enhancing and operating capital market instruments for agriculture, within the framework of the Ghana Securities and Capital Markets. The agricultural capital market is expected to be in operation by end of 2019

**PT-3.2.3.2 Instituting relevant capital market instruments for agriculture.** To facilitate access to private resources to finance agri-food systems there will be need to institute the relevant capital market instruments to the traded on the capital markets. These instruments will have to be developed to meet the specific requirements of the agri-food capital markets. The Government will facilitate the development of the specific capital market instruments that farmer organizations and other value chain actors can trade on the capital markets to raise short, medium and long term financing at competitive rates. Government will bear the cost of developing the financing instruments and promoting the use of such instruments among farmer organizations and financial institutions. These instruments will be developed by the end of 2019

## **4.3.4 Programme 4: Sustainable Management of Land and Environment**

203. Agricultural activities including mechanization and the use of agro-chemicals to enhance agricultural productivity has an implication on the land and environment. This programme seeks to facilitates the implementation of Sustainable Land and Environmental Management (SLEM) practices in agriculture. This involves: promoting SLEM technologies; creating awareness; and building institutional capacity. This programme will be achieved through the following sub-programmes: Conservation of Natural Resources; and Climate Change Mitigation and Resilience Scheme.

204. This programme consists of two (2) Sub-programmes (SP): SP. 4.1: Conservation of



#### **4.3.4.1 Sub-Programme 4.1: CONSERVATION OF NATURAL RESOURCES**

205. Over the years, sustainable management of land and environment has been a challenge due to inappropriate practices including bush burning, environmental degradation and artisanal mining that leads to the destruction of flora and fauna. The Sustainable Land Management Division of MoFA promotes conservation practices through the Agricultural Land Management Strategy. However, a number of challenges have been encountered in scaling-up these conservation practices. These include inadequate awareness creation for the practices, low adoption of conservation practices, weak collaboration among relevant agencies to mainstream good conservation practices. As a measure to curtail these challenges, this sub-programme seeks to promote conservation of natural resources, protect biodiversity and ensure sustainable management of forest resources.

206. Sub-programme 4.1 will be implemented through one (1) Investment Area: IA.4.1.1 Conservation Agriculture

##### **207. Investment Area 4.1.1 CONSERVATION AGRICULTURE**

208. **PT-4.1.1.1 Conservation of natural resources management schemes.** Natural resource management refers to the management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both present and future generations. Natural resource management specifically focuses on a scientific and technical understanding of resources, ecology, the life-supporting capacity of those resources and how they are affected by human interactions. Hence, this policy tool aims to promote agricultural practices that conserve natural resources for future generations. Government will bear the cost of (i) studies on natural resource conservation; (ii) disseminating information on the importance of natural resource conservation; (iii) conferring benefits to farmers and stakeholders who engage in natural resource conservation.

209. **PT-4.1.1.2 Promoting the protection, conservation and sustainable use of biologically diverse ecosystems and habitats.** Biological diversity means the variability among living organisms both within species and between different species of ecosystems. Human actions left unchecked can and has had devastating effects on the earth's biodiversity. It is important to enact protective measures to ensure that biodiversity does not continue to suffer due to human tampering. Hence, this policy tool aims to promote agricultural practices that protect and conserve biological diversity of ecosystems.

210. **PT. 4.1.1.3 Promoting the conservation and sustainable management of forestry resources.** Sustainable use of forestry resources is essential to conservation of these resources. Hence, this policy tool aims to protect and conserve forests. Government will bear the cost of (i) creating and enforcing conservation and sustainable use regulations; (ii) disseminating information on the importance of forestry conservation; (iii) benefiting individuals and organizations who engage in sustainable use practices.

211. **PT. 4.1.1.4 Promoting land banking along with secured land tenure.** Many farmers

and value chain players lack clear, secure rights to the land, resources, and property they use, occupy, and depend on for their livelihoods and business. Land insecurity impacts investment, credit availability, poverty rates, land values, and agricultural productivity, which are all linked to economic growth. In contrast, secure land tenure may lead to economic growth by: allowing farmers to invest in better seeds or tools, see returns on those investments, and pass land to their heirs; making it easier to gain credit to finance investments in agriculture or other entrepreneurial activity; and attracting external investment necessary for economic growth. It is clear that securing land rights for farmers is a positive step towards economic growth and development. Hence, this policy tool aims at collaborating with the MLNR to facilitate land tenure security for farmers to stimulate agricultural growth.

#### ***4.3.4.2 Sub-Programme 4.2: CLIMATE CHANGE MITIGATION AND RESILIENCE SCHEME***

212. The effects of Climate Change resulting from rainfall and temperature variability is significantly devastating for actors in agricultural value chain, especially in the Savannah zone. This is due to the fact that majority of farmers are smallholders and rely mostly on rain-fed agriculture which is largely unreliable. Climate Change has also introduced challenges such as pest and diseases incidences which negatively affects production. This sub-programme therefore seeks to support the implementation of the Climate Smart Action Plan which supports farmers' resilience to Climate Change through adaptation and mitigation. It is also responsible for promoting green/growth agriculture concepts, principles and the use of energy generated from natural sources.

213. Sub-programme 4.2 will be implemented through two (2) Investment Areas: IA.4.2.1 Climate Change Mitigation and Resilience Scheme, and IA.4.2.2 Renewable Energy and Energy Efficiency Measures.

#### ***214. Investment Area 4.2.1 CLIMATE CHANGE MITIGATION AND RESILIENCE SCHEME***

215. **PT 4.2.1.1– Climate change mitigation and adaptation schemes.** Adequate response to climate change is critical for creating an enabling environment for the growth and transformation of agri-food systems. Government is committed to invest in tackling climate change to prevent its impacts on agriculture, rural economy, and vulnerable people. The aim is to promote the implementation of mitigation and adaptation measures.

216. **PT 4.2.1.2 – Climate change resilience schemes.** Government is committed to building Ghanaian farmers' resilience to climate change. The aim is to enhance the capacity of Ghanaian farmers to withstand climate shock. To implement this policy tool, Government will bear the cost of develop and promote climate resilient cropping systems, support water conservation and irrigation system, risk transfer and alternative livelihood systems and post-harvest management.

217. **PT-4.2.1.3 Promoting the reduction of deforestation and adopting afforestation measures.** Deforestation is the long-term or permanent conversion of forest to other land uses.

Deforestation can have huge impacts both locally and internationally, on societies and the environment. Globally, deforestation and forest degradation contribute about one-fifth of total greenhouse gas emissions. Other environmental impacts of deforestation include damage to ecosystem habitats and the resultant loss of biodiversity; the disruption of water cycles; soil erosion; and desertification. Governments are encouraged to work towards reducing the rate of deforestation in their countries and reversing the damages done to forests through afforestation measures. Hence, this policy tool aims to protect forests by reducing deforestation and adopting afforestation measures.

**218. PT. 4.2.1.4 Promoting research, and knowledge dissemination on climate change mitigation and adaption schemes.** Mitigation and adaptation strategies are essential to combating the real effects of climate change in the 21<sup>st</sup> century. Hence, this policy tool aims to promote research, and knowledge dissemination on climate change mitigation and adaptation schemes.

**219. PT. 4.2.1.5 – Promoting green/growth agriculture concepts and principles.** Government is committed to invest in technologies that work to improve productivity for farmers, and does not cause undue harm to society and the environment. The aim is to foster agricultural growth and development, while preventing environmental degradation, biodiversity loss and unsustainable natural resource use. Government will invest in (i) organic farming (ii) conservation agriculture as they are crucial to rebuild natural capital by restoring and maintaining soil fertility; reduce soil erosion and inorganic agro-chemical pollution; increase water-use efficiency; reduce deforestation, biodiversity loss and other land use impacts; protect the soil, water and climate to produce healthy food and significantly reduce agricultural GHG emissions.

## **220. *Investment Area 4.2.2 RENEWABLE ENERGY AND ENERGY EFFICIENCY MEASURES***

**PT-4.2.2.1 Promoting the use of energy generated from natural sources.** The use of renewable energy is encouraged because fossil fuels are non-renewable, finite resource that will eventually dwindle, becoming too expensive and too environmentally damaging to retrieve. In contrast, renewable energy resources such as wind and solar energy are constantly replenished and will never run out. They are more environmentally friendly and can be more economically affordable. Hence, this policy tool aims to protect the environment by promoting the use of renewable energy sources for agricultural activities. Government will bear the cost of (ii) Incentivizing the local production and use of renewable energy sources; (iii) Educating the public on the benefits of using renewable energy sources; and (iv) Creation of regulations that advantage renewable energy sources over fossil fuels along the agri-food value chains.

#### **4.4 Priority Initiatives in the Medium Term**

221. Strategically the plan provides a framework to galvanize the modernization of the sector through the government's flagship initiatives introduced to address the identified myriad of challenges and issues in attaining the goals of the sector. These initiatives are rooted in this medium term plan which provides a menu of policy tools that will empower the government to: (i) harmonize all the Government interventions and flagship programmes in the sector; (ii) align Donor interventions to Government priorities; (iii) manage investments for results; (iv) leverage private sector investments effectively; and (v) account for results. In addition, the plan provides a mechanism for financing investments from both national and development partner resources.

222. The GhAIP will be rolled out through the implementation of independent Policy Tools or by a combination of a number of them to form projects and/or programmes (priority initiatives). Examples of these projects and programmes outlined in this medium term plan include: (a) Planting for Food and Jobs (PFJ); (b) Rearing for Food and Jobs (RFJ) (c) Planting for Export and Rural Development (PERD); (d) Irrigation and water management (1V1D); (e) Agricultural Marketing and Post-Harvest Management including One District one Warehouse (1D1W) and One District One Factory (1D1F); (f) Greenhouse Villages; and (g) Agriculture Mechanisation Services Centres (AMSECs), (h) West African Agricultural Transformation and Improvement Programme (WAATIP), (i) GCAP, (J) GASIP among others.

223. These projects and programmes are the prioritized interventions within the medium term period. Some of these projects are already being rolled out but additional investments would be made to scale them up and out and to increase their impact. Also, other new initiatives will also be introduced in the course of implementation of the Plan.

##### **4.4.1 Planting for Food and Jobs Campaign (PFJ)**

224. The PFJ is the Government of Ghana's flagship programme in the agricultural sector aimed at ensuring food security, increased employment opportunities particularly for the teeming youth, supply raw material for industry and increase agricultural export. The initiative was designed based on identified myriad of challenges facing the sector and the zeal to exploit the untapped its potential. These challenges include: (a) lack of access and low utilisation of certified seeds; (b) low fertilizer usage; (c) weak Extension Service; (d) poor post-harvest management and linkages to market; (e) Low application of ICT to support agriculture; among others. The PFJ campaign was therefore designed to increase the productivity of selected commodity value chains through increased access to certified seeds, fertilizers, extension services and markets; supported by electronic agriculture system of farmer database and extension to enhance targeting. These key areas of focus are reflected in the five pillars of the PFJ – provision of seeds, fertilizers, extension services, marketing and e-agriculture. This plan provides a menu of innovative policy tools to support value chain actors access agricultural services to enhance productivity and competitiveness of the domestic agri-food system

**225. Provision of improved seeds:** The Campaign would identify credible and existing private sector seed producers in the country and support them with the necessary financial and technical capacity to produce quality and affordable selected commodity seeds for distribution to farmers. The seeds will be distributed to the participating farmers at a subsidized cost. Also, extensive sensitization programmes would be implemented by using Bill boards/posters, as well as radio and television (TV) adverts to popularize the usefulness/benefits of certified seeds and how to access them.

