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ACRONYMS

ABB	-	Ankobra Basin Board
BVBB	-	Black Volta Basin Board
CBO	-	Community Based Organisation
CIWA	-	Cooperation in International Waters in Africa
CONIWAS	-	Coalition of NGOs in the Water and Sanitation Sector
CREMA	-	Community Resources Management Area
CWP	-	Country Water Partnership
CWSA	-	Community Water and Sanitation Agency
DA		District Assembly
DBB	-	Densu Basin Board
DRM	-	Disaster Risk Management
ECOWAS	-	Economic Community of West African States
EPA	-	Environmental Protection Agency
FC	-	Forestry Commission
FEWS	-	Flood Early Warning System
GCF	-	Green Climate Fund
GIDA	-	Ghana Irrigation Development Authority
GEF	-	Global Environment Fund
GMet	-	Ghana Meteorological Agency
GoG	-	Government of Ghana
GWCL	-	Ghana Water Company Limited
GWP	-	Global Water Partnership
HSD	-	Hydrological Services Department
ICI	-	Initiatives Conseils International
IGF	-	Internally Generated Funds
IUCN	-	International Union for the Conservation of Nature
IWRM	-	Integrated Water Resources Management
LI	-	Legislative Instrument
MC	-	Minerals Commission
MDAs	-	Ministries, Departments and Agencies
MMDAs	-	Metropolitan, Municipal and District Assemblies
MOFA	-	Ministry of Food and Agriculture
MSWR	-	Ministry of Sanitation and Water Resources

NADMO	-	National Disaster Management Organisation
NDSU	-	National Dam Safety Unit
NGOs	-	Non-Governmental Organisations
NFSs	-	National Focal Structures
PFCM	-	Permanent Framework for Coordination and Monitoring
PBB	-	Pra Basin Board
REGSEC	-	Regional Security Council
RWESCK	-	Regional Water and Environmental Sanitation Centre, Kumasi
SAP	-	Strategic Action Program
SBC	-	Sub-Basin Committee
SEA	-	Strategic Environmental Assessment
SDG	-	Sustainable Development Goal
TBB	-	Tano Basin Board
TDS	-	Total Dissolved Solids
TSS	-	Total Suspended Solids
UENR	-	University of Energy and Natural Resources
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environmental Program
VBA	-	Volta Basin Authority
VRA	-	Volta River Authority
VSIP	-	Volta Basin Strategic Action Program
WASCAL	-	West African Science Service Centre on Climate Change & Adapted Land Use
WASH	-	Water, Sanitation and Hygiene
WQI	-	Water Quality Index
WRC	-	Water Resources Commission
WRCC	-	Water Resources Coordination Centre
WRI	-	Water Research Institute
WUA	-	Water User Association
WVBB	-	White Volta Basin Board
WWD	-	World Water Day

FOREWORD

2018 was a year that significant progress was made with respect to the efficient delivery of plans, programs, and projects at the basin, national and international levels.

This 20th Annual Report of the Water Resources Commission (WRC) therefore presents the noteworthy advances that were made in the administration of regulations; management of priority river basins; water resources planning and assessment; public awareness and education; water governance; transboundary cooperation and initiatives; administration and human resources; and financial management.

The Integrated Water Resources Management programme (IWRM) continued to be the focus at the decentralised river basin level, with attention on collaboration and coordination, and strategic development and implementation of river basin IWRM plans. On the international front, the Volta Basin Authority and the ECOWAS Water Resources Coordination Centre served as vital opportunities and assistance for promoting transboundary cooperation and management of our transboundary waters.

These and other efforts at the local, national and international stages were understandable in view of the priority placed on improving the ecological health of water resources as a major developmental challenge within the national growth and development strategies and plans.

However, despite these efforts, it should be recognised that the WRC faces a number of challenges that calls for a renewed target and agenda for the WRC towards:

- strengthening capacity and water governance at all levels particularly at the decentralised basin level;
- sustained public awareness and education as well as enforcement;
- mobilizing financial resources; and
- scaling up good practices.

The WRC is charged to stay focused and develop concrete actions to address these issues.

On behalf of the Commission, I wish to extend sincere thanks to the Ministry of Sanitation and Water Resources for the support to the WRC. We also appreciate the continued support and encouragement of our Development Partners and collaborative institutions to the Commission in carrying out its mandate of regulating and managing the country's water resources.

Finally, I wish to congratulate the management and staff of the Commission for their enthusiasm and devotion to work despite the challenges.

BEN AMPOMAH
(EXECUTIVE SECRETARY)

EXECUTIVE SUMMARY

The operations of the WRC in the year 2018 were in the administration of regulations; management of priority river basins; public awareness and education; water governance; water resources assessment and planning; transboundary water management; administration and human resources; and financial management of the Commission.

Administration of Regulations

In the administration of regulations, a total of 64 water use permits were issued of which 23 were new permits and 41 were renewals. The valid permits recorded in the register totalled 247. About 26 water users were visited for compliance monitoring. The assessment of environmental reports revealed that 19 water users submitted reports in accordance with stipulated conditions in their water use permits. A total of 81 drilling licences consisting of 71 new and 10 renewals were issued. The total valid licences registered was 97, which was an increase of 34 from the 63 licenses registered in 2017.

Administration of the Dam Safety Regulations LI 2236 of 2016 was initiated in 2017. In 2018, the fees and charges component were revised and presented to the Ministry of Finance for approval to enable the Commission commence dam registration.

Management of Priority River Basins

The management of priority river basins targeted activities for improving the status of water resources in the functional river basins of the Densu, White Volta, Ankobra, Pra (Offin), Tano, Dayi and Black Volta.

Activities undertaken in the basins were the operations of Basin Boards, ecological monitoring, administration of regulations, collaboration and coordination, and strategic development and implementation of river basin IWRM plans.

Development of IWRM Plans for the Black Volta and Oti River Basins continued with the completion of Climate Change compliance and sustainability tests of the proposed actions for both basins. In addition, an ecosystem study report was validated for the development of the Black Volta IWRM plan.

Public Awareness and Education

The revised Communication Strategy and Action Plan (2018-2022) was produced. It has enhanced interventions in public engagement; educational campaigns and media events; service provision; and networking for effective communication with a wider target audience.

Educational materials were produced on the regulations and world water day celebration. As part of the service provision, stakeholders such as the Inter-Ministerial Committee on Illegal Mining were kept updated on water resources management and developments through the sector review programs.

Water Governance Initiatives

Outcomes from the national consultations were collated to begin drafting the Buffer Zone Regulations. However, the issue of land ownership and acquisition for creation of buffers was identified to be addressed through further consultations with traditional authorities.

As part of efforts towards the setup of the National Dam Safety Unit, the staff requirement for the was presented and approved by the Public Services Commission.

Water Resources Assessment and Planning

The nationwide monitoring of surface water quality and trends continued covering thirty-two (32) river stations and nine (9) reservoir/lakes stations.

The Water Quality Index (WQI) was used to assess the status of waters sampled. Generally, the quality of all the rivers improved in 2018. The maximum WQI of 72.8 was recorded in the Kpong (main Volta) and classified as fairly good. The minimum WQI of 39.6 was recorded at Mangoase on the River Densu (poor water quality). The overall mean was 55.96, which is fairly good. The continuous fight against illegal mining activities ('galamsey') contributed to the improvement in the quality of water bodies such as Offin, Ankobra, Birim, Pra and Tano.

Other assessment and planning programs included the transboundary flood hazard assessment intervention in the Oti Basin for both Ghana and Togo; improving resiliency of crops to drought through strengthening early warning within Ghana; and the Blue Deal programme initiated to support water governance in the lower Volta delta and improve water quality in the White Volta Basin.

Transboundary Water Management Initiatives

The WRC continued with its role as the national focal institution responsible for coordinating international and transboundary cooperation and initiatives to improve water governance.

WRC was engaged in activities of the Volta Basin Authority (VBA) including the Volta Basin Strategic Action Programme Implementation Project; Development of a Volta Basin Water Charter; and the Study on Establishment and Capacity Building of National Focal Structures (NFSs). WRC was also involved in activities of the ECOWAS Water Resources Coordination Centre (WRCC). The Council of Ministers adopted the Convention, Statutes, Organisational Text, and the road map towards the final set up and functioning of the Comoe-Bia-Tano Basin Authority. The process towards establishing a Regional Water Observatory for the Economic Community of West African States (ECOWAS) was also pursued.

Reports were published on the status of Indicators 6.5.1 and 6.5.2 of the SDG 6. These indicators measure progress on the state IWRM implementation and track the transboundary basin area within the country that has operational arrangements for water cooperation, respectively.

Administration and Human Resources

The Commission had 33 staff members (21 male and 12 female) at post. Senior staff was 29 with the remaining 4 as junior staff. Training programs were undertaken both at the national and international levels, focusing on competency building and acquisition of knowledge in water resources management and development of human resources.

The library continued to collect/receive materials/information both in soft copies and hard copies. A total of 40 books, newsletters, journals and compact disks were received and logged into the library database, which brought the total items in the library to 1,392.

Financial Management

The audited financial statements indicate that total income for 2018 was GH¢3,404,483. Total expenditure for the period amounted to GH¢3,933,988, which was a decrease of 0.74% from the GH¢3,963,264 recorded in 2017. This resulted in a negative net operating income of GH¢529,505 in 2018. The accumulated balance as at 1 January 2018 was GH¢2,253,756 and the recorded accumulated balance as at 31 December 2018 was GH¢1,714,748.

CHAPTER 1 – COMMISSION PROFILE AND INFORMATION

1.1 Mandate

The Water Resources Commission (WRC) was established by an Act of Parliament (Act 522 of 1996) as the institution responsible for the management of Ghana’s fresh water resources. It is specifically mandated to regulate and manage the water resources and to co-ordinate related government policies. Thus, the responsibilities of WRC, which are spelt out in Section 2 (2) of Act 522, can be categorized as:

- Developing and administering regulations on water utilisation and management;
- Planning for water resources development and management at the local, national and transboundary levels;
- Collecting, collating, storing and disseminating data and information on water resources;
- Monitoring and assessing activities and programmes for the sustainable utilisation and conservation of water resources.

1.2 Vision

The vision of the WRC is “Sustainable water management by all for all”.

