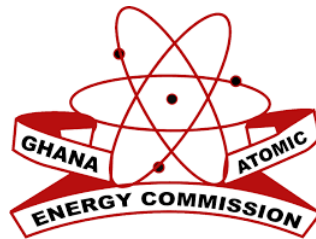




**REPUBLIC OF GHANA**

**MINISTRY OF ENVIRONMENT, SCIENCE, TECHNOLOGY & INNOVATION  
(MESTI)**



***SUBMITS***

**2019 ANNUAL PROGRESS REPORT**

**TO**

***THE NATIONAL DEVELOPMENT PLANNING COMMISSION (NDPC)***

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## **LIST OF ACRONYMS**

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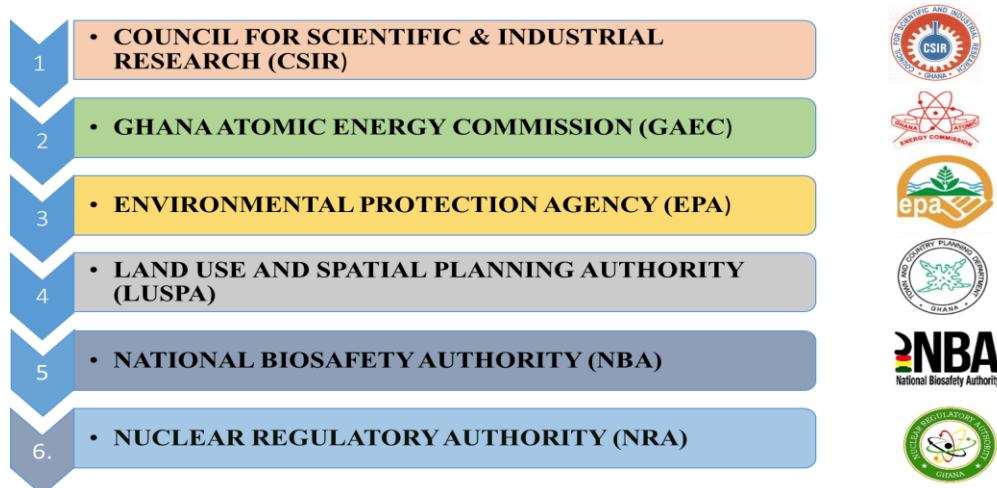
CNC	Compute Numerical Control
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organisation
EEE	Electronic and Electrical Equipment
EI	Executive Instrument
EPA	Environmental Protection Agency
GAEC	Ghana Atomic Energy Commission
GIRC	Ghana Innovation and Research Commercialisation (GIRC)
GIS	Geographic Information System
GoG	Government of Ghana
HOC	Hand Over Centres
HPC	High Performance Computing
IAEA	International Atomic Energy Agency
LUPMIS	Land Use Planning and Management Information System
M&E	Monitoring and Evaluation
MDA	Ministries, Departments and Agencies
MEST	Ministry of Environment, Science and Technology
MESTI	Ministry of Environment, Science, Technology and Innovation
MMDAs	Metropolitan, Municipal and District Assemblies
MOTCCA	Ministry of Tourism, Culture & Creative Arts
MoU	Memorandum of Understanding
MSMES	Micro Small and Medium Enterprises
MTDP	Medium Term Development Plan
NDC	Nationally Determined Contributions
NDPC	National Development Planning Commission
NDT	Non-Destructive Testing
NGO	Non-Governmental Organisation
NRA	Nuclear Regulatory Authority
PACSTI	Presidential Advisory Council on Science, Technology and Innovation
PM&E	Participatory Monitoring and Evaluation
PPME	Policy, Planning, Monitoring and Evaluation
R&D	Research and Development
RSDF	Regional Spatial Development Framework
SDF	Spatial Development Framework

SDG	Sustainable Development Goal
SLWMP	Sustainable Land and Water Management Project
SMTDP	Sector Medium Term Development Plan
STI	Science, Technology & Innovation

## CHAPTER ONE: INTRODUCTION

### 1.0 Background

The Ministry of Environment, Science, Technology and Innovation (MESTI), which forms part of government machinery, was established in 1993 as the Ministry of Environment and Science. In 2006, the Ministry was dissolved. Its portfolios on Environment and Science were added to the Ministry of Local Government and Rural Development (MLGRD) and the Ministry of Education respectively. In January 2009, the Ministry was reconstituted and named Ministry of Environment, Science and Technology (MEST), under Executive Instrument (E.I.) 7 Civil Service (Ministries) Instrument, 2009. However, in 2013, the Ministry was renamed Ministry of Environment, Science, Technology and Innovation (MESTI), under Executive Instrument (E.I.) 1 Civil Service (Ministries) Instrument, 2013. This section of the report focuses on the general overview of the sector Ministry. The Ministry has six (6) Agency /Authority, namely:



#### *The Mandate*

In line with sections 11 and 13 of the Civil Service Law 1993, (PNDCL 327) and by Executive Instrument (EI. 28, 2018), The Ministry is mandated to initiate and formulate policies on Environment, Science, Technology and Innovation, as well as coordinate, monitor and evaluate the implementation of plans, programmes and performance of the sector for national development. The Ministry is the Government's principal advisor on environmental sustainability, science and technological research and international matters that affect environment, science and technological development.

The Ministry is committed to promote sustainable environmental management and the adoption and application of science and technological innovations through the formulation of policies, monitoring and evaluation of the implementation of sector plans, programmes, and projects for national development.

#### *Mission*

The Ministry of Environment, Science, Technology, and Innovation exists to promote sustainable environmental management and the adoption and application of science and technological innovations through the formulation of policies, monitoring and evaluation of the implementation of sector plans, programmes, and projects for national development.

#### *Vision*

Sustainable development of Environment, Science, Technology and Innovation for all.

### ***Sector Goal***

The Ministry of Environment, Science, Technology and Innovation (MESTI) seeks to ensure accelerated socio-economic development of the nation through the formulation of sound policies and a regulatory framework to promote the use of appropriate environmentally friendly, scientific, and technological practices.

### ***Policy Objectives***

The Medium-Term National Development Plan Framework (MTNDPF) contains a number of policy objectives, out of which ten (10) have been adopted by the Ministry of Environment, Science, Technology and Innovation.

The adopted policy objectives of the Ministry are as follows:

1. Enhance the application of science, technology and innovation;
2. Ensure sustainable extraction of Mineral Resources;
3. Reduce Environmental Pollution;
4. Enhance Climate Change Resilience;
5. Reduce greenhouse gases;
6. Mainstream science, technology and innovation in all socio-economic activities;
7. Ensure availability of clean, affordable and accessible energy;
8. Minimize potential environmental impacts of oil and gas industry;
9. Promote sustainable, spatially integrated, balanced and orderly development of human settlements; and
10. Enhance capacity for policy formulation and coordination

### ***Core Functions***

The Environment, Science, Technology and Innovation sector has eight (8) core functions. These are:

1. Provide leadership and guidance for Environment, Science, Technology and Innovation within the broad sector of the economy through sound policy formulation and implementation,
2. Ensure the establishment of the regulatory framework and setting of standards to govern the activities of science and technology and the management of the environment for sustainable development,
3. Promote activities needed to underpin the standards and policies required for planning and implementation of sound scientific and technological development activities,
4. Ensure the coordination, supervision, monitoring and evaluation of activities of Environment, Science, Technology and Innovation while fulfilling national benefits-sharing commitments,
5. Set out the parameters required for programmes on Environment, Science, Technology and Human Settlement in consultation with the National Development Planning Commission (NDPC) in guiding the Districts Assemblies as the planning authorities at the local level,
6. Analyse and coordinate all planned programmes as well as budgets in the Environment, Science, Technology and Innovation Sector of the economy for purposes of achieving a single integrated management system,
7. Initiate, simulate and coordinate research including the continuous development and review of policies, laws, rules and regulations in the Environment, Science, Technology and Innovation Sector of the economy and

8. Ensure effective environmental management and governance, in line with the functions of the Act 490, with the Environmental Protection Agency (EPA) as the main implementing agency and the MESTI playing an oversight, coordination and facilitating role.

### **1.1 Purpose of the Monitoring & Evaluation (M&E) for 2019**

MESTI in partnership with its Development Partners dedicated considerable funds to implement its development interventions as spelt out in the Sector Medium Term Development Plan (2018-2021). The Sector Medium Term Plan was prepared in accordance with the National Medium-Term Development Framework (NMTDF, 2018-2021).

As a result, monitoring and evaluating its implementation is critical for ensuring that the set goals and objectives are achieved. Thus, the purpose of M&E for the period was to:

1. Assess whether the SMTDP developmental targets were being met.
2. Identify achievements, constraints and failures so that improvements can be made to the SMTDP and project designs to achieve better impact.
3. Collate information for effective coordination of environmental, science, technology and innovation interventions.
4. Provide government, development partners and the general public with information on lessons learnt.
5. Reinforce ownership of the SMTDP and build M&E capacity within the Sector.
6. Promote joint monitoring and evaluation of Sector projects and programmes and provide data and information for policy formulation and design of future projects and programmes; and
7. Provide information for evidence-based decision making.