**226. Supply of fertilizers:** In line with the National Fertilizer Subsidy Program, fertilizer prices will be subsidized for participating farmers and delivered to them at the district level. In the medium term, the Plant Protection and Regulatory Services Directorate (PPRSD) of MoFA would be supported with modern laboratory equipment to enable testing and regulation of the quality of fertilizers and other agro-inputs imported or produced in the country. This would complement the work of the Ghana Standards Board (GSB) in ensuring that quality fertilizer is imported. In the medium to long term, the Ministry would collaborate with other relevant Ministries, Departments and Agencies (MDAs) to support domestic fertilizer production. This could lower fertilizer prices, eliminating the need for subsidies.

**227. Provision extension services:** The GoG will recruit and place Agriculture Extension Agents (AEAs) in all the 216 districts, provide the required logistics to work closely with the participating farmers. In partnerships with the local governments and private inputs and service providers, the extension services will provide reliable and programmed technical assistance so that the beneficiaries will access and experience the full benefits of the promoted technological packages. These officers will be assigned to all 216 districts in the country and attached to the participating farmers and provided with the required logistics including motorbikes, fuel, protective clothing, etc. Another important role will be to facilitate linkages with service providers and also serve as a point of contact for both data/information collection/collation and dissemination.

**228. Marketing:** Government's intervention in marketing will only be a facilitation role by promoting partnerships amongst farmers, nucleus farmers, farmer associations, farmer based organizations and private aggregators, marketing of both the inputs and outputs. It is envisaged that the facilitation of increased uptake of inputs will lead to increase in production of the targeted crops. New storage warehouses will be constructed in areas closer to the production and where necessary, the old warehouses will be rehabilitated and rendered functional. The PFJ will also assist farmers in marketing their farm outputs to (a) ensure the recovery of the remaining payment for the subsidized inputs, (b) minimize any ill effects of price volatility through increased participation and competition by private players, and (c) widen the benefits of increased production by establishing linkages with value addition and other food purchase programs.

**229. E-Agriculture:** The Campaign would improve on the existing MoFA e-agriculture platform to make it more robust, effective and efficient. The platform would leverage on other software applications created by Ghanaian individuals to ensure effective implementation of the seed and fertilizer distribution programmes, use of Radio-frequency identification (RFID) to monitor distribution units, improve extension service delivery, track and monitor

purchase/sale of farm produce, facilitate timely and efficient data collection, among others. Under this pillar, a national farmer database is being created and linked to the national identification system and existing platform at MoFA. This will involve registering farmers, location, pictures and farm size digitally for database and also for purposes of monitoring. This will be a bedrock of our M&E plan which we are developing built around the thematic areas of yield, incomes of participating farmers in line with development indicators.

230. To achieve the objectives of the PFJ, some approaches are being adopted. These include the use of the value chain approach with a focus on the nucleus-outgrower schemes, registered Farmer-Based Organizations (FBOs), inclusiveness of youth and women (at least 40%), value addition and appropriate agricultural financing. The initial priority commodities under the PFJ include the cereals (maize, rice, sorghum), legumes (soybean, groundnut), vegetables (tomato, onion, pepper, cabbage, cucumber, lettuce, carrot) and root and tubers (cassava). The commodity base will be expanded on a yearly basis as the PFJ is rolled out. The expanded PFJ modules will be implemented employing policy tools under Programme 2 and 3 in particular sub programmes SP.2.1 Productivity Improvement; SP.2.2 Mechanisation, Irrigation and Water management; SP 2.3 Postharvest management and Agricultural Marketing; SP.3.1: Promotion of Private Sector Investment in Agriculture and SP.3.2 Agricultural Financing.

231. It is expected that the campaign will in the short and medium term, contribute to a structural transformation of the economy with evidence in food security through increased productivity and yields, increased employment along commodity value chains and increased incomes for actors in these value chains.

#### **4.4.2 Planting for Export and Rural Developments (PERD)**

232. The Planting for Export and Rural Development (PERD) is the Government's priority initiative to develop the tree crops subsector in the medium term. It aims at increasing the raw material base in order to drive the One-District-One-Factory initiative and provide employment opportunities to the youth and farmers nationwide. The initial priority crops are cashew, coffee, coconut, citrus, cotton, mango, oil palm and shea. The thematic focus areas of the PERD include farmer networking, production and extension, post-harvest/processing, marketing, extension support and business support. The pillars of the PERD include research and extension support services, agricultural information and database management, and value chain reinforcement through capacity building and business support. In the implementation modalities of the PERD, each district is to identify and select two tree crops with socio-economic importance to be promoted within the district. PERD will be implemented employing Policy Tools under Programmes 2 and 3 in particular sub programmes SP.2.1 Productivity Improvement; SP.2.2 Mechanisation, Irrigation and Water management; SP 2.3 Postharvest management and Agricultural Marketing and SP.3.1 Promotion of Private Sector Investment in Agriculture.

233.

#### **4.4.3 Rearing for Food and Jobs (RFJ)**

234. The RFJ is a campaign to be initiated by the Government to stimulate rapid growth of the Ghanaian Livestock sub-sector. The primary objective is to ensure immediate and adequate availability of meat and other livestock/poultry products in the country through improved productivity and intensification of targeted Government of Ghana (GoG) support to private sector service providers and livestock farmers/prospective livestock farmers. It also aims at providing job opportunities for the unemployed youth in agriculture and allied sectors. It also aims at creating awareness for all formal workers to either establish livestock farms and raise some sheep, goats, pigs or poultry, or establish backyard rabbitry/grasscuttery or keep a few fowls, when enough land is not available/accessible.

235. The campaign focusses on seven key value chains; sheep, goats, pigs, poultry, rabbits and bee keeping, and promote peri-urban diary production. The targeted RFJ livestock species and bee keeping have been selected because they thrive in every part of the country. The selected species also have a high propensity for income generation and export revenue. In addition, products from these seven species have relatively high nutritional value for human consumption. The programme covers all the ten regions of the country. While sheep, goats, poultry, pigs and bee keeping would cover all the ten regions, diary and rabbit production would be concentrated in Ashanti, Volta and Eastern Regions and peri-urban areas of Greater Accra and Central Regions. The main approach for delivering on this task is based on managing the risks associated with livestock farming through a deliberate government strategy to support the agriculture sector.

236. The RFJ is aimed at providing solutions to identified challenges in the livestock subsector in order to harness the potentials in that subsector. These challenges include: (a) the lack of access and low utilization of improved breeds; (b) inadequate agricultural extension service; (c) inadequate market structures and linkage of produced commodities to the needs of the market; (d) poor and inadequate livestock housing structures, plant and equipment; (e) poor animal health, inadequate staffing and equipment; (f) low use of ICT to support agriculture; and (g) weak baseline information on farmers.

237. The initiative is centred on 5 pillars namely: breeding Stocks; Feed and Nutrition; Housing structures, plants and equipment; Animal health; and marketing. RFJ will be implemented by employing Policy Tools under Programmes 2 and 3 in particular sub programmes SP.2.1 Productivity Improvement; SP.2.2 Mechanisation, Irrigation and Water management; SP 2.3 Postharvest management and Agricultural Marketing; SP.3.1: Promotion of Private Sector Investment in Agriculture and SP.3.2 Agricultural Financing.

#### **4.4.4 Agricultural Mechanization Services Centres**

238. Mechanization is a crucial input for agricultural development. As part of the planting for food and jobs campaign, the government will revamp the AMSECs which was established

in 2007 to strengthen the operations and optimize the full benefits of mechanization services delivery in agricultural production.

239. The overall objective of AMSECs are to improve availability and timely access to affordable agricultural machinery and mechanized services for agricultural operations. They are expected to provide timely and affordable mechanized services along the value chain to farmers who cannot afford agricultural machinery on their own or due to economy of scale option for service delivery. During implementation in 2007, AMSECs have been faced with several challenges including low utilization of machinery, limited access to AMSEC services by farmers, high premature breakdowns of tractors, poor management and lack of access and high cost of spares. These have contributed to it not being function and near collapse.

240. Some policy interventions for strengthening AMSECs to meet its set objectives being proposed for consideration includes; building skill capacities of machinery operators and AMSEC managers on business management, engaging proactive local agents to deliver effective after sales support and redefining allocation modalities. Others include, introduction of hand held machinery, promotion of ICT in AMSEC delivery and developing land banks for comprehensive mechanization application.

241. Government will make effort to reduce the importation of agricultural machinery and increase Ghana's capacity to assemble and fabricate more agricultural machinery. The focus in the medium term will be to distribute small hand held machinery and equipment for smallholders. The machinery and equipment include agro-processing machines to help strengthen agricultural products value chains.

242. Government will support mechanization of commodity value chains to enhance productivity and also attract the youth to skilled employment along the priority commodity value chains. To ensure that mechanization is properly promoted the Government will implement policy tools in Programme 2 and 3 specifically (SP): SP.2.1 Productivity Improvement; SP.2.2 Mechanisation, Irrigation and Water management; SP 2.3 Postharvest management and Agricultural Marketing, SP.3.1: Promotion of Private Sector Investment in Agriculture; and SP.3.2: Agricultural Financing.

#### **4.4.5 Promotion of Greenhouse Technology**

243. As part of the government's efforts to open opportunities for increased production and exports of vegetables after the 2015 European Union export ban on selected vegetables, a new concept of greenhouse villages was introduced in 2017. The idea of the greenhouse village is to establish strong agribusiness in the vegetable sector to attract both Ghanaian youth and international investors. The objective is to place Ghana as a key competitor in the export of fresh vegetables and cut flowers.

244. As part employment creation agenda of the government, the greenhouse village will have a training section which will train the youth on vegetable farming. Also, a commercial



production section will as well be set up where the graduates from the training school can establish their own enterprise. The greenhouse village was started at Dawhenya in the Greater Accra region and further expansion will be made to the village by adding facilities like a nursery, post-harvest packing house, cooling rooms, auditorium, accommodation, offices, access roads, electricity, among others. Also, as the project runs, it will be extended to the other parts of the country. Government will support the implementation of the Greenhouse Villages employing policy tools under Programme 2 specifically sub programmes (SP): SP.2.1 Productivity Improvement; SP.2.2 Mechanisation, Irrigation and Water management; SP 2.3 Postharvest management and Agricultural Marketing, SP.3.1: Promotion of Private Sector Investment in Agriculture; and SP.3.2: Agricultural Financing.