1.3 Mission Statement

WRC has the mission ‘to regulate and manage the sustainable utilization of water resources and to coordinate related policies by combining our core competencies and hard work through effective participation, monitoring and awareness creation for socio-economic development of Ghana’.

1.4 The Commission

The WRC is governed by a Commission, which represents a forum for the integration, cooperation and coordination of diverse interests and comprises the major stakeholders in the water sector. The Commission consists of 15 members including the Chairman, the Executive Secretary, and a representative each for women, traditional authorities, and NGOs in the water sector. The major stakeholder institutions are the Hydrological Services Department (HSD), Ghana Meteorological Agency (GMet), Water Research Institute (WRI), Ghana Water Company Limited (GWCL), Ghana Irrigation Development Authority (GIDA), Volta River Authority (VRA), Environmental Protection Agency (EPA), Forestry Commission (FC) and Minerals Commission (MC). Community Water and Sanitation Agency (CWSA) represents other organisations that produce potable water.

The 5th Commission was appointed on 27th November 2017 and inaugurated on 8th January 2018. List of the Commissioners is presented in Appendix 1.

1.5 Focus Areas for 2018

This 20th Annual Report of the WRC underscores the following for the year 2018:

- Administration of regulations;
- Management of priority river basins;
- Public awareness and education;
- Water governance initiatives;
- Water resources assessment and planning programs;
- Transboundary water management initiatives;
- Administration and human resources; and
- Financial status of the Commission.

CHAPTER 2 - ADMINISTRATION OF REGULATIONS

2.1 Administration of Water Use Regulations

In 2018, a total of 64 water use permits were issued of which 23 were new permits and 41 were renewals.

Table 1 shows the distribution of water use permits recorded in 2018. The valid permits recorded in the register totalled 247 compared to 235 in 2017 (details presented in Appendix 2). These permits cover 10 categories of water uses namely; aquaculture, commercial, construction, domestic/municipal, dredging, industrial, mining, irrigation, power generation, and recreation. As in 2017, majority of the permit holders were engaged in domestic/municipal water supply (47%), aquaculture (15%), mining (12%) and irrigation (9%).

Further analysis of the water users shows that the topmost water user was Ghana Water Company Limited (GWCL) accounting for 35% of the total permits and 75% of domestic/municipal water supply permits.

Table 1: Distribution of Water Use Permit Holders in 2017

No.	Water Use Activity	No. of Permits	Percentage of Total Permits
1	Aquaculture	36	14.6
2	Commercial	8	3.2
3	Construction	5	2.0
4	Domestic and Municipal	116	47.0
5	Dredging	9	3.6
6	Industrial	18	7.3
7	Irrigation	30	9.3
8	Mining	30	12.1
9	Power Generation	1	0.4
10	Recreation	1	0.4
Total		247	100

Figure 1 shows the trend of total permits registered from 2008–2018. The trend indicates a gradual increase of water users over the period, but with declines between the periods 2010-2012 and 2014-2016. The declines were attributed to factors such as non-renewals, defunct companies (e.g. aquaculture), reduction in number of water use activities at particular sites (e.g. mining), one-time permit of water activities (e.g. diversion, spillage) and outstanding relevant documents for permits to be issued.

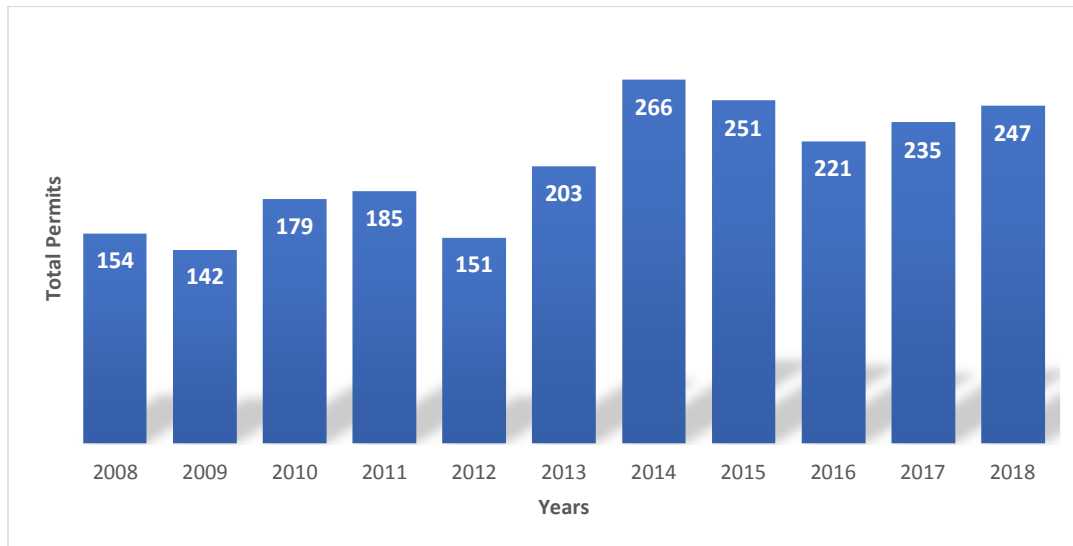


Figure 1: Trend of total number of permits registered from 2008 - 2018

2.2 Water Users Compliance Monitoring

In 2018, 26 water users were visited for compliance monitoring. Some of the issues identified include land-based aquaculture activities close to riverbanks, and abandoned and unused cages on the Volta Lake. Other users also had expired permits, halted activities without notification to the Commission, non-submission of environmental reports, and outstanding water use charges. These companies were formally notified by the Commission to redress the relevant issues.

The assessment of environmental reports revealed that 19 water users submitted reports in accordance with stipulated conditions in their water use permits, which included information on:

- surface and groundwater water quality;
- effluent quality;
- effluent discharge volumes into water bodies;
- groundwater and surface water abstraction volumes;
- groundwater levels; and
- rainfall measurements and harvesting volumes.

Table 2 lists the water use compliant companies. 13 were engaged in mining, 3 in industrial and 1 each in irrigation, aquaculture and hydropower water use activities.

Table 2: List of water use compliant companies for 2018

No.	Complying Companies	Water Use Activity
1	Abosso Goldfields Limited	Mining
2	Adamus Resources Limited	Mining

3	Anglogold Ashanti Ghana Obuasi Limited	Mining
4	Anglogold Ashanti Iduapriem Limited	Mining
5	Bui Power Authority	Hydropower
6	Cargill Ghana Limited	Industrial (cocoa processing)
7	Chirano Gold Mines Limited	Mining
8	Form Ghana Limited	Irrigation (tree plantation)
9	Ghana Manganese Company Limited	Mining
10	Ghana Oil Palm Company Limited	Industrial (palm nut processing)
11	Ghana Rubber Estates Limited	Industrial & Irrigation
12	Gold Fields Ghana Limited (Tarkwa Gold Mine)	Mining
13	Golden Star Resources (Bogoso Prestea) Limited	Mining
14	Golden Star Resources (Wassa) Limited	Mining
15	Mensin Gold Bibiani Limited	Mining
16	Newmont Ghana Gold - Ahafo	Mining
17	Newmont Ghana Gold – Akyem	Mining
18	Perseus Mining Ghana Limited - Edikan Gold Mine	Mining
19	West African Fish Limited	Aquaculture (cage & hatchery)

The main issues and challenges that were identified during compliance monitoring included the following:

- high fish mortalities at sections of the Volta Lake and Lower Volta as a result of the presence of the strain bacteria, “streptococcus agalactiae”.
- illegal small-scale mining and abandoned fish cages on the Volta Lake (water quality analyses of some major rivers affected by illegal mining is presented in chapter 6 of this report);
- failure of permit holders to submit monitoring data due to high cost in engaging the services of water testing companies, and inadequate punitive measures against non-compliant holders;
- submission of inaccurate data;
- insufficient knowledge of permit conditions and its requirement by site officers;
- inaccessibility of certain sites to monitoring officers;
- inadequate staffing for consistent compliance monitoring; and
- inadequate water testing probes to determine on-spot water quality parameters.

2.3 Administration of Drillers Licence and Groundwater Development Regulations

In 2018, a total of 81 drilling licences consisting of 71 new and 10 renewals were issued in the following categories:

Category A: 1 licence (companies with 5 or more water well drilling rigs)

Category B: 4 licences (companies with 2 to 4 water well drilling rigs)

Category C: 76 licences (companies with leased or 1 water well drilling rig)

The total valid licences registered for 2018 was 97, which was an increase of 34 from the 63 licenses registered in 2017 (Appendix 3). Figures 2 and 3 present the comparison of licence holders in the various categories for 2017 and 2018, and the trend in total license holders registered from 2013 to 2018 respectively. The significant increase in 2018 was due to enforcement by the WRC in collaboration with the relevant ministries/agencies for companies to acquire a drilling licence as condition to bid for government projects.

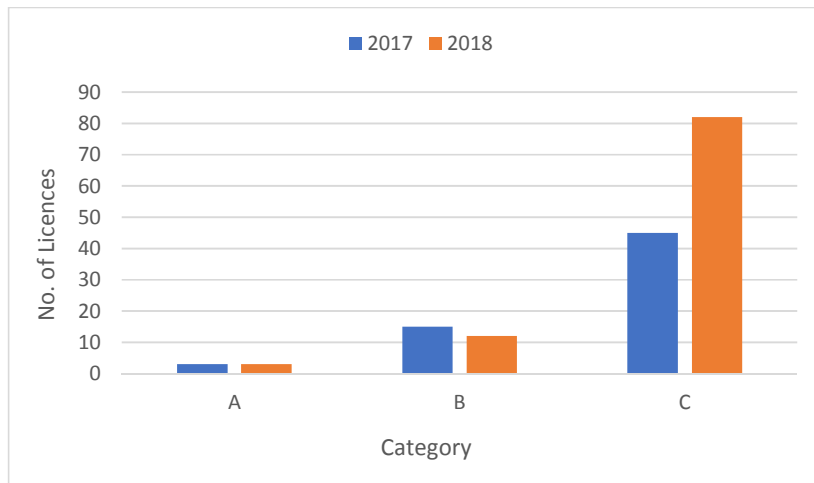


Figure 2: Comparison of licence holders in the various categories for 2017 and 2018.