### **1.2 Process Involved in conducting M&E**

To ensure that the 2019 APR was prepared in a participatory manner, the Ministry followed the following steps:

- The Ministry obtained the NDPC format for the preparation of the Annual Progress Reports.
- The PPME Directorate designed a reporting format and template to obtain the required inputs from the Directorates and Agencies/ Authority.
- The reporting format and template were distributed to the Directorates and Agencies/ Authority with deadlines for submission of reporting template.
- The PPME Directorate then compiled inputs into the first draft.
- The Directorates and Agencies/ Authority were given copies of the draft for their review and comments.
- The PPME Directorate finalised the report and submitted to NDPC.

During the year, the PPME Directorate also undertook several monitoring exercises to ensure that the agencies implement their activities in line with the approved Annual Action Plan (AAP).

### **1.3 Status of implementation of SMTDP**

The Sector in preparing its Medium-Term Development Plan (MTDP) considered several factors to agree on the objectives to be achieved in the medium-term informed by the National Policy Framework. This informed the programming for the sector.

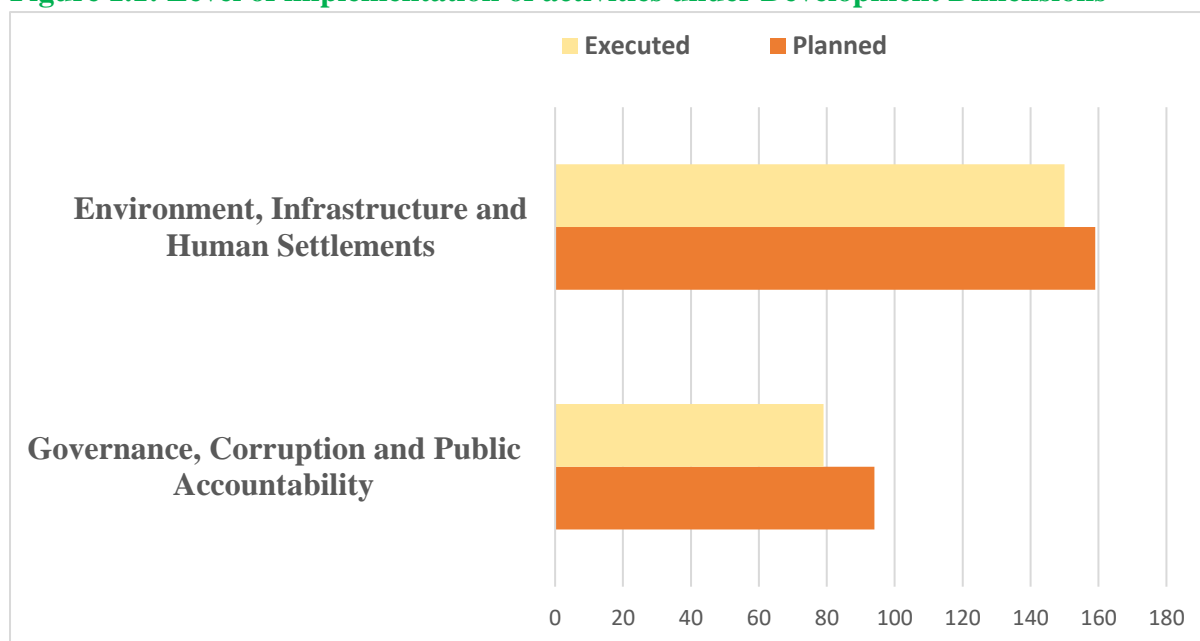
During the 2019 period, the Ministry and its agencies were able to undertake most of its activities as outlined in the SMTDP. The implementation of proportion of Annual Action Plan and SMTDP in 2019 are presented in section 1.3.1 and 1.3.2 respectively.

### 1.3.1 Proportion of Annual Action Plan implemented

During the year, two hundred and fifty-three (253) activities were planned under two dimensions, namely: Environment, Infrastructure and Human Settlements and Governance, Corruption and Public Accountability. The activities planned under the various dimensions were in furtherance of achieving the objectives of the sector.

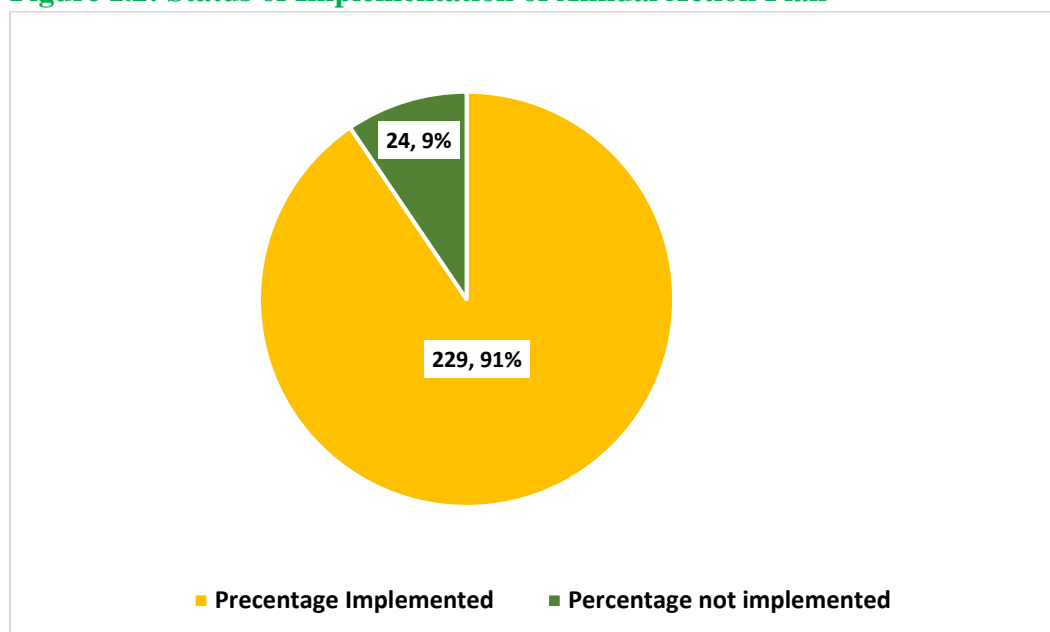
Of the two hundred and fifty-three (253) activities planned, one hundred and fifty-nine (159) were under Environment, Infrastructure and Human Settlements while ninety-four (94) were under Governance, Corruption and Public Accountability. Out of the planned activities in Environment, Infrastructure and Human Settlements, a total of 150 activities representing 94.3% were implemented while under Governance, Corruption and Public Accountability about 79 representing 84% were implemented (Figure 1.1 and table 1.2).

**Figure 1.1: Level of implementation of activities under Development Dimensions**



Out of the two hundred and fifty-three (253) activities planned for the year, about 91% representing two hundred and twenty-nine (229) were implemented (Figure 1.2). The implementation level recorded for 2019 represented a 10.9% change over the 2018 status (Table. 1.1).

**Figure 1.2: Status of Implementation of Annual Action Plan**



**1.3.1 Proportion of Overall Medium-term Plan implemented**

The year marked the second year of implementation of the medium-term plan of the sector. Although all activities planned for the year were expected to be implemented, this was not achieved due to several factors. The planned two hundred and fifty-three (253) constitute 91% of the entire planned activities in the medium-term plan (2018-2021) as shown below. The total percentage of activities from 2018-2021 is 100%, the actual percentage for both 2018 and 2019 constitute 54.5% whereas the rest of the percentages are spread for 2020 and 2021.

**Table 1.1: Proportion of the SMTDP implemented in 2019**

Indicators	Baseline	Actual	Target	Actual
	2017	2018	2019	2019
<b>1. Proportions of the annual action plans implemented</b>	96%	82%	100%	91%
<b>a. Percentage completed</b>	96%	82%		91%
<b>b. Percentage of ongoing interventions</b>	-	2%		-
<b>c. Percentage of interventions abandoned</b>	-	4%		-
<b>d. Percentage of interventions yet to start</b>	4%	12%		9%
<b>e. Percentage of activities implemented outside the plan</b>	-	-		-
<b>2. Proportion of the overall medium-term development plan implemented</b>	88%	29.4%		25.1%

**Table 1.2: Detailed information on the Annual Action Plan Implementation**

S/N	Development Dimension	2019	
		Planned	Executed
1.	Governance, Corruption and Public Accountability	94	79
2.	Environment, Infrastructure and Human Settlements	159	150
	<b>Total</b>	<b>253</b>	<b>229</b>

#### **1.4 Difficulties or challenges encountered**

This section of the report provides a summary of the major difficulties/challenges encountered by the Ministry and its Sector Agencies during the year.

##### ***Land Encroachment***

The issue remains a major challenge for the Council for Scientific and Industrial Research (CSIR) and the Ghana Atomic Energy Commission (GAEC). The two (2) Agencies are gradually losing their land required to be protected due to the nature of the technology as well as land required for future infrastructural expansion (i.e. laboratories, experimental fields, office accommodation etc.) to the perennial problem of encroachment. In some instances, compensations were not paid to rightful owners of the land resulting in legal suit by Traditional Authorities.

On the other hand, though compensation was paid to the land owners, they have denied the claim and are asking to take their land back. The Ministry, with the acceptance of the Asantehene and chiefs who are original owners of the land of Crop, Building of Road and Forest Research Institutes of CSIR has set up a committee to look into the demands of the Chiefs.