#### **4.4.6 Post-Harvest Management**

245. With the implementation of the planting for food and jobs and other government interventions, it is anticipated that yields and production levels of commodities would increase. The key Government intervention to reduce post-harvest loses will be through implementation of the one district one warehouse and the promotion of value addition as well as the ware house receipt system and commodity exchange.

#### **4.4.7 Irrigation and Water Management (One-Village-One-Dam, 1V1D)**

246. Another complementary intervention in the agricultural sector is the "One Village, One Dam" initiative. This initiative is being introduced especially in the Upper West, Upper East and Northern Regions, to ensure availability of water for all-year farming. This is expected to improve food security, and curtail migration from the north to the south in search for jobs during the off-farm season. The Government will be employing policy tools under Programme 2 specifically sub-programme SP.2.2 Mechanisation, Irrigation and Water management.

#### **4.4.8 Cocoa Sub-Sector Strategy**

247. The vision for the cocoa sector development is “a modernized, resilient and competitive cocoa environment where all stakeholders strive towards a sustainable cocoa economy in which cocoa farmers and their communities thrive”. This vision is to be achieved through a number of strategic objectives which can be broadly classified into the following:

- a. Farm level productivity enhancement;
- b. Effective and efficient sector governance and pricing;
- c. Increasing domestic value addition in cocoa; and
- d. Raising demand for cocoa through promotion of cocoa consumption domestically and regionally, as well as exploration of non-traditional markets in Asia.

##### **a. Productivity Enhancement Strategy**

248. This strategy is aimed at increasing the output per unit area from the approximately 450kg/ha to 1000kg/ha by 2027. Increased productivity will improve and sustain incomes above current levels in the midst of low cocoa production. The following programmes have been adopted and are currently implemented to increase on-farm productivity.

249. ***Farm Rehabilitation:*** This intervention is a compensation-based rehabilitation of old/moribund farms, with targets of removing 162 million trees covering 147,000 ha by 2022 and an additional 162 million trees covering 147,000 ha by 2027. This target will require 311 million hybrid seedlings each and plantain suckers and 5 million economic trees by 2022. The treatment of CSSV-diseased trees will involve the removal of 120 million trees covering 108,000 ha by 2021. This will require 160 million cocoa seedlings, 130 million plantain suckers, and 2.2 million economic trees. The intervention also includes mass pruning of farms proposed to be sponsored by COCOBOD.

250. ***Diseases and Pest Control:*** Effective control of diseases and pests is fundamental to achieving the primary productivity goal of 1,000 kg/ha. Thus, COCOBOD will involve the private sector in the distribution, sales, and application of chemicals for cocoa diseases and pest control. Emphasis will be on ensuring timely supply and accessibility of inputs to farmers at competitive prices. COCOBOD will also encourage the participation of the private sector in the delivery of farm spraying services.

251. ***Soil Fertility Management:*** To boost fertility of cocoa soils and ensure proper soil management, COCOBOD will intensify the cocoa HI-TECH programme by making fertilizer easily available to farmers. Key in this intervention is the gradual (phased) withdrawal of COCOBOD from the distribution of fertilizers directly to farmers. This phased withdrawal will allow private sector participants (fertilizer distributing companies) to prepare and position themselves strategically in cocoa communities to assume control of sales and distribution of fertilizer. The overall focus will be on ensuring sustainable (accessibility and timely availability) supply of fertilizer.

252. COCOBOD shall encourage the formation of private input application (agricultural service delivery) companies to perform services for cocoa farmers. The objective is to get private companies to render professional input application services to farmers at a fee. Regular soil analysis will be carried out to monitor soil fertility and advise farmers on the appropriate fertilizers to use per location.

253. ***Irrigation on Cocoa Farms:*** Irrigation is a strategy to deal with the adverse effects of climate change and the associated harsh weather conditions. COCOBOD will support and promote the establishment of Irrigation systems within cocoa growing areas. The target is to irrigate about 30% of cocoa farms by 2027.

254. ***Artificial Pollination of Cocoa:*** This intervention is meant to directly increase the number of cocoa pods per tree, and can be undertaken through the year provided there are flowers on the cocoa trees. The successful implementation of this intervention requires the complementary effects of good agricultural practices (e.g. fertilizer application, pruning, weeding, irrigation,) to support the artificially pollinated cocoa trees. COCOBOD targets to train and deploy 30,000 youth in the under this intervention within the medium term, who will later undertake it as a business, offering paid pollination services to farmers.

255. **Extension:** Cocoa extension has passed through different phases. Since 2010, cocoa extension has reverted to COCOBOD on public- private arrangement with industry partners. The number of qualified extension agents has been identified to be inadequate to support the implementation of productivity enhancing programmes toward the long-term objective of 1,000 kg/ha. The current ratio of 1 agent to 2,500 farmers is five times lower than the recommended ratio of 1 agent to 500 farmers. The medium target is a ratio of 1 agent to 1000 farmers by 2022. COCOBOD extension services will be enhanced with adequate logistics and trained staff for efficient extension delivery. Modern tools of extension, including use of ICT which has already been piloted by COCOBOD will be deployed to increase access to extension services. Extension officers will also be aided with these technologies to facilitate information delivery and enhance their capacities in the service delivery.

256. The focus of cocoa extension will also include the development and use of labour saving technologies to encourage the youth to develop interest and adopt cocoa farming as a business. To this end, extension education will focus on and intensify the farmer business school concept as a tool to inculcate in the farmer the adoption and operation of cocoa farming as a business. COCOBOD will ensure that the industry partnership arrangement for extension delivery is strengthened for efficient extension delivery.

### **Value Addition**

257. The target of this strategy is to increase domestic processing of cocoa beans to 50% of the annual output, from 30% in 2017/18. This will be achieved primarily by increasing capacity utilization of existing facilities and encouraging the establishment of new processing units. In order to increase the value of processed cocoa to Ghana, COCOBOD is encouraging processing companies to move towards secondary and tertiary processing. From 2017/18, processing companies shall be licensed if they are prepared to process beyond the primary level. Priority will be given to processing companies undertaking secondary/tertiary processing in the Bean Supply Agreements (BSAs). The BSAs shall apply a graduated rate of discount on price of beans supplied to local processors, based on the level of value addition which shall be negotiated and mutually agreed between COCOBOD and the domestic processing factories.

258. Importation of light crop beans to process in Ghana shall be allowed, but subject to COCOBOD's approval. Such cocoa bean imports shall be transported by sea only. COCOBOD shall identify and register all artisanal chocolate manufacturers, train and regulate their activities.

259. **Pricing of Beans for Domestic Processing:** COCOBOD shall ensure that, sale of cocoa beans to local processors will be in accordance with COCOBOD sales contract terms, which shall include among others, the prevailing terms of trade and the availability of the required grade/category and quantity of beans desired by the buyer. To ensure effectiveness in the pricing of beans purchased by domestic processors, the following measures would be undertaken by COCOBOD:

260. Discount on the light crop and other lower bean size categories will be pegged to the prevailing market rates applicable in the world market. In addition, extra discounts will be

determined by the stage of processing for which the cocoa bean is required at the following rates:

- i. Primary Processing - 2.5% discount above market
- ii. Secondary Processing - 5.0% discount above market
- iii. Tertiary Processing - 7.5% discount above market

261. By definition, the following products shall apply to the processing stages above:

- i. Primary processing: Liquor, butter, cake and powder.
- ii. Secondary processing: Liquid chocolate or coating (couverture)
- iii. Tertiary processing: Finished chocolate or Confectionery products

262. Sale of light crop and other smaller category beans will be undertaken on ex-store or equivalent terms to reflect what pertains on the international market.

263. ***Increasing demand for Ghana cocoa:*** As world production continues to rise, raising demand will be necessary to reduce the bearish effect of excess supply in the market. COCOBOD have adopted a two-pronged approach to increasing the demand for Ghana cocoa, i.e. promotion of cocoa utilization in the domestic and sub-regional markets, and the expansion of demand in non-traditional markets.

264. ***Promotion of cocoa Consumption:*** The target for the promotion of cocoa consumption is to increase domestic consumption from the current rate of 0.5kg per capita to 1.5kg per capita by 2022. This will be achieved thorough increased awareness creation on the health and nutritional benefits of cocoa and utilization of cocoa, with specific messages targeted at policy makers, cocoa industry players, researchers (food scientists, nutritionists, biochemists, food preparation and food service industry) and media. COCOBOD, in this plan period, shall promote the benefits of cocoa and inculcate cocoa as food for everyday consumption in Ghana and Africa. The strategy will be towards making cocoa part of a healthy African food culture.

265. ***Market Expansion:*** COCOBOD will pursue an aggressive marketing strategy comprising of: (a) Spread customer base in our traditional markets by roping in end users who are currently not using Ghana cocoa beans; (b) Penetrate new and emerging markets by encouraging cocoa processing and manufacturing companies to use more of Ghana cocoa beans; (c) Greater differentiation of cocoa beans, thereby obtaining markets for super-main and super-light crop bean categories; (d) Review of the selling arrangements to be able to compete and reach out to all markets without language limitation; (e) Strengthen the market research machinery, market intelligence gathering and sales expansion programmes to stay ahead of the competition, thereby, increasing the base and premium on cocoa.

### **Pricing, Operations and Sector Governance**

266. ***Producer Price:*** The Producer Price Review Committee (PPRC) mechanism for determining the minimum producer price for cocoa shall remain in place. The commitment to offer not less than 70% of net FOB price will continue to be implemented. Periodic review of the producer price will be undertaken, with the view to ensuring stable real income to the farmer. To ensure that other stakeholders are equitably compensated, COCOBOD will undertake the following activities: (a) Establish an income balance between the farmer and the other stakeholders in the industry to ensure profitability among all stakeholders; (b) Progressively reduce industry cost from an average of 16% to 10% of F.O.B in the medium term, this will ensure that the net F.O.B is not depressed by the industry cost and guarantee fair

remuneration to all stakeholders; (c) Analysis of relevant situation in neighbouring cocoa producing countries will be considered by the PPRC in the determination of the producer price; (d) Prompt response to price fluctuations within the crop season. This will ensure that Ghana's producer price remains competitive throughout the season. This will also serve as a check on smuggling to other countries; (e) Implementation of the stabilization fund. When F.O.B prices fall to very low levels, it will be used to cushion stakeholders, especially the farmer; (f) The producer price set will be linked to the achieved FOB price.

**267. *Internal Marketing of Cocoa:*** The internal marketing of cocoa will continue to be driven by the current policy of partial liberations, in which the purchases and transportation of cocoa beans to COCOBOD warehouses or take-over centers will be undertaken by licensed private entities. In spite of the low volume of purchases of many LBCs, no limit will be set for the maximum number of LBCs, in line with the liberalization of the internal marketing. However, if a LBC fails to purchase a minimum tonnage set by COCOBOD per annum for two consecutive crop years, its licence would be withdrawn. COCOBOD will also withdraw the licence of a LBC which fails to operate for two consecutive crop years.