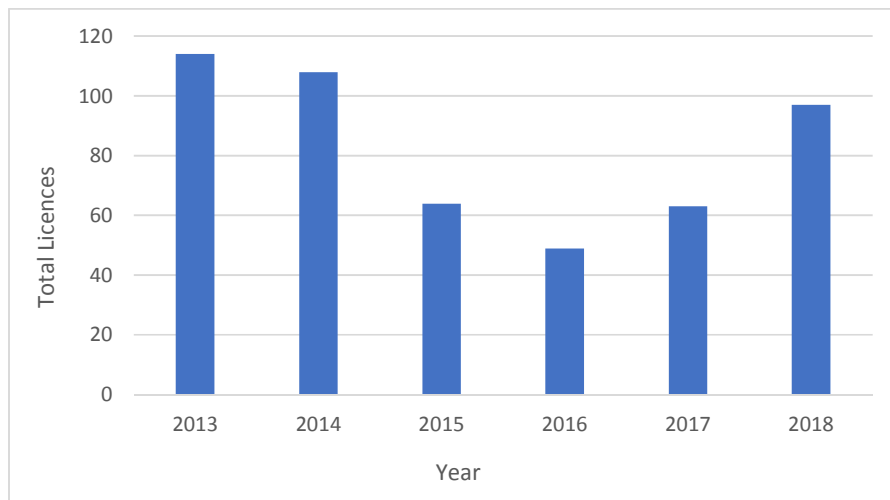


Figure 3: Trend of drilling licence holders from 2013 to 2018

Companies that applied for new and renewal of licenses faced the following challenges:

- non-specification of drilling of water wells as a registered activity of the company under the Registered General Department;
- operating without a valid licence from the Commission;
- failure to submit reports on previous work(s) carried out;
- records provided on boreholes drilled did not have some vital information such as GPS reading, lithology, depth of water, estimated yield, pumping test, and water quality data of boreholes; and
- failure to submit pumping test and water quality data of wells drilled within mining areas. This was because pumping tests and water quality analyses were not included in their job assignment.

2.4 Administration of Dam Safety Regulations

The Dam Safety Regulations LI 2236 of 2016 is to ensure safety in dam design, construction, operations, maintenance, and decommissioning throughout the country. The Regulations was adopted in August 2016 and its administration initiated in 2017.

In 2018, the fees and charges component were revised and presented to the Ministry of Finance for approval to enable the Commission commence dam registration.

CHAPTER 3 - MANAGEMENT OF PRIORITY RIVER BASINS

The management of priority river basins focused mainly on activities aimed at improving the status of water resources in the priority river basins of Densu, White Volta, Ankobra, Pra (Offin), Tano, Dayi and Black Volta.

Activities undertaken in the basins and presented in this chapter were the operations of Basin Boards, ecological monitoring, administration of regulations, collaboration and coordination, and the development and implementation of river basin Integrated Water Resources Management (IWRM) plans.

3.1 Operations of Basin Boards

Most of the Basin Boards, except the Black Volta Basin Board (BVBB), though they were engaged in other activities. The BVBB had one meeting to evaluate progress of work.

3.2 Ecological Monitoring

Ecological monitoring exercises conducted in the operational basins were as follows:

1. Selected water bodies in Odaso monitored by the Pra Basin Board (PBB) in collaboration with the Odaso Chief and his team to ascertain the impacts of uncontrolled anthropogenic activities.
2. “Hot spots” along the Bia and Tano Rivers as well as tributaries of the Tano monitored by the Tano Basin Board (TBB) to identify the nature, trends and impacts of anthropogenic activities in order to prescribe appropriate mitigative measures. Pollution was largely from activities of clay miners, farmers, mechanics, municipal and market dwellers.
3. “Hot spots” monitored by the BVBB and the Minerals Commission along the upstream areas of the Black Volta River at Jambusie and its environs. Illegal mining activities were rife within the buffer areas and upstream of GWCL intake point. It was agreed with the Upper West Regional Security Council (REGSEC) and NADMO to extend security presence to the affected areas (See Figure 4).
4. The White Volta Basin Board (WVBB) in partnership with ORGISS, an NGO, monitored the Sesang Buga River (tributary of Tono River). Riverine pump irrigation farmers and sand winners had encroached the recommended buffer zones and negatively impacted the water resources. Consequently, public awareness, education and sensitization were to be undertaken in collaboration with ORGISS and the Kassena-Nankana Municipal Assembly.

3.3 Regulatory Activities

Regulatory activities carried out in the basins included:

1. Processing of applications for water use permits and drilling licenses as well as compliance monitoring of permitted holders contributed to the results presented in sections 2.1, 2.2 and 2.3 (See Figures 5-8).

2. Identification of major water users and borehole drillers including follow-up visits to regularize their activities. Forty-eight (48) major water users were identified and served with compliance letters to regularize their activities at Abesim, Asufufu, Buipe, Sunyani, Techiman and Yawhima. Only one (1) complied. Another eight (8) major water users were identified and urged to regularize their activities in Bole, Bole-Bamboi, Nadowli- Kaleo and Yendi. Four (4) complied.
3. Interventions ended in an agreement with relevant stakeholders to halt unauthorized trading and farming activities along the Weija Lake, and the source of Densu at Aboabo. The interventions targeted other activities such as indiscriminate dumping of solid and liquid waste, building in water ways, sand winning and quarrying within the entire Densu Basin. In addition, a conflict over a buffer strip of a tributary of Asuoyaa River (tributary of the Densu) at Adweso in Koforidua was amicably resolved (See Figure 9).

3.4 Collaborative and Coordination Activities

Collaborative and coordination activities were organized with District Assemblies, NGOs and Development Partners to deal with specific issues. Such activities included:

1. Continuous implementation of the Special Treat Project to construct and operate a wastewater treatment plant to serve the Nsawam Medium Security Prison as well as the three neighbouring Municipals (the Nsawam Adoagyiri, Ga West and Ga Central) under a public-private-partnership. A consortium meeting was held and the foundation of the base infrastructure was completed.
2. A workshop organized at Kyebi to inaugurate the Community Resource Management Area (CREMA) and Committee for the Abuakwa South Municipal Assembly. This was under the continuous support to A Rocha Ghana towards the implementation of the 4-year Green Livelihood Alliance Project aimed at assisting the Atewa, East Akyem, West Akyem, Denkyembuor, Kwaebibirim and Fanteakwa Districts to integrate the SDGs into their Medium Term Development Plans to ensure sustainable ecosystems in selected areas.
3. Collaboration with the Ga South Municipal Assembly and GWCL to initiate a Flower City Ecotourism Project to deal with encroachment and pollution related activities within the Weija Acquisition.
4. Collaborative interventions with A Rocha Ghana in the Lake Bosumtwi Biosphere Reserve included capacity building and sensitization workshops for the CREMA Executives and selected communities; renewed the tenure of CREMA Executives; and installed rain gauges in four (4) schools in the Bosumtwi and Bosome Freho Districts.
5. Collaboration with the Local Steering Committee of the Sustainable Land and Water Management project to reduce land degradation and promote biodiversity in selected micro-watersheds in the northern savannah ecological zone.
6. Support to Water-Aid Ghana learning forum to find solutions to the threat of fluoride

from constructed boreholes in the Kassena Nankana West and Bongo Districts.

7. Collaboration on research and development: hosted and trained one intern from Regional Water and Environmental Sanitation Centre in Kumasi (RWESCK) in the Pra Basin secretariat on water resources regulation and management.
8. Together with GWCL and SDA Nursing Training College embarked on tree planting exercise within the Barekese Reservoir catchment and another exercise with A Rocha Ghana, Obo JHS and the Obo community at Obo, Lake side.
9. In collaboration with Wa Senior High & Technical School, the media, Jambusie and surrounding communities, Minerals Commission, GWCL and CWSA embarked on tree planting exercise along some degraded parts of the Black Volta River.
10. Provided inputs to the Inter-Ministerial Committee on illegal mining regarding the water quality status of water bodies and vetting of small-scale miners to streamline their activities.
11. Produced Term of References (ToR) for Flood Early Warning Systems (FEWS-Accra) and LiDAR for Greater Accra Region as well as reviewed the ToR for Consultancy Services for Component 1 of the GARID Project.
12. In collaboration with NADMO, WASCAL and Bonn University developed and submitted proposal (PARADeS) in response to the call by International Disaster and Risk Management (IKARIM) under the German Federal Ministry of Education and Research (BMBF).
13. Participated in most of the public hearing meetings organized by the EPA as part of the Environmental Impact Assessment processes within the basins.

3.5 Development and Implementation of River Basin IWRM Plans

Implementation of the reviewed Densu Basin IWRM plan was strategically carried out with actions on indiscriminate dumping of solid and liquid waste, encroachment and building in water ways, and illegal sand winning and quarrying.

The review of the White Volta Basin IWRM plan continued with the drafting of the plan. In a bid to address climate change impacts and combat desertification, the WVB secretariat provided support to the African Forest Landscape Restoration Initiative (AFR100) to restore 2 million hectares of degraded land in Ghana. Similarly, community entry, sensitization and delineation of buffer zones were completed for 26 communities along the headwaters of Daka River to restore the degraded areas. About 898,368 tree seedlings were planted covering about 50 ha out of a total targeted buffer area of 720 ha riparian buffer (See Figures 10 – 13).

The Ankobra Basin IWRM Plan was also near completion during the year. The reviewed plan considers approaches and strategies to safeguard the integrity of the riparian ecology, which hitherto was negatively impacted especially by extensive mining.

Implementation of the Pra Basin IWRM plan continued to be routinely implemented focusing on catchment protection and water quality improvement. For instance, tree-planting activities

were carried out to secure the Barekese Reservoir catchment with the aid of A Rocha Ghana and CREMA executives, and sensitization activities with partners such as Otumfour's Committee on the Owabi catchment protection.

Implementation of the Tano Basin IWRM plan also focused on the restoration of buffer zones. Two (2) hectares of buffer along the banks of the Tano River and Akonko stream in Tanoso were restored with acacia and mahogany tree species. Another two (2) hectares of degraded land along the Bia River were restored with framo and mahogany tree seedlings (See Figures 14-17).