##### ***Staffing – Recruitment of staff***

With the Ministry and most of its Agencies (CSIR, GAEC, LUSPA) operating under their staffing capacities, and most of the technical staff aging and retiring, the Ministry has become challenged in terms of delivering on its mandate. Despite the financial clearance granted to recruit 158 new staff by sector agencies, the number remains woefully inadequate. The NRA and NBA, the newest Agencies, are currently operating with staff seconded from GAEC. The CEO of NBA is the only permanent staff at post.

##### ***Irregular and Inadequate Flow of Funds***

This issue represents a major challenge for the sector and this resulted in delayed or non-implementation of planned activities. Apart from the Development Partners budget, all other sources of funds, especially for CAPEX have been irregular and inadequate.

##### ***Budgetary Allocations for Inadequate Research Funding***

The issue is a major challenge affecting the Ministry. The sustainable implementation of R&D programmes of most research institutes have been seriously hampered by the lack of funding from central government. The perennial underfunding of programmes has largely impaired the ability of research institutes to respond to challenges faced by their stakeholders and clients.

### ***Inadequate Research Infrastructure***

In terms of the infrastructural support to carry out their mandates, most CSIR and GAEC institutes do not have all the full complement of R&D infrastructure such as laboratory facilities to carry out their respective research activities. This situation has further been worsened by the growing sophistication of S&T equipment, which has impaired the capacity of most institutes to respond effectively to the changing dynamics.

### ***Late Submission of Inputs***

During the preparation of the report, the Ministry encountered a challenge. This had to do with the late submission of inputs from the various Directorates /Agencies/ Authority and the difficulty understanding of the template supplied by NDPC.

## **2.0 Introduction**

The information in this section of the report is presented based on the activities of the Ministry Headquarters and the Agencies under the Ministry. These activities were undertaken in accordance with the vision, mandate, objectives and strategies identified in the National Environment Policy, National Climate Change Policy, the National Science, Technology and Innovation (STI) Policy, Medium-Term National Development Policy Framework (MTNDPF), as well as the various Acts and Legislations governing the activities of the entire sector.

The Ministry, has, as part of its core mandate, the promulgation of all policies which have direct and indirect impact on the environment and the effective management of the country's natural resources.

## **2.1 Programme and Project Register**

### ***2.1.1 Project Register***

During the year, the Ministry and its Sector Agencies had a total of sixty (60) projects at various stages of implementation – completed and on-going, all under the Environment, Infrastructure and Human Settlements Dimension. Out of all the projects, nine (9) projects representing 15% were completed. Majority of the projects were either at 50% completed or 60% completed. Table 2.1 below provides the details of the register.

**Table 2.1: Project Register**

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Sound Disposal and Recycling of Waste of Electrical and Electronic Equipment Project (Phase 1)</b>	Environment, Infrastructure and Human Settlements	Accra	GOPA Infra	57,482,568.10	Kreditanstalt für Wiederaufbau (KfW)	05 Jan 2017	2018	31 Jan 2021	781,762.93	56,700,805.17	20%	Delays in procurement processes
<b>Recycling and Disposal of Waste of Electrical and Electronic Equipment in An Environmentally Sound Way (Phase 1)</b>	Environment, Infrastructure and Human Settlements	Accra	GIZ	28,741,284.05	Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	05 Jan 2017	2016	31 Jan 2020	5,974,613.08	20,325,386.90	Completed	Phase 11 to begin February, 2020

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Sustainable land and Water Management Project (SLWMP)</b>	Environment, Infrastructure and Human Settlements	3 Northern regions	--	157,912,983.96	World Bank	01 Jan 2011	01 Jan 2011	30 Nov 2020	68,576,071.86	89,336,912.10		On-going
<b>Strengthening the Environmental Management of the Oil and Gas sector in Ghana</b>	Environment, Infrastructure and Human Settlements	Accra		12,008,715.41	Government of Norway	01 Sep 2015	-	30 Sep 2019	12,008,715.41	12,008,715.41	100%	Completed
<b>BEE KEEPING-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Tumu, Kong, Bugubelle, Wellembele, Tasor/Kulfuo	Action for Sustainable Development (ASUDEV)	65,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	32,500.00	32,500.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>BEE KEEPING-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Mognegu #1 & Mognegu# 2	Bimoba Literacy Farmers Association	55,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	27,500.00	27,500.00	50% Delivery	On-going
<b>BEE KEEPING-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Seripe, Kakiasi and Kolikolini	Northern Centre for Sustainable Development Management	55,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	27,500.00	27,500.00	50% Delivery	On-going
<b>BEE KEEPING-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Dua, Aliba, Kunkua, Yidongo and Adoboya	LINK Ghana	55,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	27,500.00	27,500.00	50% Delivery	On-going
<b>BEE KEEPING-Under</b>	Environment, Infrastructure	Zukpiiri, Nanvilli, Takpo,	Pro-Net North	55,000.00	The Adaptation	September	October 2019	March 2020	27,500.00	27,500.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Alternative Livelihood sub-project</b>	ure and Human Settlements	Goli and Jang			Fund Board	16, 2019						
<b>BEE KEEPING-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Sonyor, Kiape, Chache, Ntereso, Seripe, Ggonfu/ Choribawale	AROCH A Ghana	55,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	27,500.00	27,500.00	50% Delivery	On-going
<b>BEE KEEPING-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Tamaligu, Sungtapia & Nadigu-Tampion	Coalition for Development of Western Corridor of Northern Region (NORTH CODE)	55,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	27,500.00	27,500.00	50% Delivery	On-going
<b>BEE KEEPING-Under</b>	Environment, Infrastructure	Tilli Azupunuga,	Savannah Young Farmers	110,000.00	The Adaptation	September	October 2019	March 2020	55,000.00	55,000.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Alternative Livelihood sub-project</b>	ure and Human Settlements	Lamboya, Kpalwege, Jentiga 1, Jentiga 2	Network (SAFENet - Ghana)		Fund Board	16, 2019						
<b>BEE KEEPING- Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Ko-Bukom, Nabugaugun, Naapaal, Dabagteng, Ketuo, Guri, Bechinteng, Zogpielle	Centre for Biodiversity and Rural Initiatives (CIBRI)	75,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	37,500.00	37,500.00	50% Delivery	On-going
<b>BEE KEEPING- Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Zaazi, Libga, Nyoglo, and Bihinaayili	Basic Needs Ghana	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES</b>	Environment, Infrastructure and	Lamboya, Tilli-Azupunpungu	Belim Wusa Development	77,000.00	The Adaptation	September	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>GARDENIN G-Under Alternative Livelihood sub-project</b>	Human Settlements		Agency (BEWDA)		Fund Board	16, 2019						
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Kuka-Natinga and Kpalwega	Presbyterian Community Based Rehabilitation programme.	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Bechiteng, Dagbateng, Gengenkp e & Sonne	Coalition for Change	154,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	77,000.00	77,000.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES</b>	Environment, Infrastructure	Kong, Tumu, Tarso-	Friends of Rural	154,000.00	The Adaptation	September	October 2019	March 2020	77,000.00	77,000.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>ES GARDENIN G-Under Alternative Livelihood sub-project</b>	ure and Human Settlements	Kulfor and Bugubelle	Growth (FORG)		Fund Board	16, 2019						
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Sabari No. 1, & Sabari No. 2	Grameen Ghana	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Bongo Dua & Adaboya	Meta Foundation	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Tampizua #1 and Tampizua #2	Northfin Foundation	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Kakease& Seripe	Open Ghana	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative</b>	Environment, Infrastructure and Human Settlements	Ko Bukong, Nabugaug n, Guri& Zogpielle	Partnerships for Rural Development Action. (PRUDA )	115,500.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	57,750.00	57,750.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Livelihood sub-project</b>												
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Kolikolini and Sabare No. 2	Simliaid	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Mogneigu No1 and Mogneigu No 2	Songtaba	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES GARDENIN G-Under</b>	Environment, Infrastructure and Human	Zieng & Tampion	Urbanet	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Alternative Livelihood sub-project</b>	Settlements											
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Kanjarga-Nyandema and Gbedembi lisi	Wilphin Foundation	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>DRY SEASON VEGETABLES GARDENIN G-Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Gentinga #1, Gentinga # 2	Zuuri Organic Vegetable Farmers Association	77,000.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	38,500.00	38,500.00	50% Delivery	On-going
<b>AGRO PROCESSING SCHEME- Under</b>	Environment, Infrastructure and Human	Mognegu No.1 & Mognegu No. 2	Development Frontiers	186,166.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	111,699.60	74,466.40	60% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Settlements											
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Kiape & Sonyor	Maata-N-tudu Association	29,760.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	17,856.00	11,904.00	60% Delivery	On-going
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Cheche & Seripe	Pure Trust Social Investors Foundation	109,350.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	65,610.00	43,740.00	60% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Fund Project)</b>												
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Kasiesa & Kunkua	LINK Ghana	54,280.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	32,568.00	21,712.00	60% Delivery	On-going
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Zieng & Tampion	Transforming Rural Women and Youth Life Foundation	60,073.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	36,043.80	24,029.20	60% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Tilli-Azupunpu & Farik,	World Vision Ghana	68,548.17	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	41,128.90	27,419.27	60% Delivery	On-going
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Nyandem-Kanjarga & Weisi	Binaaba Women's Farmers Association	12,696.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	7,617.60	5,078.40	60% Delivery	On-going
<b>AGRO PROCESSING SCHEME-</b>	Environment, Infrastructure and	Timonde & Tampizua	Trade Aid Integrated	21,260.00	The Adaptation	September	October 2019	March 2020	12,756.00	8,504.00	60% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Human Settlements				Fund Board	16, 2019						
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Ko-Bukom & Nabugaugun	Lahorima Islamic Youth Association	90,700.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	54,420.00	36,280.00	60% Delivery	On-going
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Tumu & Tarso/Kulfuo	Sungmah Organisation	128,417.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	77,050.20	51,366.80	60% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>(Adaptation Fund Project)</b>												
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Gengenke & Naapaal	FM Shea	77,215.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	46,329.00	30,886.00	60% Delivery	On-going
<b>AGRO PROCESSING SCHEME- Under Alternative Livelihood sub-project (Adaptation Fund Project)</b>	Environment, Infrastructure and Human Settlements	Tumu & Bugubelle	Auxano Forever	162,736.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	97,641.60	65,094.40	60% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>FISH FARMING- Under Alternative Livelihood sub-project</b>	Environment, Infrastructure and Human Settlements	Adaboya, Kasiesa, Tamalugu, Tampion, Lamboya, Tapko DamGoli KoGbafo, Bugubelle	COMMUNITY LIFE IMPROVEMENT PROGRAMME (CLIP)	217,800.00	The Adaptation Fund Board	September 16, 2019	October 2019	March 2020	108,900.00	108,900.00	50% Delivery	On-going
<b>Rehabilitation of Dams and Dug Outs in 10 Communities in the Adaptation Fund Districts in the Three (3) Northern Regions of Ghana (LOTS 2&amp;5 KAKEASE, GOLI+KO GBAFIO</b>	Environment, Infrastructure and Human Settlements	KAKAISE GOLI & KO-GBAFIO,	MEMPHIS METROPOLITAN LTD	2,214,217.26	The Adaptation Fund Board	6th February 2019	12th February 2019	31st July 2019	2,214,217.26	0.00	100%	Completed