**268.** The Guidelines and Regulations governing the internal marketing of cocoa will be passed in to a Legislative Instrument (LI) to ensure strict enforcement of the sanctions on malpractices in the internal marketing. COCOBOD will from 2018 adopt payment arrangements that will progressively phase out the current cash system by 2027. COCOBOD will collaborate with key stakeholders including the financial sector to explore other alternative payment systems for cocoa farmers, including the use of electronic payment platforms.

**269. *Modernization of Warehouses and Takeover Operations:*** This strategy is aimed at increasing capacity of warehouses, efficiency in space utilization, speed of operations at warehouses (taking-over and shipping), as well as cost effectiveness. COCOBOD will undertake adequate investments in the following areas: (a) Mechanization and automation of operations at the take-over centres involving the acquisition of modern warehousing tools/equipment such as weigh bridges, conveyor belts, forklifts, stackers, etc.; (b) Automation of the cocoa taken-over receipting (CTOR) processes and payment system; (c) The Kumasi take-over centre will be strengthened and equipped as an inland port for container stuffing and direct shipping of cocoa to external destinations; (d) The private sector will continue to be engaged in the provision of terminal equipment for lifting containers to improve turnover in outbound distribution systems, besides the provision of bulk cocoa terminal storage and bulk carrier vessel loading. Presently there is only one company operating at Takoradi, thus providing an opening for other investors.

**270. *Increasing Private Sector Participation in Input Delivery:*** Private sector distribution and sale of subsidized inputs to cocoa farmers shall be improved. (Subsidies to farmers on inputs which can only be redeemed at input distribution shops). Subsidies can thus be accessed only in the form of cocoa inputs from accredited input distributors. COCOBOD will encourage the formation of professional private spraying companies that will eventually take over and offer professional farm maintenance services at cost to cocoa farmers. Since farmers are expected to spray their farms to achieve the recommended spraying regime, COCOBOD will

eventually relinquish input distribution to the private sector who will make chemicals available in the open market to be purchased by interested farmers.

271. **Gender Mainstreaming:** Cocoa value chain interventions will be guided to mainstream gender issues in order to encourage social equity and inclusion to drive improvements in yields and incomes, especially among female farmers. This will help promote gender sensitive value chain activities. The strategy to be adopted include: (a) Establishment of a Gender Desk within COCOBOD to be responsible for gender related policy issues; (b) Develop institutional capacity for effective gender mainstreaming; (c) Integrate gender in extension programming to ensure relevance of information to men and women and equitable access to services; (d) Sensitization of traditional authorities and smallholder farmers on gender equality to enable them appreciate and overcome barriers to social exclusion in the cocoa value chain.

272. **Youth in Cocoa Farming:** The objective of the Youth in Cocoa Farming is to encourage the youth to establish and own cocoa farms as viable businesses. The following strategies incentives shall be provided: (a) Facilitation of land acquisition. Acquired lands will be owned by the youth; (b) Provision of dedicated technical support (extension) and inputs; and (c) Training of youth to improve their capacity in managing cocoa as a business and provide the platform for them to access funds intended for cocoa farming.

273. **The successful implementation of these strategies will require a concerted effort on the part of COCOBOD and solid framework of coordination and engagement between COCOBOD and key stakeholders including MDAs, the private sector and civil society. COCOBOD will therefore foster strong partnerships with relevant stakeholders to ensure the effective implementation of the Medium Term Strategy.**

#### **4.5 Mobilizing resources to finance the implementation of the menu of key activities**

274. The Government in its effort to finance the agricultural transformation agenda, will facilitate the setting up of two (2) exclusive agricultural development funds through legislation, namely: (a) *the Ghana Agricultural Infrastructure Development Fund (GAIDF)*; and (b) *Ghana Agri-Food Systems Development Fund (GADF)*. The GADF will be have a private sector orientation whilst the GAIDF will be devoted to investments on public infrastructure in order to leverage private sector investment in sector.

- **Ghana Agricultural Infrastructure Development Fund (GAIDF):** The focus of this fund is to invest in public agriculture infrastructure such as feeder roads, warehouses, irrigation, green-houses etc. The Government will make its contribution through the Annual Budgetary Fund Amount (ABFA) and other sources such as mobilizing complementary resources from development partners. It will also implement a smart policy of small taxes and levies (e.g. on food imports) that do not burden consumer prices to mobilize public resources to finance the fund.
- **Ghana Agri-Food Systems Development Fund (GADF):** This is a proposed sustainable funding mechanism for commodity value chains. It will have a private sector orientation and use the taxing mechanism. This kind of funding usually is effective in a structured and well-defined

commodity value chains. Thus, establishing, strengthening and facilitating the proper functioning of well-defined and structured commodity value chain is critical in this plan period. For examples, MoFA has already adopted championing this approach through this plan, by facilitating the establishment of the *Tree Crops Industry Association*. This will be replicated for other priority commodities. Various commodity industry associations will **make contribution to the funds** in a form of industry out-put levies. Thus, the more the industry grows the higher the revenue to be generated. Smart subsidies provided as direct transfer to farmer organizations and agri-food firms and other forms of support targeting production, research and training would be considered as forms of supports to association players. **Likewise, the resources will be used to capitalize promoted enterprises and transferred later to the general public as equities or debts.** Government will provide the seed money for the funds and entrust GADF to the industry association to manage the operations of the funds.

275. GoG will implement the menu of policy tools to address 3 categories of investments, with the aim to leverage private investments. It is expected that GHS 1 of public expenditure (devoted to implementing adequate key activities) will leverage at least GHS 20 of private investment. The 3 investment categories are:

276. **Investment Category 1 – Building the systems (public and private sectors) that will generate the outcome results.** These include: (i) the public-sector governance and accountability system; (ii) a nexus of private sector enterprises; and (iii) Agri-food-system Industry Association (AFIA).

- ***The public-sector governance and accountability system*** – The aim is to ensure sound sector management and build transparency and trust among sector stakeholders. The system will include 2 components:
  - *A Planning, Monitoring & Evaluation, and Reporting System*, that would be designed to empower MoFA to ensure alignment and harmonization of Government and Donor interventions and account for results.
  - *A Financial management system* that: (i) links sector funding to medium term expenditure framework; (ii) allocate sector resources to specific key activities; (iii) entrusts private agencies to manage some of the implementation of key activities; (iv) accommodates various donor financing mechanisms and harmonize them with Government's tools; (v) enhances the mechanisms for effective oversight of parliament on sector budget and expenditure; (vi) ensures periodic audit and review.
- ***A nexus of private sector enterprises***
  - *The Agricultural Clusters Service Enterprises (ACSEs)* as drivers of commodity value chains. ACESs will be promoted as joint venture between farmer organizations, private operators, and Government (Central and Local) that will progressively transfer its shares to the general public through equities or debts. These enterprises will be licensed to manage warehouses as collateral.
  - *The Market Hub Firms (MHFs)* is critical for the transformation of the Ghana food distribution chains. As for the ACSEs, The Government will promote MHFs as a

joint venture between ACSEs, Banks, private firms, and Government (Central, Local) that will progressively transfer its shares to the general public through equities or debts.

- *Other Micro, Small and Medium Enterprises* will be promoted to deliver a wide range of goods and services to farmers and other value chain players, including mechanization services, soil testing services, earth warm provision, compost provision, certified seeds provision, veterinary services, and livestock breeding services including artificial insemination, milk collection, feed provision, business management services....
- ***The Agri-Food Industry Association (AFIA)***. AFIA will be promoted as an association that represents all the players (farmers, farmer organizations, private firms...) of the agri-food systems. The agency will be equipped with *a corporate governance system complying with international norms*. This will ensure members effectively keep managers accountable. In addition, because Government can keep the agency accountable, **AFIA will be entrusted to implement the Ghana Agri-food-systems Development Fund as well as the private sector window of the Ghana Rural Infrastructure Development Fund.**

277. **Investment Category 2 – Developing critical infrastructures.** These include irrigation schemes in accordance with ‘1 Village – 1 Dam’, feeder roads, market hub infrastructures and warehouses. The institutional arrangements regarding ownership, operation and maintenance of these infrastructures will be duly clarified.

278. **Investment Category 3 – Direct transfer to farmers and firms** through smart subsidies, crafted to incentivise private financing. Most of these subsidies are one-time expenditure by the public sector to enable value chain players, specifically farmers and small and medium enterprises to enhance their productivity and competitiveness.

279. The three categories of public sector investment will represent approximately 20% of the total budget for direct transfers, 30% for building agri-food systems, and 50% for the critical infrastructure.

#### **4.6 Alignment of Policy objectives, Strategies and Programmes**

280. Table 4.1 below shows the linkages between the policy objectives and the GhAIP Programme areas. As shown in the table, each of the prescribed strategies is to be implemented through programme and sub-programmes with a combination of specific policy tools, under various investment areas.



**Table 4.1: Alignment of Policy Objective and Strategies to the GhAIP Programmes Areas**

Issues	Adopted Policy Objectives (7)	Adopted Strategies	GhAIP Programme	Sub-Programmes
<input type="checkbox"/> Poor marketing systems  <input type="checkbox"/> High cost of production Inputs	4.1 Promote a Demand driven approach to agricultural development	4.1.1 Facilitate capacity building in negotiations, standards, regulations and skills development in contracting for actors along the value chain  4.1.2 Ensure implementation of the Ghana Commercial Agriculture Project (GCAP) to link both smallholder and commercial producers to industry  4.1.3 Develop market support services for selected horticulture, food and industrial crops to enhance production for export  4.1.4 Facilitate and support the establishment of stakeholder controlled marketing companies for grains and selected products, including a Cashew Marketing Authority  4.1.5 Promote and expand organic farming to enable producers access the growing world demand for organic products	1. Sector Management and Administration  2. Crops and Livestock Development	1.2 Human Resource, Development and Management  2.1 Crops and Livestock Production and Productivity Improvement  2.3 Postharvest Management and Agricultural marketing  2.4 Nutrition Sensitive Agriculture
<input type="checkbox"/> Inadequate development of and investment in processing and value addition	4.2 Ensure improved Public Investment	4.2.1 Accelerate the provision of critical public infrastructure such as feeder roads, electricity and water  4.2.2 Develop tailor-made agricultural financing, especially long-term Instrument  4.2.3 Design and implement needs-based technical assistance and	1. Sector Management and Administration  2. Crops and Livestock Development	1.1 Finance and Administration  1.4 Research, Statistics, Information, Communication and Public Relations  2.1 Crops and Livestock Production and Productivity Improvement