Development of the IWRM Plans for the Black Volta and Oti River Basins continued with the completion of Climate Change compliance and sustainability tests of the proposed actions for both basins. In addition, an ecosystem study report was validated for the development of the Black Volta IWRM plan. EU consultants were also supported to undertake a reconnaissance survey in the Upper West and parts of the Northern regions towards the development of a hydrological model for the Basin (See Figures 18-19).

Another buffer zone restoration scheme was initiated with the support of the International Union for Conservation of Nature (IUCN) in the Black Volta Basin at Ketuo community in the Nandom District. Activities completed include community entry; participatory diagnosis; procurement of equipment; training of nursery attendants; raising/nursing of 5,000 seedlings; and planting of about 2600 tree seedlings within 1.2 km buffer zone (Figures 20-23).



Figure 4: Monitoring along the Black Volta River affected by Illegal Mining



Figure 5: Site verification of NEA



Figure 6: Site verification of SPV Andrade Gutierrez Ltd



Figure 7: Site verification of MoFA Nadowli Project



Figure 8: Site verification of Babator community water project



Figure 9: The settled disputed Buffer Strip along tributary of the Densu River at Adweso, Koforidua



Figure 10: Land demarcation along the Daka River in Kuboni.



Figure 11: Land demarcation along the Daka River in Chakohaya.



Figure 12: Tree seedlings for buffer zone restoration



Figure 13: Riparian buffer - White Volta River in Pwalugu



Figure 14: Buffer zone creation in the Tano Basin



Figure 15: Tree planting exercise at Akonko stream



Figure 16: River bank restoration - Bia River (1)



Figure 17: River bank restoration - Bia River (2)



Figure 18: Stakeholders working with the Climate Change Compatibility tool



Figure 19: Stakeholders working with the sustainability test tool



Figure 20: Buffer zone project sign post - Nandom DA



Figure 21: Community entry and introduction exercise



Figure 22: Presentation to community for tree nursery



Figure 23: Established tree nursery at Ketuo community

CHAPTER 4 - PUBLIC AWARENESS AND EDUCATION

Public awareness, education and training at the national and basin levels were implemented based on the WRC Communication Strategy, which aims at delivering structured and professional communication interventions in the areas of print materials for awareness creation; public engagement; educational campaigns and media events; service provision; and networking.

4.1 Review of Communication Strategy

The revised second version of the Communication Strategy and Action Plan (2018-2022) was produced with enhanced interventions to facilitate effective communication with a wider target audience. It is also to assist the WRC to carry out its related communication and information sharing tasks towards the sustained use and management of water resources for the present and future generations.

4.2 Educational Materials and Publications

As part of promoting and increasing awareness on the regulations, 5,000 copies each of brochures on water use permit and drilling licence were printed for distribution. Another 1,500 branded T-Shirts on the World Water Day and about 1,000 and 2,000 copies of Diaries and Calendars, respectively, were printed for distribution.

4.3 Public Engagement

Public engagement activities involved stakeholder workshops and seminars at the national level and in the regions, district assemblies, basins, and communities. Specific events organised include:

- The World Water Day (WWD) celebration under the theme 'Nature for Water' - exploring nature-based solutions to water challenges we face in the 21st century. The celebration was climaxed on March 22, 2018 with a community durbar at Kokukope, Galilea, Ga South Municipality. It was well attended by management and staff of water and water related institutions, participating schools, the media, and the general public.
- World day to combat desertification and drought in the three northern regions was launched to facilitate implementation of measures by relevant stakeholders to combat drought and desertification cutting across the Black and White Volta Basins.
- Training of basic school children from Joy Academy, Ngleshie Amanfrom, Accra, in water quality monitoring (See Figures 24-25).
- Public hearings in collaboration with the EPA on the proposed Anyinasuso Alluvial Gold Processing project by Crescent Metal and Minerals Ghana Limited; and Abonsuano Alluvial Gold Mining and Processing Project by Microstar Mines and Minerals Limited in Ahafo Ano North Municipal.

- Engagements with the Brong Ahafo Chapter of Ghana Institute of Engineers and the Department of Natural Resources, University of Energy and Natural Resources (UENR) on water resources management, challenges, and solutions.



Figure 24: Training of students on water quality monitoring



Figure 25: Training students (Jay Academy) on water quality monitoring

4.4 Educational Campaigns and Media Events

As part of the WWD celebration, there was a media launch and community engagement at Ngleshie Amanfrom, Ga South to promote a media outreach campaign on improving the nation's fresh water resources.

Other media events were interviews and panel discussion programmes that were national in context on various radio and TV stations. News coverage by several media houses such as TV3, Citi FM, Joy FM, and Peace FM in connection with the WWD Celebration.

Educational campaigns to educate the public on water pollution and water resources management in general were undertaken. There were discussions on Adom TV; SkyFM in Takoradi, Pure FM in Tarkwa; Trinity FM in Bogoso; Ark FM and Storm FM in Sunyani; and Mark FM in Wa. Five (5) radio panel discussions and interviews were held on different occasions on Kessben TV, Garden city radio, Hello FM and Sunsum FM in Kumasi.

Educational and training seminars were organised for:

- School Clubs at Domba and Duase JHS;
- Brong Ahafo Association of Sachet Water Producers; and
- Women Ministry of the Glad Tiding, Assemblies of God Church, Sunyani Central.

4.5 Service Provision

The provision of services continued to focus on making the WRC website and other social media platforms including the YouTube channel, the WRC Facebook and Twitter pages more interactive. In addition, the sector and other stakeholders such as Inter-Ministerial Committee on Illegal Mining were kept updated on water resources management and developments through the sector review programs.

4.6 Networking

The networking actions were building partnerships with MMDAs, MDAs, NGOs and academic and research institutions; and participation in national and international conferences/forums and meetings. These are elaborated in Chapter 8.

CHAPTER 5 - WATER GOVERNANCE ACTIVITIES

5.1 Policy Development and Implementation

The Riparian Buffer Zone Policy was the main policy document implemented during the year. The policy seeks to ensure that land strips/areas along open water bodies (rivers, streams, lakes) are designated and managed as conservation areas to restore, conserve and maintain the ecological integrity and provides optimal socio-economic benefits of such designated areas.

Details of the policy implementation are presented in section 3.5 of this report.

5.2 Development of Legislative Instruments

Regulations are being developed to enforce provisions of the Buffer Zone Policy. During the year, WRC collated the outcomes from the national consultations to begin drafting the Buffer Zone Regulations. However, land ownership and acquisition for creation of buffers was identified as a major legislative issue that needs to be properly addressed. This requires further and broad consultations with traditional authorities.

In addition, the raw water guidelines and criteria on aquaculture was revised and being peer reviewed before finalisation.

5.3 Establishment of Governance Institutions

WRC continued with the process of establishing new governance institutions in the form of river basin secretariats and their functional Boards, Sub-Basin Committees (SBCs), and National Dam Safety Unit (NDSU).

With respect to the NDSU, a temporary Dam Safety Officer continued the coordination and facilitation of actions towards the setup of the NDSU. The staff requirement for the Unit was approved by the Public Services Commission.

The setup of the Oti Basin Office and its functional Basin Board was also followed up. However, the Northern Regional Coordinating Council was yet to provide office space for the Oti Basin secretariat.

SBCs were setup and inaugurated in three (3) basins to strategically facilitate the implementation of IWRM interventions to improve water governance at the sub-basin level. Five (5) SBCs (Noumbiel, Dapola, Bamboi, Bui and Vonkoro) were set up in the Black Volta basin; two (2) in Oti basin (Arly and Wayen); and nine (9) in the White Volta basin (Gambaga, Kpasenkpe, Kulpawn, Lower White Volta, Middle White Volta, Mole, Nabogo, Nasia and Sissili).

CHAPTER 6 – WATER RESOURCES ASSESSMENT AND PLANNING

6.1 Water Quality Assessment

The Commission has been assessing the state and trends of surface water quality since 2005 (except 2009), through a systematic nationwide monitoring programme.

The monitoring program covers 41 monitoring stations including thirty-two (32) river stations and nine (9) reservoir/lakes stations distributed as follows:

- South-western System - 19 stations
- Coastal System - 8 stations
- Volta System - 14 stations

Sampling of the rivers and lakes was undertaken in February and July 2018. The assessments were on physico-chemical parameters including Temperature, pH, Conductivity, Total Suspended Solids, Transparency, Nutrients, and Major Ions.

The Water Quality Index (WQI), which gives an indication of the extent of water pollution, was used to assess the status of waters sampled. The general description of the classification system for the WQI is shown in Table 3.

Table 3: Water Quality Classification System

Class	Range	Description
I	>80	Good – Unpolluted
II	50 – 80	Fairly Good
III	25 – 50	Poor Quality
IV	< 25	Grossly Polluted

Table 4 depicts the statistical description of water quality trend from 2005 to 2018. Generally, there was an improvement in all the rivers from 2017 to 2018. The maximum WQI of 72.8 in 2018 was recorded at Kpong (main Volta) and classified as fairly good. The overall mean in 2018 was 55.96, which is also fairly good. In 2018, the minimum WQI of 39.6 was recorded at Mangoase on the River Densu and classified as poor water quality.

Table 4: Trends of water quality from 2005 to 2018

Statistics/year	2005	2006	2007	2008	2010	2011	2012	2013	2014	2015	2016	2017	2018
Minimum	32.5	43.6	43.6	42.3	53.9	48.5	27.0	32.3	30.0	38.3	36.62	38.6	39.6
Maximum	68.9	82.8	81.0	65.6	76	69.3	65.6	62.2	62.6	68.6	83.1	71.0	72.8
Mean	59.7	56.0	61.1	55.5	62.4	58.7	49.6	44.1	46.7	52.6	50.11	51.54	55.96

Figure 26 illustrates the water quality trends from 2005 to 2018, while Table 5 presents the

WQI of the major water bodies in the country from 2010 to 2018.

Generally, majority of the sampling sites (33) had WQI above 50 (fairly good quality) and showed improvement over that of the previous year. 29 sampling points representing 70.7% improved in WQI, while the remaining 12 representing 29.3% dropped in WQI in 2018. River Ochi-Amisa at Mankesim recorded the highest increase of 61.1% in WQI from 40.9 to 65.9 in 2018, while River Densu at Mangoase had the highest reduction (20.2%) in WQI from 49.6 in 2017 to 39.6 in 2018.