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>&amp;ADABOYA)</b>												
<b>Rehabilitation of Dams and Dug Outs in 10 Communities in the Adaptation Fund Districts in the Three (3) Northern Regions of Ghana (LOT 3-LAMBOYA)</b>	Environment, Infrastructure and Human Settlements	TAMALUGU	OMEGA CONSTRUCTION LTD	1,142,626.60	The Adaptation Fund Board	6th February 2019	12th February 2019	31st July 2019	1,142,626.60	0.00	100%	Completed
<b>Rehabilitation of Dams and Dug Outs in 10 Communities in the Adaptation Fund Districts in</b>	Environment, Infrastructure and Human Settlements	TAMALUGU	GROUP 6 LIMITED	1,539,101.77	The Adaptation Fund Board	6th February 2019	12th February 2019	31st July 2019	1,539,101.77	0.00	100%	Completed

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>the Three (3) Northern Regions of Ghana (LOT-1 TAMALUGU)</b>												
<b>Rehabilitation of Dams and Dug Outs in 10 Communities in the Adaptation Fund Districts in the Three (3) Northern Regions of Ghana (LOT 4-KASIESA AND TAMPION)</b>	Environment, Infrastructure and Human Settlements	KASIESA & TAMPION	BUNAS CO. LTD	1,776,555.08	The Adaptation Fund Board	6th February 2019	12th February 2019	31st July 2019	1,065,933.05	710,622.03	60%	This Contractor has two dams under 1 LOT. 1 dam is completed. Works on the second dams stalled due to some unforeseen challenges . Contractor currently

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
												on site to rectify
<b>Rehabilitation of Dams and Dug Outs in 10 Communities in the Adaptation Fund Districts in the Three (3) Northern Regions of Ghana (LOT 7-TAKPO)</b>	Environment, Infrastructure and Human Settlements	TAKPO	ASTEELIMITE	750,801.11	The Adaptation Fund Board	6th February 2019	12th February 2019	31st July 2019	750,801.11	0.00	100%	Completed
<b>Rehabilitation of Dams and Dug Outs in 10 Communities in the Adaptation Fund Districts in the Three (3)</b>	Environment, Infrastructure and Human Settlements	BUGUBELE	EPSILON COMPANY LTD.	708,603.93	The Adaptation Fund Board	6th February 2019	12th February 2019	31st July 2019	425,162.36	283,441.57	60%	Works on the dam stalled due to some unforeseen challenges. Contactor currently on site to rectify

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Northern Regions of Ghana (LOT 6-BUGUBELE)</b>												
<b>Modernization for Agriculture in Ghana (MAG)</b>	Environment, Infrastructure and Human Settlement	Accra	-	20,199,727.50	Government of Canada	01 Mar 2017	01 Mar 2017	31 Mar 2022	4,331,985.08	15,867,742.42	100%	On-going. An operational activity directly implemented by CSIR. No contractor or consultant engaged.
<b>Equipment for GMO Detection Laboratory</b>	Environment, Infrastructure and Human Settlement	NBA	Pabevoa Ventures	89,727.42	CAPE X	Sept. 2018	Jan. 2019	June 2019	89,727.42	-	100%	Completed and Satisfied

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Completion of laboratories for Radiological and Medical Science Research Institute</b>	Environment, Infrastructure and Human Settlement	GAEC Accra	Atta Boateys Building and Construction Ltd	4,511,184.42	Central GoG & CF	4th Dec. 2017	4th Dec. 2017	Oct 2018	4,511,184.42	-	100%	Completed
<b>Greater Accra Regional Spatial Development Framework</b>	Environment, Infrastructure and Human Settlement	Accra	GIBB Engineering and Architecture, South Africa	3,476,287.29	World Bank Loan	Aug. 2016	Sept. 2016	June, 2017	3,476,287.29	-	100%	Completed
<b>Ashanti Regional Spatial Development Framework</b>	Environment, Infrastructure and Human Settlement	Kumasi	Spatial Solutions, Ghana	1,800,232.65	World Bank Loan	June, 2016	July, 2016	May, 2017	1,800,232.65	-	100%	Completed
<b>Renovation of Regional Director's Bungalow</b>	Environment, Infrastructure and	Tamale	AESL	610,579.95	IGF	2019	2019	2020	152,644.99	457,934.96	25% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>and Construction of Fence Wall at Tamale</b>	Human Settlement											
<b>Renovation of Bungalow No. 17 at Obuasi</b>	Environment, Infrastructure and Human Settlement	Obuasi	AESL	367,750.90	IGF	2019	2019	2020	91,937.73	275,813.17	25% Delivery	On-going
<b>Renovation of Bungalow No. 24 at Obuasi</b>	Environment, Infrastructure and Human Settlement	Obuasi	AESL	476,021.70	IGF	2019	2019	2020	119,005.43	357,016.27	25% Delivery	On-going
<b>Renovation of Regional Office Block at Tamale</b>	Environment, Infrastructure and Human Settlement	Tamale	AESL	783,648.84	IGF	2019	2019	2020	195,912.21	587,736.63	25% Delivery	On-going
<b>Renovation of Area</b>	Environment, Infrastructure	Obuasi	AESL	699,759.50	IGF	2019	2019	2020	174,939.88	524,819.62	25% Delivery	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Office Block at Obuasi</b>	ure and Human Settlement											
<b>Renovation of Regional Office Block at Bolgatanga</b>	Environment, Infrastructure and Human Settlement	Bolgatanga	AESL	324,744.90	IGF	2019	2019	2020	81,186.24	243,558.66	25% Delivery	On-going
<b>Construction of CIPSEG Centre Fence Wall and Conference Hall/Office Block at Tamale</b>	Environment, Infrastructure and Human Settlement	Tamale	AESL	1,235,074.02	IGF	2019	2019	2020	308,768.51	926,305.51	25% Delivery	On-going
<b>Procurement of Vehicle</b>	Environment, Infrastructure and Human Settlement	Accra	AESL	6,392,518.57	IGF	2019	2019	2020	-	-	-	On-going

Project Description	Development Dimension Policy Framework	Location	Contractor/ Consultant	Contract Sum GHC	Source of Funding	Date of Award	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status	Remarks
<b>Procurement of computers</b>	Environment, Infrastructure and Human Settlement	Accra	AESL	1,497,447.25	IGF	2019	2019	2020	-	-	-	On-going
<b>Installation of Containerized Office Buildings for the NRA</b>	Environment, Infrastructure and Human Settlement	Kwabinya (Accra)	Group 6 Ltd	1,289,137.79	GoG Capex, IGF	November 2019	December 2019	March 2020	200,000.00	1,089,137.79		On-going

### **2.1.2 Programme Register**

During the year, eight (8) broad programmes were undertaken by the Ministry and its Agencies. Out of the eight programmes, seven (7) representing 87.5% were under the Environment, Infrastructure and Human Settlements while one (12.5%) was under the Governance, Corruption and Public Accountability.

Three (3) programmes representing 37.5% were fully completed while five (5) representing 62.5% were at various stages of implementation. All programmes were implemented to achieve the objectives outlined for the sector under the Agenda for Jobs Policy Framework, 2018-2021.