		<p>extension support</p> <p>4.2.4 Institute tax relief and incentives for agriculture investment</p> <p>4.2.5 Restructure MOFA to have a marketing department to work with MOTI to support the demand-driven agenda</p> <p>4.2.6 Introduce District Chamber of Agriculture, Commerce and Technology (DCACT) with the mandate to promote agri-business through enhanced interface between the private and public sectors at the district level</p> <p>4.2.7 Support the development of at least two exportable agricultural commodities in each district</p> <p>4.2.8 Create District Agriculture Advisory Services (DAAS) to provide advice on productivity enhancing technologies</p>	3. Agribusiness Development	<p>2.3 Postharvest Management and Agricultural marketing</p> <p>3.1 Promotion of Private Sector Investment in Agriculture</p> <p>3.2 Agricultural Finance</p>
<p><input type="checkbox"/> Low application of technology especially among smallholder farmers leading to comparatively lower yields</p> <p><input type="checkbox"/> Low level of irrigated agriculture</p> <p><input type="checkbox"/> Seasonal variability in food supply and prices</p> <p><input type="checkbox"/> Erratic rainfall patterns</p> <p><input type="checkbox"/> Encroachment of designated irrigation sites</p>	4.3 Improve production efficiency and yield	<p>4.3.1 Establish modalities and regulatory frameworks for production of seed/planting materials, and other agro inputs,</p> <p>4.3.2 Increase investment in research and development of climate resilient, high yielding disease and pest resistant, short duration crop varieties, taking into account consumer health and safety</p> <p>4.3.3 Reinvigorate extension services</p>	<p>1. Sector Management and Administration</p> <p>2. Crops and Livestock Development</p>	<p>1.1 Finance and Administration</p> <p>1.3 Policy, Planning, Monitoring, Evaluation, Budgeting and Coordination</p> <p>1.5 Early Warning Systems and Emergency Preparedness</p> <p>2.1 Crops and Livestock Production and Productivity Improvement</p>

<p><input type="checkbox"/> Ineffective gender and disability engagement in irrigation</p> <p><input type="checkbox"/> High cost of energy for irrigation</p>		<p>4.3.4 Ensure effective implementation of the yield improvement Programme</p> <p>4.3.5 Intensify and increase access to agricultural mechanization along the value chain</p> <p>4.3.6 Promote commercial and block farming</p> <p>4.3.7 Implement Government’s flagship intervention of ‘One village One dam to facilitate the provision of community-owned and managed small-scale irrigation, especially in the Afram Plains and Northern Savannah</p> <p>4.3.8 Mobilise investment to expand and rehabilitate irrigation infrastructure including formal schemes, dams and dugouts</p> <p>4.3.9 Support the development of both public and private sector large scale irrigation schemes</p> <p>4.3.10 Develop systems to harvest excess water for irrigation</p> <p>4.3.11 Develop and promote appropriate and affordable and modern irrigation technologies for all agro ecological zones</p> <p>4.3.12 Promote the use of solar and wind energy for irrigation</p> <p>4.3.13 Advocate for differential energy pricing for irrigation schemes</p>	<p>3. Agribusiness Development</p>	<p>2.2 Mechanisation, Irrigation and Water Management</p> <p>2.3 Postharvest Management and Agricultural marketing</p> <p>2.4 Nutrition Sensitive Agriculture</p> <p>3.1 Promotion of Private Sector Investment in Agriculture</p> <p>3.2 – Agricultural Finance</p>
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		<p>4.3.14 Secure land title for designated irrigation sites</p> <p>4.3.15 Mainstream gender and disability issues into irrigated agriculture</p> <p>4.3.16 Develop policies and legal regime, and appropriate tenure arrangement for use of irrigation facilities</p> <p>4.3.17 Develop the capacity of farmers to use meteorological information</p>		
<p><input type="checkbox"/> Poor storage and transportation systems</p> <p><input type="checkbox"/> Poor farm-level practices,</p> <p><input type="checkbox"/> High cost of conventional storage solutions for smallholder farmers</p> <p><input type="checkbox"/> Low quality and inadequate agriculture infrastructure</p>	4.4 Improve Post-Harvest Management	<p>4.4.1 Support selected products beyond the farm gate in post-harvest activities, including storage, transportation, processing, packaging and distribution</p> <p>4.4.2 Provide incentives to the private sector and district assemblies to invest in post-harvest activities</p> <p>4.4.3 Provide support for small- and medium-scale agro-processing enterprises through the One District, One Factory initiative</p> <p>4.4.4 Ensure continuous expansion and upgrading of road infrastructure connecting farms to marketing centres</p> <p>4.4.5 Reorganize the national food buffer stock agency to be more efficient and market oriented to give incentives for private sector participation</p>	<p>3. Agribusiness Development</p> <p>2. Crops and Livestock Development</p>	<p>3.1 Promotion of Private Sector Investment in Agriculture</p> <p>3.2 – Agricultural Finance</p> <p>2.1 Crops and Livestock Production and Productivity Improvement</p> <p>2.2 Mechanisation, Irrigation and Water Management</p> <p>2.3 Postharvest Management and Agricultural marketing</p> <p>2.4 Nutrition Sensitive Agriculture</p> <p>2.5 Diversification of Livelihood options</p>

		<p>4.4.6 Facilitate the provision of storage infrastructure with a drying system at the district level and a warehouse receipt system</p> <p>4.4.7 Facilitate trade and improve the environment for commercial activities</p> <p>4.4.8 Implement commodities trading centres (i.e. Modern Farmers' Market) across all MMDAs focusing on grains, vegetables and tubers marketing</p>		
<p>Lack of database on farmers</p> <p><input type="checkbox"/> Limited insurance for farming activities</p> <p><input type="checkbox"/> Inadequate agribusiness enterprise along the value chain</p> <p><input type="checkbox"/> Low transfer and uptake of research finding</p> <p><input type="checkbox"/> Limited application of science and technology</p>	<p>4.5 Enhance the application of science, technology and innovation</p>	<p>4.5.1 Promote the application of information and communications technology (ICT) in the agricultural value chain in order to minimize cost in all operations</p> <p>4.5.2 Improve the effectiveness of Research-Extension-Farmer Liaison Committees (RELCs) and integrate the concept into the agriculture research system to increase participation of end users in technology development</p> <p>4.5.3 Establish a database on all farmers, drawn from the national identification system</p> <p>4.5.4 Promote agriculture insurance schemes to cover agriculture risks</p> <p>4.5.5 Disseminate information on weather and prices</p> <p>4.5.6 Strengthen research programmes of the Council for Scientific and Industrial Research</p>	<p>2. Crops and Livestock Development</p> <p>3. Agribusiness Development</p> <p>4. Sustainable management of Land and Environment</p>	<p>2.1 Crops and Livestock Production and Productivity Improvement</p> <p>2.2 Mechanisation, Irrigation and Water Management</p> <p>2.3 Postharvest Management and Agricultural marketing</p> <p>2.4 Nutrition Sensitive Agriculture</p> <p>3.2 Agricultural Finance</p> <p>4.1 Conservation of Natural Resources</p> <p>4.2 Climate Change Mitigation and Resilience Scheme.</p>

		<p>(CSIR), as well as of the agricultural and related sciences departments of public universities and other institutions</p> <p>4.5.7 Develop local fertilizers industry based on gas and petroleum resources to improve agricultural yield and save foreign exchange</p>		
<input type="checkbox"/> Ageing farmer population <input type="checkbox"/> Lack of youth interest in agriculture <input type="checkbox"/> Inadequate start-up capital for the youth <input type="checkbox"/> Lack of credit for agriculture <input type="checkbox"/> Inadequate access to land for agriculture production	4.6 Promote agriculture as a viable business among the youth	<p>4.6.1 Support youth to go into agricultural enterprise along the value chain</p> <p>4.6.2 Develop and implement programmes to attract youth into off farm activities such as handling, processing, packaging and Transportation</p> <p>4.6.3 Provide financial support for youth by linking them to financial institutions for the provision of start-up capital</p> <p>4.6.4 Design and implement special programmes to build the capacity of the youth in agricultural operations</p> <p>4.6.5 Support the youth to have access to land</p>	<p>3. Agribusiness Development</p> <p>2. Crops and Livestock Development</p>	<p>3.1 Promotion of Private Sector Investment in Agriculture</p> <p>3.2 – Agricultural Finance</p> <p>2.1 Crops and Livestock Production and Productivity Improvement</p> <p>2.5 Diversification of livelihood options</p>
<input type="checkbox"/> Low quality genetic material of livestock species <input type="checkbox"/> Low level of husbandry practices, <input type="checkbox"/> Low productivity and poor handling of livestock/poultry products <input type="checkbox"/> Inadequate feed and water	4.7 Promote livestock and Poultry development for food security and income generation	<p>4.7.1 Finalize the Veterinary Services and Animal Production Bill and amend the Veterinary Surgeon's Law of 1992</p> <p>4.7.2 Enact legislation to cover poultry hatchery, livestock breeding, meat inspection and anti-dumping of poultry</p>	1.Sector Management and Administration	<p>1.1 Finance and Administration</p> <p>1.2 Human Resource, Development and Management</p> <p>1.3 Policy, Planning, Monitoring, Evaluation, Budgeting and Coordination.</p>



## CHAPTER FIVE

### 5 Programme of Action

281. This chapter presents the Programme of Action which outlines the Investment Areas and Policy Tools to be implemented and their corresponding indicative budget from 2018 to 2021. Table 5.1 shows the summary of the indicative budgets for implementing the four (4) programme areas for the entire period of the plan whilst Table 2 shows indicators, baseline, indicative budget and implementing agencies for each activities.

282. The costs of implementing this Plan was estimated by costing activities outlined to implement each Policy Tool. The costing structure corresponds to the hierarchy of Programmes, Sub-Programmes, Investment Areas and Policy Tools. This provides clear analytical links from the goal of the agriculture sector to the objectives, strategies, programmes and their expected outcomes for activities and to inputs. Input costing was applied wherever possible using inputs estimated. Where input costing was not possible, expert judgement and experience was applied to estimate costs for activities. The resulting cost estimates for the plan are therefore indicative.

283. The total indicative budget for the GhAIP (4 years) is estimated at GH¢ 9,543.28 million as shown in Table 5.1. The government of Ghana is committed to contributing 65% (GH¢ 6,203.13 million) of the total cost of implementation within the medium term period whilst the donor community are expected to support the remaining 35% (GH¢ 3,340.15 million). About 36% (GH¢ 3,422.16 million) is/will be secured through the national annual budgets which includes secured donor support whilst the remaining 64% (GH¢ 6,121.12 million) is established funding gap.