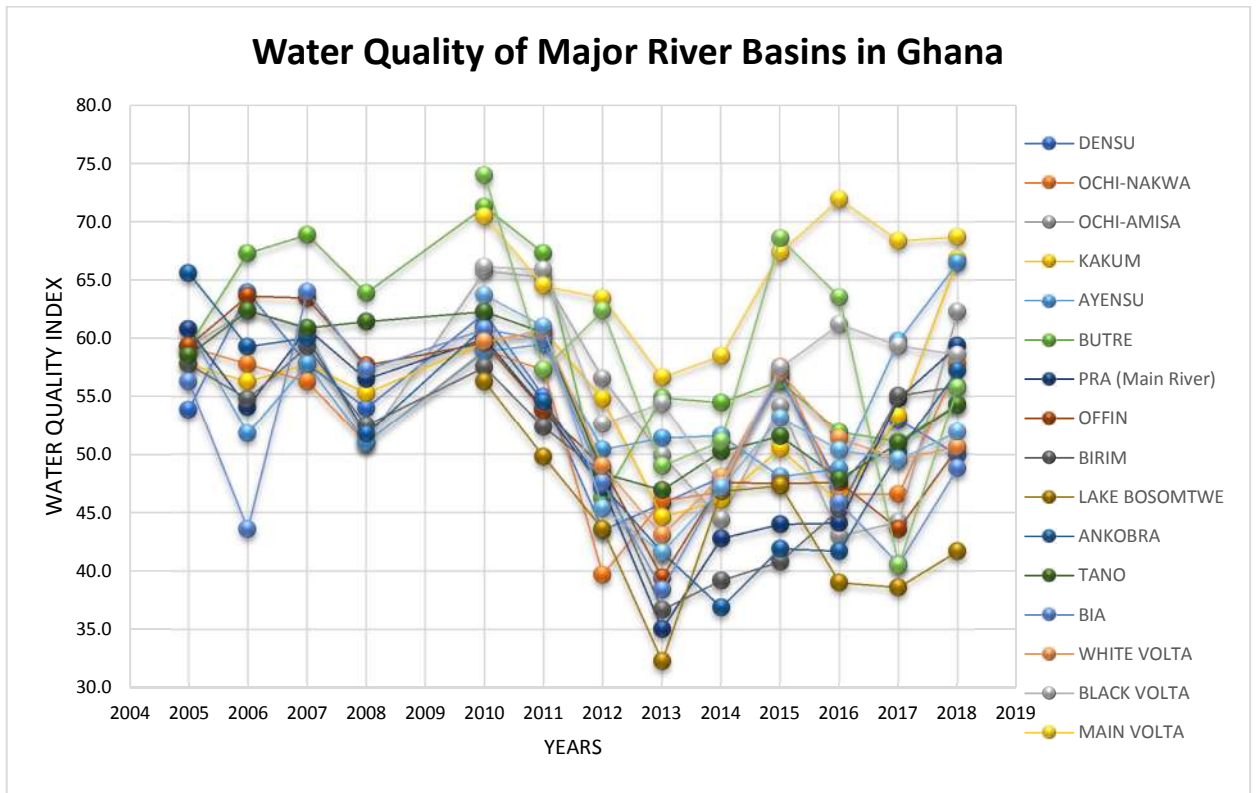


Figure 26: Water Quality trends of Major Water Bodies from 2005 to 2018

Table 5: Estimated water quality Indices for major water bodies in Ghana

Sampling Sites	Water Quality Index per Year (2010-2018)								
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Adiembra - R. Offin	61.4	55.3	46.2	35	32.8	38.86	49.68	39.9	56.1
Aframso - R. Afram	55.8	63.5	54.3	42.2	53.5	48.47	45.89	42.5	54.9
Ajena - Main Volta	73	69.3	65.6	62.2	57.3	66.63	50.06	64.9	71.0
Akim Brenase-River Pra (mid)	64.2	57.1	46.2	32.4	41.5	50.07	69.42	52.1	65.0
Akim Oda-River Birim (Pra Basin)	58.3	53.5	44.9	38.4	40	38.91	43.97	56.6	58.3
Ampansie R. Ankobra	59.6	48.5	40.9	42.8	30	42.33	38.23	45.1	55.7
Baafrikrom Reservoir	71.2	67.8	56.3	42.1	38.2	56.33	50.32	47.5	58.7
Bamboi - Black Volta	68.5	64.4	54.8	53.2	45.2	53.71	62.41	61.6	63.1
Bonsaso - R. Bonga	65.7	58.3	47.6	45.1	41.3	38.33	44.41	51.1	65.0
Buipe - Black Volta	63.8	67.4	50.4	51.7	52.2	59.85	68.28	55.7	60.7
Daboase – River Pra	56.8	55.3	46.2	35.7	45	43.04	41.48	61.4	55.0
Daboya - White Volta	61.5	61.8	44.9	40.6	45	56.29	52.73	50.3	44.4
Dadieso-River Bia	60.8	59.9	47.6	38.4	47.5	56.9	45.83	40.6	48.8
Damanko – Oti	61.5	63.1	47.6	44.9	42.8	48.59	53.66	58.2	52.3
Dominase- River Ankobra	55.2	57.2	51.8	40.6	41.4	42.41	47.51	48.1	55.7
Dunkwa- River Offin (Pra Basin)	57.8	49	39.7	33.6	37.7	45.31	43.78	44.1	42.3
Ekosi-River Ochi-Nakwa	59	57.3	39.7	46	46.8	57.57	46.59	46.6	57.8
Elubo- River Tano	64.3	61	38.4	54.1	45.9	49.03	40.92	43.7	52.6
Ewusijo-River Butre	71.3	67.3	46.2	54.9	54.5	56.34	51.91	51.1	54.4
Hohoe - R. Dayi	74	57.3	62.4	49	51.1	68.61	63.55	40.5	55.8
Kpong - Main Volta	70.6	68.5	64	51.1	62.6	68.11	63.3	71.0	72.8
Lake Barekese –River Offin	59.6	57.1	60.8	49.8	57.8	58.33	53.1	46.8	53.3
Lake Bosumtwi	56.3	49.8	43.6	32.3	46.8	47.3	39.03	38.6	41.7
Lake Brimso-River Kakum	59.7	60.7	54.8	44.6	46.1	50.5	45.85	53.3	66.8
Lawra - Black Volta				45.6	44.5	58.91	52.93	60.8	52.0
Mangoase- River Densu	57.3	52.3	27	36.3	43.5	52.47	43.78	49.6	39.6
Mankesim-River Ochi-Amisa	60.4	62.7	56.8	49.9	50.6	54.15	43.01	40.9	65.9
Mankrong J – River Ayensu	58.9	59.5	50.4	51.4	51.6	48.1	48.74	59.8	66.5
Nabogo - White Volta	61.9	60.4	39.7	41.9	52.7	62.47	54.82	52.5	58.7
Nsawam- River Densu	53.9	52.4	47.6	37.5	52.1	45.66	41.01	47.3	43.0
Osino- R. Birim	56.8	51.2	51.8	35	38.4	42.69	46.65	53.6	53.5
Potroase- River Densu	76	62.2	50.4	51.2	51.7	68.51	55.24	63.1	61.5
Prestea –River Ankobra	63.5	54.3	49	38.1	34.9	44.61	36.62	56.5	52.6
Pwalugu -White Volta	55.8	59.9	62.4	46.7	46.5	52.56	46.59	45.9	48.8
Sabari - R. Oti	65.7	61.9	42.3	36	55.8	51.01	49.15	48.1	55.5
Saboba -R. Oti	64	58.1	46.2	43.8	42.8	59.86	48.3	42.3	48.0
Sefwi-Wiawso – River Tano	59.2	59.5	54.8	41.6	52.3	52.53	57.3	53.5	53.3
Sogakope - Lower Volta	67.8	55.8	60.8	50.7	55.6	67.38	83.07	69.2	62.3
Tanoso -R. Tano	63.4	61	51.9	45.1	52.5	53.12	45.39	55.7	57.0
Twifo-Praso - R. Pra	58.9	49.4	49	37	41.9	38.89	41.19	51	58.1
Weija Lake	61.5	53.2	49	58.2	44.7	59.75	48.89	51.9	55.7

The continuous fight against illegal mining activities ('galamsey') contributed to the improvement in the quality of water bodies such as Offin, Ankobra, Birim, Pra and Tano by the end of 2018. This is evidenced by the significant decreases in Total Suspended Solids (TSS) and Turbidity values in the Pra, Ankobra, Birim, Offin and Bia rivers as shown in Table 6.

Table 6: Average turbidity results of February 2017 to July 2018 for selected sites

Sampling sites	Turbidity (NTU)	
	February 2017	July 2018
Akim Oda - River Birim	3,822	109
Osino - River Birim	2,550	2,277
Twifo Praso - River Pra	1,805	312
Daboase - River Pra	1,200	338
Dunkwa - River Offin	3,978	226
Adiembra - River Offin	4,150	31
Dadieso - River Bia	9,240	41
Tanoso - River Tano	138	25

6.2 IWRM Plans

The development and implementation of IWRM plans were at the level of river basin, which have been elaborated under section 3.5.

6.3 Flood Hazard Assessment

The flood hazard assessment intervention in the Oti Basin is under the project “*Strengthening Flood Management in the Volta Basin*”, and financed by the Japan-World Bank Program for Mainstreaming Disaster Risk Management (DRM) in developing countries.

The intervention focused on the development, calibration, and validation of a transboundary flood forecasting model and Flood Early Warning System (FEWS) for both Ghana and Togo for the effective management of floods in the Oti Basin.

The intervention was completed with the following outputs:

1. A flood hazard model for the Oti river from Porga in Benin near the border with Togo to Damanko near the mouth of the Mô river shortly upstream of Lake Volta, including the vulnerable reaches of the main tributaries.
2. Flood risk assessment and flood hazard with the vulnerability of the communities and land use in the flood prone areas.
3. The scale and severity of water resources hazards, the exposures of various assets and the effectiveness of structural and non-structural flood management/ protection

measures to reduce/eliminate flood damages in the future.