**Table 2.2: Programme Register**

Programme Description	Development Dimension of Policy Framework	Amount Involved Sum GH¢	Source of Funding	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status (%)	Total Beneficiaries	Remarks
<b>Management and Administration</b>	Governance, Corruption and Public Accountability	2,862,717.36	GOG	Jan. 2018	Dec.2019		-	91%	Nationwide	On-going
<b>Management and Administration</b>	Environment, Infrastructure and Human Settlements	10,673,440	Global Environmental Facility (GEF)	Jan. 2011	Nov 2020	691,440,000	101,934,734.00	91%	Nationwide	On-going
<b>Research &amp; Development</b>	Environment, Infrastructure and Human Settlements	30,608,831.00	GoG, DP, IGF	2017	Dec.2019	-	-		UG, Nationwide	On-going
<b>Research &amp; Development</b>	Environment, Infrastructure and Human Settlements	6,691,460.00	GoG, DP, IGF	2017	-	-	-		UG, Nationwide	On-going
<b>Environmental Protection &amp; Management</b>	Environment, Infrastructure and Human Settlements	46,307,277.66	IGF	2017	2019	-	-		Nationwide	On-going
<b>Enforcement and Compliance of Ionizing and Non-Ionizing Radiation</b>	Environment, Infrastructure and Human Settlements	3,638,790.00	GOG	Jan. 2019	2019	3,638,790.00	0.00	100%	Nationwide	Completed

Programme Description	Development Dimension of Policy Framework	Amount Involved Sum GHC	Source of Funding	Date Started	Expected Date of Completion	Expenditure to Date	Outstanding Balance	Implementation Status (%)	Total Beneficiaries	Remarks
<b>Spatial Planning &amp; Human Settlement</b>	Environment, Infrastructure and Human Settlements	425,000.00	GOG	2018	2019	425,000.00	0.00	100%	Regions, District	Completed
<b>Biotechnology Development</b>	Environment, Infrastructure and Human Settlements	486,500.00	GOG, IGF			486,500.00	0.00	100%	Nationwide	Completed

## 2.2 Update on Disbursements from Funding Sources

This section provides update on the funding sources and disbursement of the funding during the year.

### 2.2.1 Revenue Analysis

The Budget of the Ministry was funded by the Government of Ghana (GoG), Development Partners (DP) and Internally Generated Funds (IGF). During the year, a total of **GHC 475,423,880** was received from various sources for implementation of the 2019 annual action plan.

Central Government Transfer constituted the largest share (59.1%) of resource flow followed by IGF (33.3%). Donor Support represented the smallest share (7.6%) of resources. Actual resource flow for the year exceeded the target and also exceeded the actual for the previous year by 31.3%.

The Ministry exceeded its target by raising more revenue to support its activities. However, research and development activities cannot rely solely on internally generated funds. Funds being made available by Central Government would go a long way to boost the drive of the sector's responsibilities/functions in the country.

**Table 2.3: Revenue Analysis**

Revenue Sources	Baseline 2017	Actual 2018	Target 2019	Actual 2019
<b>Central Government Transfers</b>	194,965,976.00	220,184,968.00	3,370,818.61	280,999,847.00
<b>IGF</b>	56,688,121.00	80,630,147.00	0.00	158,142,313.00
<b>DP Support</b>	97,498,045.00	61,163,259.00	32,769,641.64	36,281,720.00
<b>Others</b>	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>349,152,142.00</b>	<b>361,978,374.00</b>	<b>36,140,460.25</b>	<b>475,423,880.00</b>

*Source: Finance Department as at October, 2019*

### 2.2.2 Disbursement

The Total Expenditure for the year 2019 was Three Hundred and Nine Million, Nine Hundred Thousand and Twenty-Two Ghana Cedis (**GHC 309,900,022.00**) which consisted of Compensation, Goods and Services, CAPEX, and Others (Donor and IGF).

Compensation for employees represented 54.4% of the total expenditure for the year while others represented 43.8%. CAPEX and Goods and Services represented the lowest share of the expenditure recording 0.3% and 1.4%. With the exception of Goods and Services that exceeded the target, all others were within budgeted target for the year. In addition, expenditure items (Compensation, Goods and Services, and CAPEX) recorded a 61.7% reduction compared to 2018.

**Table 2.4: Expenditure Analysis**

Expenditure Item	Baseline 2017	Actual 2018	Target 2019	Actual 2019
<b>Compensation</b>	148,137,988.33	422,565,120.00	233,933,250.00	168,678,520.00
<b>Goods and Service</b>	3,253,391.00	42,705,386.00	2,989,880.00	4,421,795.00
<b>CAPEX</b>	0.00	35,737,012.00	3,800,000.00	1,018,934.00
<b>Others</b>	84,137,329.03	0.00	177,231,212.00	135,780,773.00
<b>TOTAL</b>	<b>235,528,708.36</b>	<b>501,007,518.00</b>	<b>417,954,342.00</b>	<b>309,900,022.00</b>

*Source: Finance Department as at October, 2019*

### 2.3 Update on Indicators and Targets

Research and Development (R&D) expenditure as a percentage of GDP remained at 0.08 percent far below the Malabo agreement where African countries are enjoined to provide at least 1% of GDP for R&D activities. Adoption of research findings by industry recorded a significant increase from 70 in 2018 to 85 in 2019, however the number of technologies start-up companies declined from 8 in 2018 to 5 in 2019. The number of technologies commercialised increased from 30 in 2018 to 35 in 2019.

The Global Green Economy index, ranked Ghana 79th out of 130 countries in 2019. The percentage of sectors with climate change mitigation and adaptation strategies improved by 4 percentage points from 50% in 2018 to 54% in 2019 but fell short of the target of 55%. In relation to Greenhouse gas emissions, the level of emissions reduced from 54.5MT in 2018 to 42.2 MT in 2019. The number of companies compliant with Environmental Assessment (EA) increased from 10,030 in 2018 to 10,854 in 2019.

The level of pollutants of effluent discharge into coastal waters and lagoons continued to be higher than the EPA recommended guideline levels 50mg/l, 75NTU and 1500 µS/Cm respectively for most industries (165 industries) monitored during the year. The levels of Particulate Matter in urban centres remained high. EPA selected air quality monitoring stations along the Bus Rapid Transit (BRT) route and some residential, commercial and industrial areas in Accra showed PM<sub>10</sub> levels being above the recommended maximum level of 70µg/m<sup>3</sup>.

The percentage of regions with Regional Spatial Development Frameworks remained constant in 2019 at 18.75% (Ashanti, Western and Greater Accra Region) while the percentage of MMDAs with District Spatial Development Frameworks (SDF) improved from 2.36% in 2018 to 3.08% in 2019. The percentage of districts with structural plans remained the same at 3.85% in 2019. There are however no local plans available in the country as at 2019. The number of physical planners at the district level remained unchanged. Although LUSPA has recruited 188 staff out of which 132 are Physical Planners, these Planners are however going to be at the regional offices of LUSPA. This requires recruitment to be done at the MMDA level to aid them prepare their spatial plans and other planning functions.

**Table 2.5: Performance of Sector Indicators**

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
<b>KEY INDICATORS</b>					
1.	Level of pollutants of effluent discharge into coastal waters and lagoons	63 Industries monitored for levels of pollutants effluent quality were above EPA recommended guideline levels 50mg/l, 75NTU and 1500 µS/Cm respectively for most industries	81 Industries monitored for levels of pollutants effluent quality were above EPA recommended guideline levels 50mg/l, 75NTU and 1500 µS/Cm respectively for most industries	100 Industries monitored for levels of pollutants effluent quality were above EPA recommended guideline levels 50mg/l, 75NTU and 1500 µS/Cm respectively for most industries	165 Industries monitored for levels of pollutants effluent quality were above EPA recommended guideline levels 50mg/l, 75NTU and 1500 µS/Cm respectively for most industries
2.	PM <sub>10</sub> and PM <sub>2.5</sub> (Particulate Matter) pollution level PM <sub>10</sub> 1. North Industrial Area Annual Mean 2. First Light Annual Mean 3. Shangri La Annual Mean 4. Achimota Annual Mean 5. La Palm Annual Mean 6. Graphic Road Annual Mean 7. Kasoa Annual Mean 8. Amasaman Annual Mean	93µg/m <sup>3</sup>  157µg/m <sup>3</sup> 162µg/m <sup>3</sup> 161µg/m <sup>3</sup> 166µg/m <sup>3</sup> 187µg/m <sup>3</sup> 204µg/m <sup>3</sup> 163 µg m <sup>3</sup>	93µg/m <sup>3</sup>  50µg/m <sup>3</sup> 120µg/m <sup>3</sup> 111µg/m <sup>3</sup> 141µg/m <sup>3</sup> 154µg/m <sup>3</sup> 200µg/m <sup>3</sup> 150µg/m <sup>3</sup>	70 µg/m <sup>3</sup>  100 µg/m <sup>3</sup> 112µg/m <sup>3</sup> 106µg/m <sup>3</sup> 120µg/m <sup>3</sup> 160µg/m <sup>3</sup> 200 µg/m <sup>3</sup> 140µg/m <sup>3</sup>	119 µg/m <sup>3</sup>  178 µg/m <sup>3</sup> 158 µg/m <sup>3</sup> 131 µg/m <sup>3</sup> 139 µg/m <sup>3</sup> 154µg/m <sup>3</sup> 155 µg/m <sup>3</sup> 117 µg/m <sup>3</sup>
3.	Number of companies compliant with Environmental Assessment (EA)	4,638	10,030	10,030	10,854