**Table 5.1: GhAIP Budget Estimates (GH¢)**

Programme Areas	Indicative Budget (GH¢)				
	2018	2019	2020	2021	Total
<b>Programme 1: Management and Administration</b>	<b>196,302,447</b>	<b>201,331,490</b>	<b>205,982,628</b>	<b>211,098,880</b>	<b>814,715,445</b>
SP 1.1: Finance and Administration	154,820,105	154,820,105	154,820,105	154,820,105	619,280,420
SP 1.2: Human Resource Development and Management	26,667,220	29,900,176	32,890,193	36,179,212	125,636,801
SP 1.3: Policy, Planning, Budgeting, Monitoring and Evaluation	11,852,098	13,288,967	14,617,864	16,079,650	55,838,579
SP 1.4: Research, Statistics, ICT and Public Relations	2,963,024	3,322,242	3,654,466	4,019,913	13,959,645
<b>Programme 2: Crops and Livestock Development</b>	<b>747,101,841</b>	<b>2,311,006,067</b>	<b>2,557,336,045</b>	<b>2,800,844,663</b>	<b>7,669,186,775</b>
SP 2.1: Crops and Livestock Production and Productivity Improvement	529,567,018	1,145,951,043	1,235,083,067	1,320,304,449	3,701,338,559
SP 2.2: Mechanisation, Irrigation and Water Management	160,451,150	1,049,225,900	1,229,952,735	1,423,509,594	3,702,688,229
SP 2.3: Post Harvest Management and Agricultural Marketing	54,678,233	112,942,596	88,836,410	52,874,020	254,653,026
SP 2.4: Nutrition Sensitive Agriculture	2,405,440	2,886,528	3,463,834	4,156,600	10,506,962
SP 2.5: Emergency Preparedness	81,644,817	90,026,299	99,076,929	109,042,221	298,145,449
<b>Programme 3: Agribusiness Development</b>	<b>21,405,000</b>	<b>31,202,000</b>	<b>34,592,200</b>	<b>35,951,820</b>	<b>123,151,020</b>
SP 3.1: Promotion of Private Sector Investment in Agriculture	85,000	2,390,000	2,213,000	1,794,700	6,482,700
SP 3.2: Agricultural Finance	21,320,000	28,812,000	32,379,200	34,157,120	116,668,320
<b>Programme 4: Sustainable Development of Land and Environment</b>	<b>201,898,053</b>	<b>222,226,925</b>	<b>244,650,097</b>	<b>267,449,989</b>	<b>936,225,064</b>
SP 4.1: Conservation of Natural Resources	4,600,000	5,060,000	5,566,000	6,122,600	21,348,600
SP 4.2: Climate Change Mitigation and Resilience Schemes	197,298,053	217,166,925	239,084,097	261,327,389	914,876,464
<b>Grand Total</b>	<b>1,166,707,341</b>	<b>2,765,766,482</b>	<b>3,042,560,970</b>	<b>3,315,345,352</b>	<b>9,543,278,304</b>
<b>Government of Ghana Contribution (GOG)</b>	<b>758,359,772</b>	<b>1,797,748,213</b>	<b>1,977,664,631</b>	<b>2,154,974,479</b>	<b>6,203,130,898</b>
<b>Expected Development Partner Contribution (Donor)</b>	<b>408,347,569</b>	<b>968,018,269</b>	<b>1,064,896,340</b>	<b>1,160,370,873</b>	<b>3,340,147,406</b>
<b>Total Secured</b>		<b>967,845,075</b>	<b>1,150,402,308</b>	<b>1,303,912,970</b>	<b>3,422,160,353</b>
<b>GAP (Total Secured)</b>		<b>- 1,797,921,407</b>	<b>- 1,892,158,662</b>	<b>- 2,011,432,382</b>	<b>- 6,121,117,951</b>
GoG (MoFA Secured)		471,226,566.00	673,661,929.00	803,448,315.00	1,948,336,810.00
GAP (GOG)		(1,326,521,647.24)	(1,304,002,701.63)	(1,351,526,163.75)	- 3,982,050,512.61
Donor (Secured)		496,618,509	476,740,379	500,464,655	1,473,823,543.00
GAP (Donor)		- 471,399,760	- 588,155,961	- 659,906,218	- 1,719,461,938.41



**Table 5.2 A: Programme of Action (POA) for Programme 1**

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
<b>1: Sector Management and Administration</b>									<b>814,715,445.00</b>	F&A	All MoFA Directorates
	1.1: FINANCE AND ADMINISTRATION								619,280,420.00		
		1.1.1 Management of Assets and Liabilities;							123,856,084.00	F&A	All MoFA Directorates
		1.1.2 Procurement processes;							123,856,084.00	F&A	All MoFA Directorates
		1.1.3 Policy development processes and related issues;							185,784,126.00	F&A	All MoFA Directorates
		1.1.4 Auditing financial transaction and responding to audit queries;							123,856,084.00	F&A	All MoFA Directorates
		1.1.5 Provision of legal services.							61,928,042.00	F&A	All MoFA Directorates
	1.2: HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT								125,636,801.00		
		1.2.1 Facilitate staff training							106,465,182.10	HRDMD	All MoFA Directorates
		1.2.2 Conduct tracer studies and outreach programmes							6,607,938.80	HRDMD	All MoFA Directorates
		1.2.3 Coordinate staff progression activities							12,563,680.10	HRDMD	All MoFA Directorates

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
	1.3: POLICY, PLANNING, BUDGETING, MONITORING AND EVALUATION								55,838,579.00		
		1.3.1 Conduct monitoring and evaluation on all projects							27,919,289.50	PPMED	SRID, GSS,
		1.3.2 Prepare and implement policies, plans and annual budget							5,583,857.90	PPMED	All Sector Stakeholders
		1.3.3 Prepare investment guide for the agriculture sector in Ghana.							2,534,915.91	PPMED	GIPC, MoF, All MoFA Directorates
		1.3.4 Coordinate programmes and project implementation in the agriculture sector.							16,751,573.70	PPMED	All MoFA Directorates
	1.4: RESEARCH, STATISTICS, INFORMATION, COMMUNICATION AND PUBLIC RELATIONS								13,959,645.00		
		1.4.1 Collection, processing and analysis of area, yield and production data on major crops							4,187,893.50		
		1.4.2 Collaboration with relevant stakeholders to collect, process and analyze livestock and poultry data							1,395,964.50		
		1.4.3 Monitoring agricultural trade statistics, producer prices, farm input prices and transport							1,395,964.50		

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
		charges for agricultural commodities									
		1.4.4 Collection and analysis of weekly market prices of various agricultural produce at wholesale and retail levels							1,395,964.50		
		1.4.5 Preparation of annual crop budget for major crops							4,187,893.50		
		1.4.6 Establish and maintain a national operational and geo database							1,395,964.50		

**Table 5.2 B: Programme of Action (POA) for Programme 2**

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
<b>Programme 2: Crops and Livestock Production Development</b>											
	1.1: CROPS AND LIVESTOCK PRODUCTION AND PRODUCTIVITY IMPROVEMENT										
		2.1.1 Promoting Improved Genetic Resources									
			2.1.1.1 – Promotion of genetic improvements in livestock and plants to increase productivity and disease resistance						6,028,000	MoFA (CSD, APD),	CSIR (ARI, CRI), PGRRI
			2.1.1.2 – Enhancing seed certification capacity						871,600	PPRSD	CSD, NSC, NASTAG
			2.1.1.3 – Enhancing the production and utilization of certified seeds (including plant propagating materials).						1,226,299,353	CSD	NASTAG, Wenchi, Mampong, Asuansi, Kpeve and Babile Agric. Stations
			2.1.1.4 – Enhancing the production and utilization of improved livestock breeds.						273,238,580	APD	Private Sector

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
		2.1.2 ENHANCING FARMERS' ACCESS TO FERTILIZER, AGRO-CHEMICALS AND VETERINARY MEDICINES								AESD	CSD, PPRSD
			2.1.2.1 - Promotion of fertilizer blending						300,000	CSD, SRI	DAES
			2.1.2.2 - Promotion of soil testing services						18,457,200		
			2.1.2.3 - Enhancing farmers' access to blended fertilizer						2,553,427,884		
			2.1.2.4 - Promoting the safe use of agro-chemicals						2,752,200		
			2.1.2.5 - Promoting farmers' access to veterinary medicines						19,763,500		
			2.1.2.6 Promoting access to plant disease prevention and control methods						0		
		2.1.3 PROMOTING THE PRODUCTION AND USE OF QUALITY FEED									
			2.1.3.1 Promotion of feed production								
			2.1.3.2 Enhancing farmers' access to quality feed								

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
		2.1.4 PROMOTING TECHNOLOGY DEVELOPMENT AND ADAPTATION									
			2.1.4.1 Development and adaptation of technologies								
			2.1.4.2 Development and adaptation of knowledge packages for smallholder farmers								
			2.2.4.3 Promotion of agricultural research on plant breeding, and animal and plant disease control								
		2.1.5 PROMOTING TECHNOLOGY DISSEMINATION									
			2.1.5.1 Dissemination of technologies to meet value chain players' demand								
			2.1.5.2 Dissemination of knowledge packages								
			2.1.5.3 Promotion of youth's access to skill-based trainings								
	2.2 Mechanization, Irrigation and										

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
	Water Management;										
		2.2.1 PROMOTING AGRICULTURAL MECHANIZATION									
			2.2.1.1 Promoting reorganization of farm lands to enable the delivery of mechanization services to smallholder farmers								
			2.2.1.2 Promoting mechanization service enterprises								
			2.2.1.3 Promotion of farm and post farm machinery manufacturing								
			2.2.1.4 Modernization of agricultural holdings								
			2.2.1.5 Support to Livestock Housing								
		2.2.2 PROMOTING IRRIGATION AND WATER MANAGEMENT	2.2.2.1 Delegation of public sector role in the development and management of large scale irrigation schemes								
			2.2.2.2 Promoting community based managed small and medium scale irrigation schemes								

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
			2.2.2.3 Promoting individual micro and small-scale irrigation schemes.								
			2.2.2.4 Promoting enhanced water management in rain-fed agriculture.								
			2.2.2.5 Promoting market-oriented irrigation development								
			2.2.2.6 Addressing irrigation sector risks								
			2.2.2.7 Mobilizing public resources to finance the development of irrigation schemes								
	2.3 Postharvest Management and Agricultural Marketing	2.3.1 VALUE CHAIN DEVELOPMENT	2.3.1.1 Promoting the aggregation of smallholder farmers into upgraded value chains.								
			2.3.1.2 Promoting the development of private sector led post-harvest facilities								
			2.3.1.3 Development of feeder roads and other transport infrastructure.								



Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
			2.3.1.4 Creating a national market information system to gather, analyse and disseminate relevant information for agricultural sector								
			2.3.1.5 Promotion of farmers markets and community markets								
		2.3.2 MARKET INTERVENTION SCHEMES	2.3.2.1 Developing and enacting market intervention schemes for specific (perishable) agriculture products								
			2.3.2.2 Establishing minimum support price for key commodities.								
			2.3.2.3 Government procurement from domestic farmers								
		2.3.3 PROMOTION OF QUALITY MEASURES	2.3.3.1 Promoting SPS measures								
			2.3.3.2 Promoting food quality labels								
			2.3.3.3 Establishing a quality assurance certification process in food production, processing and distribution								

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
			2.3.3.4 Participation of farmers in food quality schemes								
	2.4: Nutrition Sensitive Agriculture	2.4.1 PROMOTION OF NJUTRITION RICH FOODS	2.4.1.1 Implementing food fortification measures								
			2.4.1.2 Promoting measures to strengthen dietary diversity								
			2.4.1.3 Implementation of measures to provide and distribute specific foods for therapeutic and nutritional purposes to targeted demographics where needed								
			2.4.1.4 Enhancing the production and consumption of improved livestock breeds								
	2.5 Emergency preparedness	2.5.1 Emergency readiness	2.5.1.1 Surveillance and prevention of plant pest and diseases								
			2.5.1.2 Surveillance and prevention of animal pest and diseases								
			2.5.1.3 Early warning system for natural disasters								

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
			2.5.1.4 Knowledge dissemination measures and training of farmers in disaster preparedness methods								
			2.5.1.5 Provision of subsidized disaster insurance products								
			2.5.1 .6 Promotions of seed and grazing reserves and storage facilities								
		2.5.2 Emergency Response	2.5.2.1 rapid response and control of plant pest and disease								
			2.5.2.2 rapid response and control of animals pest and disease								
			2.5.2.3rapid response and control of natural resources								
			2.5.2.4 Provision of export ante aid to compensate for – natural disaster and disease epidemics								
			1.5.2.5 Rehabilitation of affected areas								

**Table 5.2 C: Programme of Action (POA) for Programme 3 - Agribusiness Management**

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
<b>Programme 3: Agribusiness Development</b>											
	3.1: Promotion of Private Sector Investment in Agriculture										
		3.1.1 PROMOTING A NEXUS OF ESSENTIAL AGRICULTURE AND FOOD SYSTEM PRIVATE ENTERPRISES									
			3.1.1.1 Promoting Agriculture Cluster Service Enterprises (ACSE) and their sector or regional apexes						748,200		
			3.1.1.2 Promoting Market Hub Enterprises						682,000		
			3.1.1.3 Promoting Small and Medium Rural Enterprises (SMRE)						1,675,000		
		3.1.2 PROMOTING AGRICULTURAL INDUSTRY ASSOCIATIONS									
			3.1.2.1 Promoting the creation of an industry apex agency								

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
	3.2: Agricultural Finance	3.2.1 AGRICULTURAL RISK SHARING	3.2.1.1 Developing and enacting regulation on agricultural clusters and monitoring its implementation								
			3.2.1.2 Promotion of specific market and production contracts								
			3.2.1.3 Promotion of agriculture insurance instruments								
			3.2.1.4 Promoting warehouse receipts system								
			3.2.1.5 Setting-up of public mutual fund for residual risks								
		3.2.2 AGRICULTURAL FINANCE AND CREDIT FACILITIES	3.2.2.1 Promoting agency banking.								
			3.2.2.2 Subsidizing interest rates to facilitate access to credit								
			3.2.2.3 Promoting adjusted requirements for small loans								
			3.2.2.4 Providing support to farmers through financial institutions that								

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
			manage public resources for agricultural purposes								
		3.2.3 CAPITAL MARKET INSTRUMENTS FOR AGRICULTURE	3.2.3.1 Creation of a capital market for the agricultural sector								
			3.2.3.2 Instituting relevant capital market instruments for agriculture.								

**Table 5.2 D: Programme of Action (POA) for Programme 4 – Sustainable Management of Land and Environment**

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
<b>Programme 4: Sustainable Management of Land and Environment</b>									<b>936,225,064.00</b>		
	4.1: CONSERVATION OF NATURAL RESOURCES								<b>21,348,600.00</b>		
		4.1.1 Conservation Agriculture							<b>21,348,600.00</b>		

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
			4.1.1.1 Conservation of natural resources management schemes						6,961,500.00		
			4.1.1.2 Promoting the protecting, conservation and sustainable use of biologically diverse ecosystems and habitats						4,641,000.00		
			4.1.1.3 Promoting the conservation and sustainable management of forestry resources						5,569,200.00		
			4.1.1.4 Promoting land banking along with secured land tenure						4,176,900.00		
	4.2: CLIMATE CHANGE MITIGATION AND RESILIENCE SCHEME								<b>914,876,464</b>		
		4.2.1 CLIMATE CHANGE MITIGATION AND RESILIENCE SCHEME							<b>906,767,283.40</b>		
			4.2.1.1– Climate change mitigation and adaptation schemes						291,269,160.00		
			4.2.1.2 – Climate change resilience schemes						1,021,020.00		
			4.2.1.3 Promoting the reduction of deforestation						50,122,800.00		

Thematic Area											
Adopted MDA Goal (s)											
Programme	Sub-Programme	Investment Area	Policy Tools	Baseline	Output Indicators	Indicative Budget GH¢				Implementing Agencies	
						GoG	IGF	Donor	Total	Lead	Collaborating
			and adopting afforestation measures								
			4.2.1.4 Promoting research, and knowledge dissemination on climate change mitigation and adaption schemes						544,843,539.40		
			4.2.1.5 – Promoting green/growth agriculture concepts and principles.						19,510,764.00		
		4.2.2 RENEWABLE ENERGY AND ENERGY EFFICIENCY MEASURES	4.2.2.1 Promoting the use of energy generated from natural sources						<b>8,109,180.60</b>		



## **CHAPTER SIX**

### **6 Implementation, Monitoring and Evaluation**

Performance monitoring and evaluation of the investment plan contribute significantly to effectiveness, accountability, transparency, and learning of lessons in programme implementation. Provision of accurate, adequate and timely information on activities is critical in measuring the achievement of desired objectives. This chapter presents the 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 presented in Chapter Five (5). The Chapter also discusses Data collection, analysis and usage; Reporting; Dissemination and Communication strategy; and the evaluation plan for the investment plan.

#### **6.1 Implementation Arrangements of GhAIP**

##### **6.1.1 Institutional arrangements**

###### **6.1.1.1 The Role of Other MDAs**

284. Ghana's Parliament and other Ministries, Departments and Agencies (MDAs) will play critical role in ensuring smooth implementation of the GhAIP.

285. Parliament will enforce the principle of allocating public resources to implementing policy tools that are effective for the transformation of the agriculture and food system. The Parliamentary Select Committee on Agriculture will be active in approving and ensuring that the sectors allocated budget for the period of the GhAIP is judiciously for the desired outcomes.

286. The Ministry of Finance will ensure that adequate resources are allocated to implement the policy tools that are effective for the transformation of the agriculture and food system. This will be done by scrutinizing the cause to effect link between specific policy tools and results.

287. The Ministry of Local Government and Rural Development (MLGRD), Ministry of Trade and Industry (MOTI), Ministry of Environment and Science and Technology (MEST), Ministry of Health (MOH) and other relevant MDAs will be actively involved at all the decentralised levels in the implementation of the GhAIP.

288. The Development Partners (DPs), Civil Society Organizations (CSOs), Non-Governmental Organizations (NGOs) and the Private Sector will all be actively involved in the implementation of the GhAIP.

###### **6.1.1.2 GhAIP Steering Committee**

289. The steering Committee that had oversight responsibility for implementation of METASIP I and II will be restructured for GhAIP and will comprise representatives of all sector stakeholders (public and private). Its role will be to examine and approve periodic reports as well as the annual plan before its transmission to Ministry of Finance and Parliament. The Steering Committee will focus on assessing the performance of the sector and the contributions by each partner, as well as the cause to effect link between policy tools and results.

###### **6.1.1.3 Coordination**

290. The Ministry of Food and Agriculture (MoFA) as the lead Implementing Agency will have the oversight

responsibility and will play the lead role in the overall coordination of the sector. This will be done in collaboration with stakeholders such as; MDAs, DPs and the Private sector, CSOs, etc. For that purpose, the Ministry will be equipped with an Accountability System that empowers Government to enhance its effectiveness in coordinating delivery of required enabling services to the private sector (farmers and firms). MoFA will sign implementation agreement (market contracts, Memorandum of Understanding, etc.) with public and private implementing agencies.

291. MoFA will collaborate with the Private Enterprise Federation (FAGE) in ensuring the following: (i) implement the public sector window of the Ghana Rural Infrastructure Development Fund; (ii) coordinate activities with regards to enhancing the capacity of the public sector to deliver enabling results; (iii) support the setting-up of the ACSEs, Market Hub Enterprises and Industry Association, (iv) Develop close collaboration with other MDAs on decision making with regard to macro-economic, trade related, import and export, taxation and other policies, (v) the monitoring of commodity value chains; (vi) the management of the sector information system; and (vii) the compliance check of all interventions to the policy orientations.

#### **6.1.1.4 Implementation Agencies**

292. The implementation of the Ghana Agri-food-systems Development Fund (GADF) and the private sector window of the Ghana Rural Infrastructure Development Fund (GRIDF) will be entrusted to the AFIA that will be responsible to effect the direct transfers to its members. As such AFIA will be in charge of fully or partially implementing some of the policy tools. MoFA in collaboration with the ATA will keep AFIA accountable (To see Angela).

293. The District Assemblies under the MLGRD will be in charge of delivery of extension services and other public goods at the local level.

#### **6.1.1.5 Accountability mechanisms**

##### *6.1.1.5.1 Harmonization and alignment of interventions*

294. The GhAIP strategic framework empowers the Government to harmonize and align Government and Donor interventions. There is the need to bring all stakeholders on board the implementation of the GhAIP to ensure synergy in activity implementation to avoid duplication and waste of resources

295. All ongoing interventions will be mapped with one or more programmes and intervention areas. The policy tool being implemented, the financial contribution to the policy tool and targets to be accounted for will be spelt out clearly. New Government and donor financed operations should will be linked to the intervention within the GhAIP framework. Government's approval will be granted only if compliance check yields a positive outcome.

#### **6.1.2 Monitoring Matrix**

296. The monitoring matrix presents a framework for developing a detailed program monitoring and evaluation plan. This Performance Measurement Framework (PMF) or the result matrix or monitoring matrix provides the complete list of performance indicators. Information provided on each indicator will include: a) the clear description of the indicators and its definition to eliminate possible ambiguity in data interpretation; b) primary source(s) of the data; c) the frequency with which data will be collected; d) levels of disaggregation; and f) assumptions about each indicator. It also includes the baseline data and targets. Details of the Monitoring matrix (PMF) is attached as **Annex XXX**.

297. Sources of both primary and secondary data will be required for monitoring and evaluating the performance of GhAIP implementation. Sources for primary data will include public and private entities that have management responsibilities for some components of GhAIP. This includes but not limited to all

operating units of MoFA, its projects and other implementing agencies. Other stakeholders such as other Agric related MDAs, Private Sector Organizations, International Development Agencies, Research Institutions, and Producer/Input Associations, will be contacted for secondary data.