4. A FEWS compatible with that developed in 2011 and 2012 for the White Volta River (FEWS Volta), allowing the joint operation of the systems.
5. Basic input for the development of the Emergency Preparedness Plans for Togo and Ghana.
6. Trained staff of the various stakeholders in the development, application and operation of the modeling tools and the use of the modeling results.

6.4 Drought Early Warning

The Commission carried out activities on improving resiliency of crops to drought through strengthening early warning within Ghana. It was carried out by facilitating capacity building for climate change adaptation focusing on dry season management and planning. It was in collaboration with EPA and technical assistance from the UNEP-DHI partnership.

A final workshop was held on 18 April 2018. The outcomes presented include:

- A Drought Monitoring and Early Warning System for Ghana developed and tested.
- A baseline assessment and gap analysis of the institutional and technical state of drought management and forecasting in Ghana.
- A climate vulnerability assessment of the agricultural sector.

The next step was to utilize secured Green Climate Fund (GCF) Readiness funds to support the development of a Concept Note towards up-scaling the project to a large scale GCF project to be implemented at the national level.

The Concept Note was completed and submitted to the GCF with the project title *“Improving resilience of food security and water management to climate variability and change”*.

6.5 Blue Deal Project

The Blue Deal Programme is a Dutch Water Authority initiative, which seeks to assist 20 million people in 40 catchments around the world to gain access before 2030 to clean, sufficient and safe water by supporting partnerships.

A proposal (with assistance from Royal Dutch Embassy and support of the Ministry of Sanitation and Water Resources) was put in and approved to support the following water management activities:

- Establish a governance structure and develop a delta management plan for flood protection and management of the Volta delta resources.
- Build capacity of the Black Volta Basin Board and develop a financing strategy for the management of water resources towards water availability for various uses.
- Build capacity of the White Volta Basin and develop a financing strategy for the management of water resources and sanitation towards improving water quality for various uses.

CHAPTER 7 - TRANSBOUNDARY WATER MANAGEMENT

The WRC continued with its role as the national focal institution responsible for coordinating international and transboundary cooperation and initiatives to improve water governance. During the year under review, WRC engaged in activities of the Volta Basin Authority (VBA), the ECOWAS Water Resources Coordination Centre (WRCC), establishment of International Management Organisation for the Comoe, Tano and Bia Basins and the Global Reporting on SDG 6 Indicators.

7.1 The Volta Basin Authority

The VBA, which was formally established in August 2009, seeks to ensure international cooperation for the rational and sustainable management of the water resources of the Volta basin. The basin is shared by six (6) countries: Benin, Burkina Faso, Ivory Coast, Ghana, Mali, and Togo and covers a distance of 1,850 km from north to south and an area of approximately 400,000 km². It comprises the Black Volta (or Sourou-Mouhoun), the White Volta (or Nakanbe) and the Oti (or Penjari) rivers, which converge into the Lower Volta and flows into the Atlantic Ocean at Ada in Ghana.

According to Article 6 of the VBA Convention, the VBA is mandated to:

- promote permanent consultation tools among parties for the development of the Volta Basin;
- promote the implementation of IWRM and the equitable distribution of the benefits resulting from their utilization;
- authorize the development of infrastructure and projects planned by the stakeholders and which could have substantial impact on the water resources of the basin;
- develop joint projects and works; and
- contribute to poverty alleviation, the sustainable development of the Parties in the Volta Basin for better socio-economic integration in the sub-region.

During the year under review, WRC was involved in VBA activities including the following:

1. Development of VBA Communication Strategy and Plan

The VBA with the support of the International Bank for Reconstruction and Development through the Global Environment Facility (GEF) and the Trust Fund for Cooperation in International Waters in Africa (CIWA) initiated the development of a Communication Strategy and Plan. The strategy is to improve its visibility and positioning and also define the objectives, targets and key messages for improving communication for ten months.

A consulting firm, ACE Développement Synergie, was recruited and carried out the assignment in all the six riparian countries. The consultant produced a draft report, which was validated at a regional workshop held on October 9-10, 2018 in Bamako, Mali, with the following outputs:

- Communication Strategy with the objectives, targets, and key messages based on the results obtained from the interviews conducted in the countries.

- An operational Communication Plan that defines the actions to be implemented, budget, schedules and procedures for monitoring and evaluation.
- Developed basic communication materials.

2. Volta Basin Strategic Action Programme Implementation Project

The VBA is implementing the Volta Basin Strategic Action Programme Implementation Project (VSIP) with the support of the World Bank and GEF. The project is to improve transboundary water resources management in the Volta Basin through institutional development and implementation of priority actions of the VBA Strategic Action Programme (SAP).

Component 3 deals with the implementation of SAP priority actions targeting the restoration of degraded ecosystems through river bank reforestation of the Black Volta Basin in Ghana.

Implementation of the component stalled during the year in order to resolve the issue of non-completion of the component with the World Bank.

3. Development of a Volta Basin Water Charter

Development of a Water Charter is being implemented under the VSIP. The Water Charter is to refine the provisions in the VBA Convention to make it operational by incorporating principles and rules in the management of international watercourses not covered by the Convention.

Development of the Charter is in three phases:

- i. Technical, legal and institutional assessment;
- ii. Preparation of the draft Water Charter; and
- iii. Development of Annexes.

Phase one was completed with the review and validation of the technical, legal and institutional assessment report at a regional workshop held in March 2018 in Ouagadougou, Burkina Faso.

Phase two started in April 2018 and consisted of the preparation of a draft Charter using the legal texts gathered in the six countries and the Technical, Legal and Institutional Diagnostic report. A national workshop was held on 9-10 July 2018 to review the draft Water Charter. The workshop recommended the correction and/or amendment of several of the draft Water Charter's Articles.

The revised draft Water Charter was validated at a regional workshop held in Ouagadougou, Burkina Faso from 13-14 December 2018. In addition, the workshop made proposals for the ratification and implementation of the Water Charter.

4. Study on the Establishment and Capacity Building of National Focal Structures (NFSs)

VBA engaged the consultancy firm, Initiatives Conseils International (ICI), to carry out the 'Establishment and Capacity Building of NFSs' study to improve the overall performance of the

VBA by strengthening the links between the VBA Executive Directorate and member States through the effective establishment and capacity building of the NFSs.

ICI produced a draft study report that was validated at a regional workshop on 13-14 February 2018 in Ouagadougou, Burkina Faso. The draft report contained:

- Draft statutes of the NFSs with the mission, composition, organization, and functioning of these structures, their relation to the VBA Executive Secretariat, and the resources necessary for their functioning.
- A training plan to support and consolidate the establishment of the NFSs.
- Payment circuit of annual contributions for each country checked/consolidated/detailed.
- Guidelines for the collection of annual national contributions to VBA.
- Capacity needs for the NFSs.

7.2 ECOWAS Water Resources Coordination Centre

The ECOWAS WRCC is an organ of the Permanent Framework for Co-ordination and Monitoring (PFCM) of IWRM that is charged to promote and co-ordinate the implementation of community IWRM, in compliance with ECOWAS mission and policies. This is with the view to strengthen sub-regional co-operation, the peaceful use and protection, and sustainable development of shared water resources in West Africa.

Since 2012, ECOWAS has been supporting the establishment of a transboundary basin organisation for the Comoé, Bia and Tano River Basins that are shared by Burkina Faso, Côte-d'Ivoire, Ghana, and Mali. The Council of Ministers met in Abidjan on April 27, 2018 to adopt the Convention, Statues, Organisational Text, and the road map towards the final set up and functioning of the Comoe-Bia-Tano Basin Authority.

Cote d'Ivoire was selected to host the Authority and the Minister for Water and Forests as the interim chairman of the Council. However, the 1st Heads of State summit that was planned for either June or December 2018 to sign the Convention and select the Executive Director for the Authority could not come off.

WRCC also organised a regional inception workshop in Lome, Togo towards the establishment of a Regional Water Observatory for the Economic Community of West African States (ECOWAS). This was followed by a regional training workshop on WASSMO (the ECOWAS Water Observatory platform) in Abidjan, Cote d'Ivoire; and a national workshop in Accra, Ghana which introduced the ECOWAS Water Observatory to national stakeholders and validated the obtained data on indicator parameters.

7.3 Reporting on the Sustainable Development Goal (SDG) 6 Indicators

The United Nations, through the Integrated Monitoring Initiative for SDG 6 on ensuring the availability and sustainable management of water and sanitation for all, supported countries

in monitoring water and sanitation related issues. This involved the compilation of country data for reporting on the global progress towards the achievement of SDG 6.5.

SDG indicator 6.5.1: Degree of integrated water resources management (IWRM) implementation at national and basin levels, is organized in four elements:

- enabling environment of policies, laws, and plans arrangements;
- institutional frameworks, cross-sectoral coordination, private-sector and other stakeholder participation and gender objectives;
- management instruments for informed decision making, covering monitoring, pollution control, water-related ecosystems and disasters, and data and information sharing; and
- financing for investments, including infrastructure, recurring costs and revenue raising.

SDG indicator 6.5.2: Degree of operational arrangements for water cooperation, is whether there is a bilateral or multilateral treaty, convention, agreement or other formal arrangement among riparian countries that provides a framework for cooperation on transboundary water management and fulfills all of the following criteria:

- there is a joint body, joint mechanism or commission (e.g. a river basin organization) for transboundary cooperation;
- there are regular (at least once per year) formal communications between riparian countries in form of meetings (either at the political or technical level); and
- there is a joint or coordinated water management plan(s), or joint objectives have been set, and there is a regular (at least once per year) exchange of data and information.

The global reports were published on the progress and status of SDG Indicator 6.5.1, which measures progress on the state IWRM implementation, and indicator 6.5.2 which tracks the transboundary basin area within the country that has operational arrangements for water cooperation.

The overall country level IWRM implementation score was 49 (which compared to the global average of 49) considered as medium low, indicating that the elements of IWRM are generally institutionalized, and implementation is underway. However, uptake of arrangements is not widespread and therefore the rate of IWRM implementation needs to be accelerated if the country is to attain the goals of SDG6.5.