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
4.	Percentage of sectors with climate change mitigation and adaptation strategies	35%	50%	55%	54%
5.	Greenhouse gas emissions	50.5 MT	54.5MT	56.1MT	42.2 MT
6.	Global Green Economy Index (GGEI) for Ghana	43.28(58 <sup>th</sup> out of 80 countries)	46 (Ghana ranked 78 <sup>th</sup> out of 130 countries)	50	46(79 <sup>th</sup> )
7.	Research and development (R&D) expenditure as a percentage of GDP	0.05	0.08	1.00	0.08
8.	Number of research findings adopted by industry	32	70	80	85
9.	Number of technology start-up companies established	5	8	10	5
10.	Number of technologies commercialised	25	30	35	35
11.	Percentage implementation of National Spatial Development Framework	NA	NA	NA	NA
12.	Percentage of MMDAs with District Spatial Development Frameworks and Structural Plans: <ul style="list-style-type: none"> <li>• Regional Spatial Development Frameworks (% of Regions with RSDFs)</li> <li>• Spatial Development Frameworks</li> <li>• Structural Plans</li> <li>• Local Plans</li> </ul>	30%	18.75%	25%	18.75%
		2.36%	2.36%	19.23%	3.08
		3.08%	3.85%	19.23%	3.85%
		NA	NA	NA	NA
		51.96%	51.96%	91.33%	50.77%

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
	<ul style="list-style-type: none"> <li>Percentage of MMDAs with Physical Planners</li> </ul>				
<b>SECTOR INDICATORS</b>					
<b>MANAGEMENT AND ADMINISTRATION</b>					
1.	Land area (Size of land in Hectares) where Sustainable Land and Water Management Practices have been adopted as a result of the SLWMP	7,338.6	10,998.7	14,000	15,257.85
2.	Land users (No. of farmers) adopting Sustainable Land and Water Management Practices as a result of the SLWMP.	18,421	26,696	28,000	37,432
3.	Direct project beneficiaries (No. of farmers) of SLWMP	34,213	48,498	52,000	57,595
	% of which are women	55%	55.5%	40%	54.6%
4.	Oil and Gas environment policy developed	-	Zero +5 Policy Document developed	Final Draft Policy Document developed	Zero +7 Policy Document developed -Draft Implementation Plan developed -Draft communication strategy developed
5.	Develop legislation for Chemical Weapon Convention (CWC)	-	Draft legislation submitted to MESTI/EPA by AG's Dep't for review	Final Draft legislation for CWC developed	Draft legislation reviewed by MESTI/EPA and further drafting instructions given to AG's Dep't

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
6.	National Biodiversity policy developed	-	Final draft National Biodiversity Policy developed	Implementation Plan for Biodiversity Policy developed	Implementation Plan for National Biodiversity Policy developed
7.	Nationally Determined Contributions (NDC) Implementation & Investment Plan	-	Implementation Plan completed	Develop and finalize NDC Investment Plan	Consultant recruited to lead the development of Investment Plan
8.	Building STI infrastructure Capacity (No. of machine) <ul style="list-style-type: none"> <li>No. of Foundries established</li> <li>National HPC Centre Established</li> </ul>	N/A - -	- - Renovation completed	- - Install HPC equipment	- - HPC equipment received and installation yet to be completed
9.	Establish an Effective National Innovative System (GIRC-Center established) <ul style="list-style-type: none"> <li>No. of Strategic Technology Centers Established</li> </ul>	N/A N/A	Renovation works completed -	Develop Master Framework for establishment of GIRC-Center -	2 reports prepared on STI ecosystem and making a Business Case for the GIRC-Center -
10.	Mainstreaming STI Into National Development Agenda (No. of STI Investment/ Development Plans/Proposals developed)	3	0	1	0

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
	STI Roadmap for the SDGs developed	-	National STI Policy approved by Cabinet	STI Roadmap for the SDGs initiated	Ghana selected by UN to initiate the STI Roadmap for the SDGs
11.	Promoting STI Culture (No. of STI celebrations organized) in Ghana	-	1	1	1
12.	Strengthening STI Advisory System (Inter-Ministerial Coordinating Committee established) for Policy Makers	-	-	-	-
13.	Financing the STI Implementation Programme	-	STI Policy approved by Cabinet	National Research Fund Bill Pass	National Research Fund Bill prepared
14.	Hand Over Centre constructed for E-waste project (by)	N/A	-	Dec. 2019	Pre-design studies ongoing
<b>RESEARCH &amp; DEVELOPMENT PROGRAMME</b>					
15.	Biotechnology: -Germplasm collected, characterised, conserved and distributed nationwide (No. of Plant Accessions collected and conserved)	4,382	5,267	1,000	616
	No. of Plant Accessions distributed nation wide	7,112	7,500	500	427
16.	Development and transfer of improved crop varieties (No. of	-	6 (3 sweet potato and 3 cowpea)	10	12

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
	improved crop varieties of crops developed and disseminated)				
17.	Postharvest losses (Percentage reduction in postharvest losses in cereals and legumes) of cereals and legumes reduced	-	2%	4-6%	-
18.	Improved breeds of livestock/poultry/fisheries (No. of improved breeds of livestock/poultry/fishes) developed	4	0	4	-
19.	Landscape management systems or technologies resilient to climate change vulnerabilities in time and space (No. of technologies for Sustainable management, conservation and utilization of forest resources) developed	2	4	6	1
20.	Control and elimination of water, air and soil borne diseases (in % Number. of technologies for Sustainable management, conservation and utilization of forest resources)	-	4-6%	6-8%	-
21.	Development of essential materials and industrial products using local raw materials (No. of artisans/stakeholders trained on products developed from local raw materials)	-	90	100	25

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
22.	Promotion of renewable Energy systems (No. of Solar or Renewable energy systems promoted and installed) for both domestic and commercial buildings.	-	5	7	2
	No. of people trained in the promotion of renewable energy systems	-	1,723	1,380	50
23.	Establishment of ICT Centre for the provision of electronics and computer engineering services (No. of training sessions organized)	-	2	6	-
	No. of Software Solutions developed and/or -Deployed	-	1	6	4
24.	Number of baseline surveys and adoption studies of released crop varieties conducted.	-	0	4	2
25.	Production and sale of improved planting materials (No. and type of improved planting materials produced)	-	135 000 Oil Palm germinated seeds 125 000 Oil Palm seedlings	150 000 oil palm germinated seeds 135 000 Oil palm seedlings  2,700 coconut seedlings	33,000 Oil Palm Germinated Seeds 104,450 Oil Palm Seedlings  4,647
26.	Safety assessment of telecommunication base stations/cell sites (Conditional	700	356	400	302

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
	Compliance assessment) conducted (No. of Base Stations Assessed)				
27.	Telecommunication masts/base stations Monitored	782	412	1000	762
28.	Occupational exposures for mine, industrial, medical, educational and educational research institution workers monitored.	507	250	700	450
29.	Consumable water by Gross alpha-beta and Gamma activity contamination measurement assessed (No. of samples analyzed)	-	448	700	435
30.	Siting and feasibility studies (level in %) towards introduction of nuclear energy in Ghana conducted.	10%	25% Feasibility studies	60% Selection of preferred candidate sites	100% Completed the selection of candidate sites (100%)
31.	Stakeholder and public sensitisation meetings (No. of meeting) on adoption of nuclear power organised	5	10	10	4
32.	Field established for release of four varieties of cherry tomatoes	-	3	4	-
33.	Production plant for protein bait to control fruit fly menace completed (Level of completion in %).	70%	75%	100%	75%
34.	Outreach programmes to establish Astronomy Clubs in educational institutions organised (No. of established clubs).	10	12	10	6

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
35.	Scientific assessment (No. of research reports) of the environment and human health impact of E-waste conducted.	3	5	7	4
36.	Welding and NDT professionals trained.	20	30	45	15
37.	Research conducted to improve radiotherapy and cancer treatment.	5	5	6	14
<b>ENVIRONMENTAL PROTECTION AND MANAGEMENT PROGRAMME</b>					
38.	Improved compliance with sector specific EA guidelines and standards (% of sector covered)	60%	100%	100%	100%
	oil and gas exploration, agriculture	60%	65%	70%	67%
39.	National Oil Spill Contingency Plan operationalised (No. of simulation exercises undertaken)	1	1	1	1
40.	Approval given (EA and EMP permits) to companies for them to comply with Environmental Assessment (EA) regulations (No. of permits issued)	4,638	9,277	5,612	5,100
41.	Level of pollution of effluent quality (No. of industries) from industries sampled and analysed	63	63		52
42.	Annual compliance monitoring undertaken (No. of Annual compliance monitoring events)				
	• Accra.	4	4	5	5

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
	• Other Regions	13	13	10	12
43.	Environmental indicators - air quality monitored (No. of monitoring locations (Accra))	13 sites	13 sites	14 sites	14 sites
44.	Register on pesticides and industrial and consumer chemicals for proper handling and labelling developed.	1	1	1	1
45.	Pesticides/industrial chemicals post registration and licensing/compliance e monitoring and surveillance carried out (copy of a completed register)	1	1	1	1
46.	Industries monitored to ensure the use of bio-oxo degradable additives in the manufacture of flexible Plastics	26	32	33	33
47.	System that effectively and rapidly responds and deal with chemical related emergencies nationwide developed (% completion of the system)	10%	30%	60%	45%
48.	Climate change issues incorporated into sector medium term plans (No. of sectors with climate mitigation and adaption strategies)	7	8	8	8
49.	E-waste recyclers trained on sustainable management of e-waste	2	3	3	6