298. The disaggregation of key data types presents opportunities for better analysis. Data will be disaggregated in numerous ways, including gender, age, location, target organization, in order to determine how the GhAIP programmes affect different cohorts. Disaggregated data will help track whether or not specific groups participate in and benefit from activities and how the implementation of the plan impacted the beneficiaries differently.

299. Targets are derived through objective procedures that ensure that they are realistic, attainable and better than what was achieved in the past. One must exhibit knowledge about resources to be employed and make judgment for targets based on those resources.

### **6.1.3 Data Collection, Analysis and Usage**

300. The data collection strategy will employ the use of the Computer Assisted Personal Interview (CAPI) into a web-based data collection system in addition to paper-based interviews. Data will be collected, validated and verified at the district, regional and national levels. Templates for reporting data will be provided to implementing agencies at all the implementation levels. The web-based application will be used for data entry, storage and reporting, while varying levels of access will be provided for use at District, Regional, National and Project levels. Training on the use of the web-based system will be provided prior to its engagement. In addition, a user manual will be provided for users' referencing. Data analysis will be carried out after data collection and collation are completed. A documentation of the procedures for data analysis, review and reporting for each indicator will be done. Data collection template is attached as **annex xxx**.

### **6.1.4 Plans for data quality assessment**

301. As the implementation of the GhAIP gets underway and data is collected, analysed and reported, it will be assessed for validity, reliability, precision, accessibility, methodological soundness, timeliness and assurance of integrity. The PPMED will schedule data quality assessments within each year to enhance the quality of data for reporting. The period for the actual assessment will be recorded as part of updates to the M&E Plan. Procedures for assessing the quality of data collected for the indicators will be documented to ensure consistency each time it is done, even if assessment is performed by different persons.

## **6.2 Reporting**

302. As per Government of Ghana regulations, all entities are required to prepare periodic progress reports. This is an approach to enable the Government keep all implementing partners accountable. The M&E plan of GhAIP will clarify the obligations for each partner with regard to reporting against its results framework: (i) periodicity; (ii) content; (iii) format; and (iv) audience. Every partner will report on the extent of implementation of activities in their respective workplans, expenditure, level of target achievement and outputs or outcomes generated.

303. The District Agriculture Departments (DADs) will submit quarterly and annual reports to the Regional Agriculture Departments (RADs). The RADs will collate the DADs quarterly and annual reports and in turn forward same to the PPMED of MoFA via the Chief Director. Similarly, National Directorates of MoFA and Projects and Programmes being managed by MoFA will send quarterly and annual reports to PPMED for collation.

304. The PPMED will prepare quarterly and Annual Progress Reports of the sector for submission to the Office of Head of Civil Service, National Development Planning Commission, Ministry of M&E, GhAIP Steering Committee among others through the Chief Director. Copies of the report will also be shared with

MDAs, Research Institutions, CSOs, including all implementing partners. A copy will also be placed on the MoFA website.

305. The reports will also be shared with stakeholders at a number of platforms. These platforms include; Joint Sector Review, the Agriculture Sector Working Group (AgSWG), the GhAIP steering committee, Meet the Press, National Directors meetings and Performance Review Sessions with implementing partners. These platforms have diverse stakeholders in agriculture and it also serves as mutual accountability platforms.

### 6.3 Dissemination and Communication Strategy

306. Dissemination and Communication of information is an essential tool in the implementation of a sector plan. Stakeholders should be well informed about how the plan will be implemented. This is very critical in ensuring that real time information is available to all stakeholders to enable effective implementation of the plan. A communication strategy will thus be developed for the GhAIP to facilitate information sharing among stakeholders.

#### 6.3.1 Communication Strategy

307. The GhAIP communication strategy will create awareness and good understanding among all stakeholders on details of the plan. It will enable stakeholders have knowledge about the programmes, sub-programmes, intervention areas and policy tools that are proposed to be implemented during the period 2018-2021.

308. The Communication strategy will enable us achieve the following objectives: 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.

**Table 6.1: Summary of Communication Activity Matrix**

Activity	Purpose	Audience	Methods/Tolls of communication	Timeframe	Responsibility
Meet with Heads of MDAs including MoFA Staff at all levels	1. Obtain political commitment and top management support. 2. Create an enabling environment for all staff members to be actively be involved in plan implementation. 3. Ensure deep understanding of the plan and how it will be implemented.	Ministers, Deputy Ministers, Chief Directors, Directors, Deputy Directors, Heads of Departments and units and staff of MoFA and agricultural related MDAs	<ul style="list-style-type: none"> <li>▪ Seminars</li> <li>▪ Policy Fora</li> <li>▪ Workshops</li> <li>▪ Consultations</li> <li>▪ Face-to-face discussions</li> <li>▪ Policy briefs</li> <li>▪ Brochures</li> <li>▪ Stakeholder platforms</li> </ul>	Quarterly, Annually	PPMED
Meet with Parliamentarians	1. Obtain political commitment and goodwill. 2. Create an atmosphere for continuous dialogue with the legislature.	Members of Parliament and Members of relevant Select Committees	<ul style="list-style-type: none"> <li>▪ Seminars</li> <li>▪ Policy Fora</li> <li>▪ Workshops</li> <li>▪ Consultations</li> </ul>	October to December annually	PPMED

Activity	Purpose	Audience	Methods/Tolls of communication	Timeframe	Responsibility
	3. Advocate for adequate resource allocation.		<ul style="list-style-type: none"> <li>Face-to-face discussions</li> <li>Policy briefs</li> <li>Brochures</li> </ul>		
Meet with MLGRD at all the Decentralized levels	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.	Regional Ministers, Chief Executives and all relevant staff members of Regional Coordinating Councils and Metropolitan, Municipal and District Assemblies.	<ul style="list-style-type: none"> <li>Seminars</li> <li>Policy Fora</li> <li>Workshops</li> <li>Consultations</li> <li>Face-to-face discussions</li> <li>Durbars</li> <li>Policy briefs</li> </ul> Information brochures	Quarterly, Annually	PPMED
To meet with Sub-District Council level officials	1. Create sense of ownership of development interventions. 2. Create a participatory learning culture. 3. Build strong bridges among stakeholders	Traditional Authorities, Opinion leaders, Councillors, etc.	<ul style="list-style-type: none"> <li>Training workshops</li> <li>Follow-ups</li> <li>Community durbars</li> <li>Consultations</li> </ul>	Quarterly and Annually	PPMED
Meet with FBOs private sector actors and CSOs	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.	Farmers, aggregators, processors, NGOs, marketers, consumers, financial institutions, input dealers etc.	<ul style="list-style-type: none"> <li>Training Workshops</li> <li>Follow-ups</li> <li>Community durbars</li> <li>Consultations</li> <li>Policy briefs</li> <li>Brochures</li> <li>Investment briefs</li> </ul>	Quarterly and Annually	PPMED /DAES
Meet with researchers	1. Provide demand-driven research information. 2. Provide knowledge and databases. 3. Provide training support and feedback	Agricultural researchers and academia	<ul style="list-style-type: none"> <li>Seminars</li> <li>Policy Fora</li> <li>Workshops</li> <li>Consultations</li> <li>Face-to-face discussions</li> <li>Website</li> </ul>	Quarterly, Annually	PPMED/DAES

Activity	Purpose	Audience	Methods/Tolls of communication	Timeframe	Responsibility
	4. Advocate for action research that involves the participation of the people.				
Meet with Development Partners	1. Provide information on developments and progress towards objectives.  2. Advocate and lobby for financing support.	Development Partners (national, regional and global levels)	<ul style="list-style-type: none"> <li>▪ Workshops</li> <li>▪ Consultations</li> <li>▪ Face-to-face discussions</li> <li>▪ Policy briefs</li> <li>▪ Brochures</li> <li>▪ Investment briefs</li> <li>▪ Websites</li> <li>▪ Stakeholder platforms</li> </ul>	Quarterly., Annually	PPMED

## 6.4 Evaluation Plan

309. This evaluation plan seeks to pre-empt potential challenge for program evaluation when adequate provision is not made for evaluation during the planning stage. It is good practice to develop an evaluation plan well in advance because: a) it helps in deciding what information is needed to address the evaluation objectives; b) helps in identifying methods for getting the needed information; c) helps in identifying potential issues and think through strategies to overcome the challenges; and d) helps to determine a realistic timeline for the evaluation.

310. See Annexe XX for Evaluation Matrix covering summary of evaluation questions, data needed, sources and their methods.

### 6.4.1 Programme Reviews

311. GhAIP is aligned to Ghana's CAADP commitment, thus, yearly and biennial reviews will be integrated with the Joint Sector Review process. To enable productive scrutiny and discussion of the GhAIP, adequate preparation and reporting will be completed well in advance of the annual Joint Sector Review. Thus, adherence to reporting deadline presented in Table xx will be the norm for GhAIP implementation.

### 6.4.2 Mid-term Evaluation

312. A Mid-term evaluation will be carried out evaluation at the beginning of 2020 with an objective to investigate progress made towards: a) planned activities; and b) objectives of GhAIP. The following evaluation questions will guide the assessment of planned activities:

- Are activities being performed as planned?
- Are resources adequately mobilized and disbursed?
- Are resources being applied efficiently and for the intended purposes?
- Is the project reaching the target population?
- To what extent has program implementation been aligned to the sub-regional and national development objectives?

313. Producing evidence to respond to these questions will require tracking implementation of programmed activities by reviewing work plans and progress reports. The focus of this investigation will be on output data that can be obtained from the monitoring system because adequate provision has been made. A number of the indicators for the sub-intermediate results can provide evidence in support of decision to be made.

- To what extent did beneficiaries experience changes in their operations?
- To what extent were opportunities created for youth employment as a result of GhAIP implementation?
- To what extent were participants satisfied with their involvement in GhAIP implementation?

314. Data collection and analyses approaches will be limited to rapid appraisal techniques and draw on data from the monitoring system to a large extent. In preparation to answer these questions MED will select seven (7) policy tools which are critical to the successful attainment of GhAIP objectives and track at least one indicator for each policy tool. A policy tool will be drawn from each of the program areas. These will be useful for illustrating the alignment of goal, objective and activity.

#### **6.4.3 End of Programme Evaluation**

315. Obtaining end of programme data for some performance indicators, especially those pertaining to productivity and competitiveness might require a survey. The cost associated with surveys – even the mini-survey - can be substantial and therefore, it will be estimated for inclusion in the program's budget in order to avoid surprises when the survey is due.

316. The objectives of the end of program evaluation will be as follows:

- a) Assess the implementation of the program with an intention to document lessons learned as input for follow-on programs; and
- b) Investigate the extent to which program objectives have been achieved.

317. Specific questions that will provide guidance for the end of program evaluation will include but not limited to the following:

#### **6.4.4 Participatory M&E**

In the implementation of the GhAIP, a participatory M&E approach will be used by deploying all the knowledge and resources of a wide range of stakeholders including relevant MDAs, private sector, CSOs, etc. (Detailed PM&E approaches will be made available)