The indicator value for SDG 6.5.2, the proportion of transboundary basins' area with an operational arrangement for water cooperation, is 88.4%. This is due mainly to the Volta Basin, which covers over 70% of the country and has operational arrangements for cooperation.

CHAPTER 8 - ADMINISTRATIVE AND HUMAN RESOURCES

8.1 Training Courses

Training programs were undertaken both at the national and international levels focusing on competency building, acquisition of knowledge in water resources management and development of human resources. Staff of the Commission benefited from the following training programmes and courses:

1. Process of Social Impact Assessment in Hydropower Projects; International Centre for Hydropower, Accra and Akuse, 5-9 November 2018
2. Technical Training on the Flood and Drought Management Tools (FDMT); DHI, Accra, 25-27 September 2018

8.2 Academic Courses

Two permanent staff are pursuing Masters degree program:

1. Yaw Boateng Opoku, MPhil. Natural Resources and Environmental Governance, Kwame Nkrumah University of Science and Technology
2. Fred Wiredu Bremang, MSc Water Science and Engineering with Specialisation in Hydro Informatics, IHE Delft Institute.

8.3 Workshops, Meetings and Conferences

WRC organized and was represented at several meetings, workshops, and conferences including the following:

1. Capacity Building workshop for Oti and Back Volta Basins (June, 2018)
2. Consultative meeting on illicit lumbering of the Nsawam buffer strip plantation at the Nsawam Adoagyiri Municipal Assembly, Nsawam, (February 7, 2018)
3. Consultative meetings at the Ga South Municipal Assembly-Ngleshie Amanfrom and the Ghana Water Company Limited-Accra (April 6 and 10, 2018)
4. Consultative workshop for preparation of a National Drought Plan, NADMO, Koforidua (April 30, 2018)
5. Disclosure workshop organized by MOFA on the extension of the Ghana Commercial Agriculture Project (GCAP), held at the Aseda River Resort Hotel, North Tongu District, Volta Region (27 March, 2018)
6. Draft Petroleum Guidelines and Regulation at EPA (27 June, 2018)
7. GCF Project Preparation Workshop, South Africa (September, 2018)
8. Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) meeting organized by MSWR at the Coconut Grove Regency hotel (30 October, 2018)

9. Kick-off workshop, Economics for Land Degradation (ELD), GIZ, Accra
10. Local Organizing Committee Meeting for preparation of the Volta Basin Authority Council of Minister's Meeting and Experts Committee Meeting (2 October, 2018)
11. Man and Biosphere National Committee Meeting at EPA (9 November, 2018)
12. Meeting on the Encroachments and Pollution of the Weija Dam Site and the Acquisition at the Ga South Municipal Assembly, Weija Junction, Accra (March 1, 2018)
13. National Technical Aquaculture Committee Meeting at Fisheries Commission (28 February, 21-22 March, 5 April, 3 May, and 7 June, 2018);
14. National Water Charter Validation Workshop at Forest Hotel, Dodowa (9 -10 July, 2018)
15. Orientation for Commissioners at the Miklin Hotel, East Legon Water Resources Commission (January 12, 2018)
16. PAGE Steering committee meeting of International Union for Nature Conservation (IUCN), Ouagadougou, Burkina Faso
17. Preparatory meeting for the Revival of the Joint Technical Committee on IWRM (JTC-IWRM) the Ministry of Foreign Affairs and Regional Integration (7 and 21 Nov, 2018);
18. Regional Partnership on Water and Environment in Central and West Africa planning workshop, IUCN, Ouagadougou, Burkina Faso.
19. Regional Validation of the Draft Water Charter of the Volta Basin, VBA, Lomé, Togo
20. Regional Workshop for the Validation of the Draft Final Report on the Study of the Establishment and Capacity Building of VPA National Focal Structures, Ouagadougou, Burkina Faso (16 - 17 February, 2018)
21. Regional workshop for the validation of the draft Technical, Legal and Institutional Diagnostic Assessment Report for the development of a VBA Water Charter, held in Benin (6- 7 March, 2018)
22. Regional Workshop for the Validation of the Draft Volta Basin Water Charter, held in Togo (12 December, 2018).
23. Round Table Meeting on Proposal for the Development of the Volta Estuary at Villa Cisneros, Sogakope/ Study Tour at the Volta Estuary at Ada (February 27-28, 2018)
24. SEA workshop for the development of the Black Volta Basin IWRM Plan (June and November, 2018)
25. SEA Workshop for the Development of the Oti Basin IWRM Plan (June and November, 2018)
26. Seminar on Water Quality Testing at the Joy Academy Basic School, Ngleshie Amanfrom, Accra (March 8 and 20, 2018)
27. Siting committee meetings, (once every two months, 2018)

28. Stakeholder engagement on the 2015/2016 Ghana EITI reports for mining and oil/gas sectors, Ministry of Finance and Ghana EITI, Tamale
29. Steering committee meetings for the implementation of the Environmental management plan for Akosombo and Kpong dams, Akosombo (June, 2018)
30. Technical meeting on the template for reporting on SDG Indicator 6.5.2 under the Water Convention, Budapest (16-17 January 2018)
31. Technical Workshop on the Blue Deal Project, Netherlands (May, 2018)
32. VBA Communication Strategy and Action Plan Regional Validation workshop in Bamako, Mali (October 8-11, 2018)
33. Water Security Plan development workshop, Water Aid Ghana, Accra
34. Workshop for Work Plan formulation and budget preparation for the Multi-sectoral Mining Integrated Project (MMIP) MMIP Project Coordinating Unit, Accra
35. Workshop on Effective Monitoring and Reporting on Progress on Achieving the Targets and Goals of the United Nations Forest Instrument in Ghana (February 26, 2018)
36. Workshop on Restoring landscapes for resilient livelihoods in northern Ghana, World Vision Ghana, Tree Aid and World Agroforestry Centre (ICRAF), Accra & Tamale
37. Workshop on Sogakope-Lome Water supply Project, Sogakope (November, 2018)
38. Workshop on the Adaptation fund project, Aburi (February, 2018)
39. Workshop on the Dissemination of CREW Project Recommendations (February, 2018)
40. Workshop to develop a draft ecohydrology proposal, UNESCO, City Escape Hotel, Prampram (26 - 27 July, 2018)
41. Workshop to validation the draft framework for the development of an aquaculture development policy, organized by Fisheries Commission and held at WRI (25 June, 2018).

8.4 Committees

The Commission hosted and served on a number of committees during the year under review. These include:

1. Technical sub-committee of the Inter-ministerial Committee on Illegal Mining
2. Steering Committee of the Pwalugu multipurpose dam project, Volta River Authority
3. Steering committee for Implementation of the Environmental Management Plan (EMP) for Akosombo and Kpong Hydroelectric Plants, Volta River Authority
4. Siting Committee for the development of Energy infrastructure, Energy Commission
5. Joint Ghana-Togo Project Coordination team for the construction of a hydropower dam on River Oti, Ministry of Energy
6. National Consultative Committee (NCC) of the Ghana Dams Dialogue, International Water Management Institute (IWMI)

7. Technical Review Committee, CREW Project, NADMO
8. Ghana – Steering Committee, Ghana - Togo water supply scheme

8.5 Human Resources

The Commission had 33 staff members (21 male and 12 female) at post. Senior staff was 29 with the remaining 4 as junior staff. The staff members at post as at the end of the year were:

Permanent Appointments:

- | | |
|--------------------------------|---|
| 1. Mr. Ben Y. Ampomah | Executive Secretary |
| 2. Ms. Adwoa D. Paintsil | Director, Environmental Quality |
| 3. Mrs. Bernadette Adjei | Chief Legal Officer |
| 4. Ms. Linda G. Ennison | Chief Admin. Officer |
| 5. Dr. Ronald K. Abrahams | Chief Officer, Densu Basin, Koforidua |
| 6. Dr. Bob Alfa | Chief Engineer – Surface Water |
| 7. Mr. Aaron Aduna | Chief Officer, White Volta Basin, Bolga |
| 8. Mrs. Adwoa Dako | Principal PRO |
| 9. Mr. Steven A-Boateng | Principal Accountant |
| 10. Dr. Mawuli Lumor Principal | Principal Officer, Ankobra Basin, Tarkwa |
| 11. Ms. Esi Biney | Principal Ecologist |
| 12. Mr. George Baah | Senior Information Tech. Specialist |
| 13. Mrs. Dufie Abena Bremang | Senior Officer, Pra Basin, Kumasi |
| 14. Mr. Solomon Danso-Ankamah | Senior Officer, Tano Basin, Sunyani |
| 15. Mr. Eric Muala | Senior Monitoring Officer |
| 16. Mr. Edwin Afosah-Anim | Senior Engineer – Surface Water |
| 17. Mr. Joachim Ayiwe Abungba | Basin Officer, Black Volta Basin, Wa. |
| 18. Mr. Fred Wiredu Bremang | Information Tech. Specialist |
| 19. Ms. Afran Anti Adwoa Fosua | Monitoring Officer |
| 20. Mr. Kwadwo Twum Karikari | Assistant Accountant, Head office |
| 21. Mr. Francis Acquah-Swanzy | Assistant Officer, Ankobra Basin, Tarkwa |
| 22. Mr. Yaw Boateng Opoku | Assistant Officer, Pra Basin, Kumasi |
| 23. Ms. Berlinda Prah | Assistant Officer, Tano Basin, Sunyani |
| 24. Ms. Dorcas Abban | Senior Administrative Officer, Densu Basin |
| 25. Ms. Grace Quaicoe | Administrative Officer, Ankobra Basin, Tarkwa |
| 26. Mr. Emmanuel M. Mensah | Administrative Assistant, Head Office, Accra |
| 27. Mrs. Florence M. Dagbanu | Assistant Admin. Officer, Head Office, Accra |
| 28. Ms. Abigail Adziakpor | Assistant Admin. Officer, Head Office, Accra |

- | | |
|-------------------------|-----------------------------------|
| 29. Ms. Liaza Sulley | Assistant Admin. Officer, Bolga. |
| 30. Mr. Edward K. Toah | Chief Driver, Head Office, Accra |
| 31. Mr. Samuel Quaye | Chief Driver, Head Office, Accra |
| 32. Mr. Daniel Botchway | Senior Driver, Head Office, Accra |
| 33. Mr. Papa Salifu | Labourer, Head Office, Accra |