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
50.	Register on pesticides and industrial and consumer chemicals for proper handling and labelling developed.	1	1	1	1
51.	Stakeholders trained on pesticide regulation and safe/judicious use of pesticides (No. of training exercises)	5	3	5	3
52.	Users of radiation complying with provisions of the regulations and guidance documents (No. of users of radiation applying the regulations and guidance documents)	250	250	200	261
53.	General public and users of radiation sources educated (No. of education events held)	-	390	350	261
54.	Up-to-date National register of radiation sources and of persons authorized to carry out any activity or practice related to a source of radiation	100	119	100	56
55.	Regulations (No. of regulations drafted) for the control of ionizing and non-ionizing radiation	6	2	6	2
56.	Guidance documents (No. of documents) for the control of ionizing and non-ionizing radiation; and radiation devices available.	-	4	10	13
57.	Compliance by users of radiation sources and devices to Regulatory	-	227	250	135

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
	Requirements (No. of facilities inspected and authorized)				
58.	Non-compliance issues Resolved (No. of enforcement notices issued)	6	5	25	5
<b>SPATIAL PLANNING AND HUMAN SETTLEMENTS PROGRAMME</b>					
59.	National zoning regulations and planning standards published and Distributed (Revised editions from 2019 onwards) (No. of published guidelines)	100	-	300	0 (Review of planning standards to be rolled over to 2020)
60.	Reviewed Manuals for spatial plan completed (Revised editions from 2019 onwards) (No. of spatial planning manuals distributed)	100	-	300	0 (Review of spatial planning manuals to be rolled over to 2020)
61.	The Legal Instruments for Act 925 completed and operational Scheme of Service completed (by)	-	Final Draft with Attorney General as at December 2018	August 2019	July 2019
62.	Staff recruited for LUSPA	-	-	100	130
63.	Functional Regional Spatial Planning Committees established.	8	8	10	10
64.	Head office complex of LUSPA completed (Level of completion in %)	-	-	40%	-
65.	Recruited key/ relevant staff recruited for LUSPA	-	-	100	132
66.	Training on permitting guidelines, planning standards and Regulations on Act 925	-	-	252	250

No	Indicators	Baseline	Actual	Target	Actual
		2017	2018	2019	2019
67.	LUPMIS (GIS) training organized for all MMDAs (stakeholders)	60	52	254	260
68.	Regional Spatial Development Frameworks (No. of RSDF's prepared)	2	-	1	-
69.	District Spatial Development Frameworks (No. of District Spatial)	-	2	50	-
70.	Structure Plans for major settlements prepared of MMDAs (No. of Structure Plans prepared for MMDAs)	-	2	50	-
71.	Monitoring and Evaluation visits on RSPAs and MMDAs (No. of M & E visits to RSPAs No. of newly created RSDFs)	-	30	10	6
		-	30	254	-
<b>BIOTECHNOLOGY DEVELOPMENT PROGRAMME</b>					
72.	Approval and embossing of the NBA scheme of service by Public Service Commission (PSC)	-	-	1	1
73.	Passage of Biosafety Regulations	-	2	2	2
74.	Biosafety public education materials	-	4	4	2
75.	Biotechnology and biosafety staff trained on biosafety guidelines	2	3	4	4

## 2.4 Update on Critical Development

As part of efforts to improve policy and legislation, as well as achieve the objectives in the Environment, Science, Technology and Innovation sector, the following interventions were undertaken.

### *GIZ/MESTI E-Waste Technical Cooperation*

The Ministry, under the GIZ/MESTI E-Waste Technical Cooperation, commissioned a training center, a health post and football pitch at Old Fadama (Agbogbloshie) to enhance sound dismantling of Waste of Electrical and Electronic Equipment (WEEE).



*Site before Reconstruction*



*Site after Reconstruction (New Training Facility & Health Post)*



*Newly constructed Football Pitch*



*Dismantling of E-waste at Training Facility*

### *Sustainable Land and Water Management Project (SLWMP)*

Under the project, 12,421 farmers were supported with farm inputs to implement various SLWM technologies within the 12 project Districts (Mamprugu Moaduri, West Mamprusi, West Gonja and Sawla Tuna-Kalba, Talensi, Bawku West, Builsa South and Kassena Nankana West, Wa East, Daffiama-Bussie Issa, Sissala East and Sissala West).



*Use of A-frame to construct bunds on fields*



*Compost Preparation*

The SLWMP has constructed eight (8) dugouts in some project areas (Mole National Park, Fringe communities of the Gbele Resource Reserve (GRR) and within some agricultural landscapes).



*Dugouts in Some Project Areas*



### ***Adaptation Fund Project***

The Ministry is implementing the Adaptation Fund Project to address the risks associated with climate change in the five (5) Northern Regions. Some achievements of the project (Increased Resilience to Climate Change in Northern Ghana through the Management of Water Resources and Diversification of Livelihoods) include:

- Hundred (100) boreholes constructed and installed with hand pumps;
- Over fifty (50) acres of buffer zones created (62,500 tree seedlings were planted in 50 communities) to protect existing water resources like dams/dugouts/ rivers;
- Ten (10) Dams rehabilitated in ten (10) communities. The progress of work on 4 is far advanced and near completion; and
- 46 local NGOs based in the Northern, Upper East, Upper West, and Savannah Regions were funded with a total sum of **USD 785,000** in 3 tranches to date to implement Alternative livelihood activities in the Adaptation Fund Project communities in the areas of:
  - Dry Season Gardening (17 NGOs);
  - Bee Keeping activities (8 NGOs);
  - Agro-Processing Schemes (12 NGOs);
  - Fish Farming (3 NGOs)
  - Tree Seedling Establishment (5 NGOs); and
  - Integrating cultural values (1 NGO).





*Hon Minister breaking ground for construction of dam, Kakiase*



*Grinding machine at Agro-processing centre*



*Beneficiary of dry season gardening initiative*



*Project beneficiaries harvest fish*

### ***Presidential Advisory Council on Science, Technology and Innovation (PACSTI)***

H.E. the President, in February, 2019, established the Presidential Advisory Council on Science, Technology and Innovation (PACSTI) by inaugurating a 9- Member Council chaired by Eminent Scientist, Prof. Edward Ayensu.



*H.E the President with the PACSTI Members*

### ***Renovation of CSIR-INSTI block***

Renovation works have been completed on the CSIR-INSTI block for the establishment of a High-Performance Computing (HPC) Centre including HPC Server and monitoring rooms.

The Centre is to provide opportunity for both academic and private institutions to analyse, model and simulate big data to help address both research and industrial challenges in areas such as health, environment, security, agriculture and natural resource management.





*The two Racks of HPC received for the Centre*

***Ghana Radio Astronomy Observatory***

The second engineering phase the Ghana Radio Astronomy Observatory has commenced with the building of Environmental Monitoring systems and installation of new drive motors. The facility will provide data for weather monitoring to Ghana Meteorological Agency.

A Ground Receiving Satellite Station is being established at Kuntunse to access earth observation satellite data for application by national institutions such as Ghana Armed Forces, Ghana Immigration Service, Ghana Police Service, EPA, LUSPA, MoA, MoRH, Railways, Lands Commission etc. and private sector.



*Ghana Radio Astronomy Observatory*

***Variety Crops***

Two (2) super colourful varieties of sweet potatoes were developed and released in 2019. In addition, seven (7) improved stress-tolerant Cowpea lines and 2 high yielding and stress-tolerant Groundnut lines that were both developed at the end of 2018, have received approval for cultivation and release in 2019. One improved soya bean variety christened “Favour” has also been approved for release.

**SWEET POTATOES**

1. *CRI-AGRA* & 2. *CRI KOFI ANNAN*



Favour Soya Bean



The Ghana Atomic Energy Commission (GAEC) in collaboration with the University of Cape Coast produced the Yellow flesh cassava which helps prevent blindness.



*Yellow flesh cassava being shown to participants at an exhibition*

Accessions of 626 plants were collected and conserved, which is aimed at conserving Ghana's indigenous biological diversity for future generations and also for re-vegetation in the unlikely event of any natural disasters.

Germplasms of 460 various food and cash crops were distributed throughout the country, eleven (11) crop species were selected for regeneration and three hundred and eighty-eight (388) germplasm conserved in the field and 300 by in-vitro conservation, and finally 73 characterized and 191 evaluated.

Four (4) tree species, based on its drought tolerance, have been identified and selected for the rehabilitation of degraded sites. These are; *Albizia Spp*, *Celtis Spp*, *Khaya authotheca*, and *Triplochiton secleroxylon*. Seedling raising methods of *Khaya species* and Odum (*Milicia regia*) species have also been improved for dissemination to other nurseries. The Millet washing machine was developed and has been adopted by processors.

#### ***Adoption of R&D***

Twenty (20) businesses or industries were assisted to adopt R&D in production and services whereas there was 30% adoption rate of improved locally-packaged technologies by MSMEs.

### ***Monitoring and Assessment of Telecommunication Masts***

GAEC monitored 762 (out of 1,000) telecommunication masts and assessed 302 (out of 500) base stations for compliance. In addition, 450 (out of 1,500) occupationally exposed workers involved in ionizing radiation were monitored.



***Monitoring of Telecommunication Masts***



***Professional development training in radiation protection***

### ***Environmental Monitoring and Assessment***

Seven thousand, six hundred and twenty-one (7,621) Environmental Assessment permits were issued for various projects. In addition, twenty-six thousand, sixty hundred and seventy-one (26,671) chemical licenses were issued by the EPA.

Out of Seven thousand, six hundred and seventy-three (7,673) undertakings monitored by the EPA in line with L.I 1652, only Two thousand and nine hundred (2,900) were compliant while 4,773 were non-compliant. Additionally, out of 107 industries monitored for effluent quality in the Accra/Tema region, most of the results were higher than the EPA recommended guideline levels 50mg/l, 75NTU and 1500  $\mu$ S/Cm.



***Offshore monitoring***

The results at 14 sites monitored for Air Quality indicated that PM10 levels were above the EPA 24-hour level of 70 $\mu$ g/m<sup>3</sup>. On the other hand, the State of the Environment (SoE) 2016 Report was launched and distributed under the auspices of the Hon. Minister (MESTI).



***Effluent Quality monitoring***



***Air Quality monitoring at Shangri-La hotel, Airport***

### ***Schistosomiasis***

On-going research on Schistosomiasis in some communities in the Atwima Nwabiagya District of the Ashanti Region and Ajumako-Eyan-Esiam in the Central region showed about 20% reduction in the prevalence of schistosomiasis infections with very minimal incidence of infection. Effective monitoring of the disease is critical for local elimination of the disease.

However, the situation was different in some endemic communities in Ga South Municipality of Greater Accra Region, where after two years of community-based praziquantel treatment, recent results showed a relatively high prevalence of schistosoma mansoni in some communities, with one community having as high as 73% prevalence of infection.

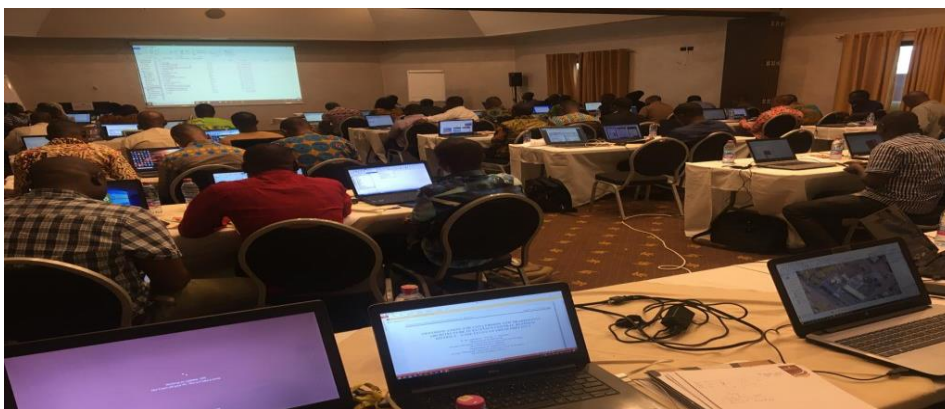
Overhead water storage systems have been installed for water storage, treatment and supply to Schistomiasis infected communities to assist reduce the prevalence of the disease.

### ***Training***

The CSIR trained 50 Artisans through the training-of-trainers (ToT) concept on installation and maintenance of renewable energy systems. Selected 5 Artisans each from the former ten (10) regions of Ghana.

Seventy-five (75) Village Advisory Services and 100 pesticide dealers were trained on pesticide regulation and safe/judicious use of pesticides. In addition, 50 journalists were trained on responsive and persuasive environmental reporting, while another 38 editors were also trained on the topic ‘Demystifying Environmental Issues: “The Role of Media Editors”’. National Biosafety Authority also conducted biosafety emergency response training for stakeholders. LUSPA organised a workshop on guidelines on GMO food labelling.

As part of efforts to operationalize Act 917 and L.I 2250, the EPA provided training for 150 participants comprising of scrap dealers, officers of Ghana Shippers Authority and EPA staff. In addition, 260 MMDAs were trained in the Geographic Information System (GIS) with funding support from the Inter-Ministerial Coordination Council on Decentralization (IMCCD).



***GIS training in Eastern Region***

### ***Commissioning of facilities***

Laboratory facilities were commissioned by the Vice President of the Republic of Ghana, His Excellency Dr. Mahamudu Bawumia at the Radiological and Medical Sciences Research Institute (RAMSRI-GAEC). The Radon Monitoring Laboratory was also Commissioned by the

Deputy Minister for Environment, Science, Technology and Innovation, Hon. Patricia Appiagyei.



*Commissioning of RAMSRI Lab facility*



*Commissioning of Radon Monitoring Lab.*

### ***Regulations and Consultations***

The Environmental Protection Agency (EPA) developed Draft Pesticides Guidelines on efficacy trial evaluation, while the draft Bill on Industrial and Consumer Chemicals Regulations was submitted to the Attorney General’s Department for further review.

The Legislative Instruments (LIs) for the Land Use and Spatial Planning Act, 925 (2016) was passed and made fully operational. In addition, the NBA through the Ministry, submitted the Biosafety Regulations to parliament for passage.

Stakeholder consultations were held with the various trade associations to discuss effective ways of implementing Act 917. Eco-levy collection is ongoing as part of the process. The EPA held six (6) Public Hearings on various undertakings due to their sensitive nature. This includes;

- 3 on mining activities
- 2 on siting of fuel service stations
- 1 on siting of telecommunication masts



*Community Sensitization at Sentie, Kassena*



*School Environmental education in pictures*

### ***National Threat Assessment***

The Nuclear Regulatory Authority (NRA) in collaboration with the International Nuclear Security of United States Department of Energy (INS/DOE) conducted a National Threat Assessment and developed a Design Basis Threat.



***Convention on Nuclear Safety***

The NRA facilitated the implementation of Convention on Nuclear Safety (National Report Submitted for 8th Review Meeting) and Joint Convention.

***Land Use and Spatial Planning***

Regional Spatial Committees of Greater Accra region and Eastern region were inaugurated and made fully functional. Additionally, the LUSPA scheme of service was approved and embossed by the Public Services Commission (PSC).

As part of improving GMO detection, LUSPA secured equipment for the GMO detection Laboratory.



***Samples of Laboratory Equipment procured for the GMO detection Laboratory***

**2.5 Evaluation and Participatory M&E**

Although evaluation and PM&E is critical for ensuring the effectiveness of programmes and assessing achievements of the policy of the sector, the Ministry and its Agencies were unable to undertake evaluations and PM&E due to financial challenges amongst others.

### 3.1 Key issues addressed

Some actions have been taken to address most of the challenges within the control of the Ministry and other necessary collaborations with other Agencies are afoot to address exogenous challenges.

The Ministry's staffing issue was raised at the Budget Technical Hearings held at the Ministry of Finance in September, 2019. It was recommended that Agencies conduct an analysis of replaceable staff who are due for retirement, and put in request for financial clearance ahead of their retirement dates. The NBA and NRA, the newest Agencies also budgeted for recruitment of thirty (30) and Fifty (50) new staff respectively in their 2020 budget.

In order to deal with the perennial problem of land encroachment, the Ministry is in constant talks with relevant state Agencies as well as state security agencies in order to curb the growing sprawl of squatters on institutional lands.

The Ministry has been able to submit all CAPEX related requests to the Ministry of Finance for payment.

The NBA and NRA, the newest Agencies also budgeted for recruitment of thirty (30) and Fifty (50) new staff respectively in their 2020 budget. The recruitment is yet take place in 2020.

### 3.2 Recommendations

Key recommendation for the consideration in resolving the challenges encountered during the year was to seek Donor support in addition to Government Funding.

### 3.3 Outlook for 2020

The Environment, Science Technology and Innovation sector was given an approved budget amount of **GH¢475,423,880.00** for the implementation of its programmes, projects and activities for the 2019 fiscal year.

The Ministry will commence the establishment of foundries and Computer Numerical Control (CNC) machine tooling centres to kick-start the promotion and production of machine parts across the Country. The Ministry will also support the operationalization of the High-Performance Computing (HPC) and the Ghana Innovation and Research Commercialization (GIRC) Centres.

In 2020, the Ministry will continue the implementation of the Sustainable Land Water Management Project (SLWMP) and Adaptation Fund Project in the five (5) Northern Regions to address climate change adaptation issues. In addition, the construction of a Hand-over Centre (HOC) at the premises of the Ghana Atomic Energy Commission (GAEC) will commence under the German financed E-waste project.

The Ministry will finalize and implement the National Plastics Management Policy alongside other interventions such as the National Plastic Action Partnership (NPAP) and the Project on Microplastics and Marine Litter to help solve the plastics menace in the Country.

The activities of the CSIR in 2020 will be geared towards seven (7) thematic areas namely; Food Security and Poverty Reduction; Climate Change, Environmental Management and Green Technology; Biomedical and Public Health; Material Science and Manufacturing;

Energy and Petroleum; Electronics and ICT; Science and People; and Commercialization and Transfer of Research Results.

In 2020, GAEC will continue to monitor occupational exposures for the mine, industrial, medical, educational and educational research institution workers. The Commission will engage in Environmental Radiation Protection Research and Development (R&D), and provide technical services in areas such as; food, water, & environmental sample assessment for radioactivity contamination.

The EPA will continue to ensure environmental compliance and enforcement in 2020 through environmental quality monitoring. The Agency expects to upscale source waste segregation, regulate plastic waste, and implement the Hazardous and Electronic Waste Control and Management Act, 2016 (Act 917) in 2020. This is geared towards substantially reducing waste generation through prevention, reduction, recycling and reuse.