Retirement

- | | |
|--------------------|--------------------|
| Mr. Enoch B. Asare | Director, Planning |
|--------------------|--------------------|

Contract Appointments:

- | | |
|-------------------------------|--|
| 1. Mr. Roland Amanor | Assistant Officer, Water Quality (Accra) |
| 2. Mr. Andrew Asaviansa | Assist. Officer (WVB) |
| 3. Mr. Yaw Appiah-Adjei | Library Assistant |
| 4. Ms. Raissa Manomba-Asamoah | Assistant Officer (Densu) |
| 5. Mr. Solomon Ofori Sarkodie | Engineer, Groundwater |
| 6. Mr. Yaw Konadu Yiadom | Assistant Officer (Tano) |
| 7. Ms. Stella Awusi | Cleaner (Tano) |
| 8. Mad. Emelia Boateng | Cleaner (Pra) |
| 9. Mrs. Joyce Annor | Cleaner (Accra, Annexe) |
| 10. Ms. Pascalina Nsoh | Cleaner (WVB) |
| 11. Ms. Silvia Amena | Cleaner (Ankobra) |
| 12. Mr. Owusu Bossman | Security Officer (Ankobra) |
| 13. Mr. Joseph Baba Abongo | Driver (WVB) |
| 14. Mr. Johnson Quaye | Assistant Officer (SW) |
| 15. Ms. Carly Joe Louise | Assistant Officer (PRO) |
| 16. Mrs. Gladys Ofori | Assistant Accounts Officer |
| 17. Mr. Joseph Kugbeadjo | Assistant Accounts Officer |
| 18. Mr. Kaba Abakah | Assistant Officer (Black Volta) |
| 19. Mr. James Aggrey | Officer (Surface Water) |

8.6 Library

The library in the year 2018, continued to collect/receive materials/information both in soft copies (CDs, diskettes, flash disks, emails, etc.) and hard copies (printed paper documents). A total of 35 books, newsletters, journals and compact disks were received and logged into the library database, which brought the total items in the library to 1,392.

The items received were on water resources management (both ground and surface water), annual reports, water quality, training manuals, water supply and sanitation and hygiene, irrigation, and consultancy reports.

These materials were received from institutions such as Ministry of Food and Agriculture (MOFA), FC, GWP, Water Aid (WA) and EPA.

The library also received subscriptions from the Ghana Publishing Corporation and Ghana Gazette, Commercial and Industrial, Land and Concessions Bulletin, Local Government Bulletins, Acts, and Statutory Instruments from the Assembly Press.

External visitors to the library were mainly students. The library database was fully operational and able to address activities such as, capturing of data (items being received into the library) and querying/searching for specific information as may be required.

CHAPTER 9 - FINANCIAL STATUS

9.1 Audited Financial Statements

The audited financial statements indicate that total income for 2018 was GH¢3,404,483. On the other hand, details of expenditure show that expenditure for the period amounted to GH¢3,933,988 a decrease by 0.74% from the GH¢3,963,264 recorded in 2017. This resulted in a negative net operating income of GH¢529,505 in 2018. The accumulated balance as at 1 January 2018 was GH¢2,253,756 and the recorded accumulated balance as at 31 December 2018 was GH¢1,714,748.

The detailed Audited Financial Statements for the year ended 31 December 2018 is presented in Annex 4.

Appendix 1 – Members of the Water Resources Commission

1. Cdr. J. C. Addo (Rtd.) - Chairman
2. Mr. Jacob Ziemah Yendor - Ghana Water Company Ltd
3. Mr. Ernest Kusi-Minkah - Hydrological Services Dept.
4. Mr. Ayilari-Naa Juati - Ghana Meteorological Agency
5. Mr. Ransford Sekyi - Environmental Protection Agency
6. Mr. Eugene Ada Asomonsi - Volta River Authority
7. Tobge Gbogbolulu V. - Chiefs Representative
8. Dr. Margaret Duah Atuahene - Women's Representative
9. Mr. Kwabena Owusu-Mensah - Government Appointee
10. Mr. Collins Anim-Sackey - Minerals Commission
11. Mr. Emmanuel Modzaka - Ghana Irrigation Authority
12. Mr. Worlanyo Siabi - Community Water & Sanitation Agency
13. Mr. Ben Ampomah - Executive Secretary, WRC
14. Mr. John Allotey - Forestry Commission

Appendix 2: Water Use Register – 2018

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
1	A & O Scale Limited	Shai-Osudoku	Volivo	Lower Volta River	Dredging	Dredging	31-Dec-19
2	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Dewater Amoanda and Tomento1, 2 & East Pits	Abstraction	Mining	30-Nov-19
3	Adamus Resources Limited	Ellembelle	Salman	Groundwater	Abstraction	Domestic	31-Dec-19
4	Adamus Resources Limited	Ellembelle	Salman	Salman South Pit	Fish Cage	Aquaculture	31-Dec-19
5	Adamus Resources Limited	Ellembelle	Salman	Mine pits (Adamus, Salma North & South, Nugget Hill, Aliva North & South Pits)	Dewatering	Mining	31-Jun-19
6	Adamus Resources Limited	Ellembelle	Salman	Surface water (WSD)	Discharge	Mining	31-Dec-20
7	Adom Biofuel Limited	Gomoa East	Gomoa-Osamkrom	Ayensu River	Abstraction	Industrial	30-Sep-21
8	African Plantation for Sustainable Development	Sene West	Bantama-Lailai	Sene River	Abstraction	Irrigation	31-Jul-20
9	Agdevco Ghana Limited	Bole District	Babator	Black Volta River	Abstraction	Domestic	31-Oct-21
10	Agenda Concrete Ghana Limited	Ahanta West	Tumentu	Nyane River	Dredging	Dredging	31-May-19
11	Agriaccess Ghana Limited	Wa Municipal	Kunfabiala	Groundwater	Abstraction	Irrigation	1-Feb-21
12	Aksa Energy Company Ghana LTd	Kpone-Katamanso	Tema	Groundwater	Abstraction	Domestic & Indust.	11-Apr-20
13	Amsig Resources	Kumbungu	Dalun	Bontanga River	Abstraction	Irrigation	3-Oct-20
14	Amur Farms Limited	Asuogyaman	Labolabo	Volta Lake	Fish Cage	Aquaculture	31-Dec-20
15	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	Ajoba Pit	Pit Dewatering	Mining	17-Aug-20
16	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	Drobo	Abstraction	Irrigation	31-Mar-21
17	AngloGold Ashanti (OBUASI MINE)	Obuasi Municipal	Obuasi	Jimi River	Abstraction	Domestic	31-Dec-19
18	Anyako Farms Limited	North Tongu	Torgome	Volta River	Abstraction	Irrigation	2-Apr-20
19	Ariku Company Limited	Binduri	Bazua	White Volta River	Abstraction	Irrigation	30-Jun-19
20	Asanko Gold Ghana Limited	Amansie West	Esaase-Mpatoam	Groundwater	Abstraction	Domestic	5-Jul-20
21	Asanko Gold Ghana Limited	Amansie West	Manso-Nkran	Groundwater	Abstraction	Mining	30-Jun-21
22	Aspet A. Company Limited	Techiman Municipal	Techiman	Groundwater	Abstraction	Commercial	31-Mar-19
23	Avasya Agro Farms Limited	South Tongu	Agorta-Dodokope	Volta Lake	Abstraction	Irrigation	30-Jun-21
24	Babator Farming Co. Ltd	Bole District	Babator	Black Volta River	Abstraction	Irrigation	31-Mar-19
25	B-Bovid Limited	Ahanta West	Prestea Junction	3 levees in the Bama catchment	Abstraction	Industrial	30-Jun-21

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
26	Blackman Fish Farm and Hatchery	Nsawam-Adoagyiri Municipal	Adoagyiri	Bonyono stream and Groundwater	Abstraction	Aquaculture (pond)	31-Dec-19
27	Bui Power Authority	Bole	Bui	Bui Dam (Black Volta)	Abstraction	Hydro Power	31-Dec-19
28	Bui Power Authority	Hohoe Municipal	Alavanyo-Abehenease	Tsatsadu River	Construction/Diversion	Construction	23-Jan-19
29	Canadian Feed The Children and Resilient & Sustainable Livelihood Transformation	Lawra District	Naburnye Dam	Naburnye Dam	Fish Cage	Aquaculture	30-Jun-19
30	Cargil Ghana Limited	Tema Metropolitan	Tema	Groundwater	Abstraction	Industrial	31-Dec-19
31	Carmeuse Lime Products Ghana Limited	Sekondi-Takoradi	Takoradi	Groundwater	Abstraction	Domestic	31-Mar-21
32	Cenpower Generation Company Limited	Kpong-Katamanso	Kpone	Gao Lagoon	Spillage/Discharge	Industrial	20-Jun-20
33	China Fujian Fishing (GH) Limited	Shai-Osudoku	Asutsuare	Kpong Irrigation Project Canal and Volta River	Abstraction	Aquaculture (pond)	3-Oct-20
34	China Fujian Fishing (GH) Limited	Shai-Osudoku	Asutsuare	Volta River	Fish cage	Aquaculture (cage)	3-Oct-20
35	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Groundwater	Abstraction	Domestic	31-Dec-19
36	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Suraw River and Groundwater	Abstraction	Mining	31-Dec-19
37	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Obra, Tano, Akwaaba, and Paboase pits	Pit Dewatering	Mining	31-Dec-19
38	Construtora Queiroz Galvao	Binduri	Bazua	White Volta River & Ground water	Abstraction	Construction	18-Jul-20
39	Consulting in Aquatic Research and Training for Development	Bekwai	Senfi-Dominase	Groundwater	Abstraction	Aquaculture (Pond)	31-Dec-20
40	Dagan Farms (Ghana) Limited	Asuogyaman	Kudikope	Volta Lake	Abstraction	Aquaculture	31-Oct-20
41	Dan's-Ma Company Limited	Ada East	Wasakusegwa	Troku Canal (Lower Volta) and Groundwater	Abstraction	Aquaculture (Pond)	30-Jun-21
42	Ecobank Ghana Limited	Accra Metropolitan	Ridge	Groundwater	Abstraction	Domestic	31-Mar-19
43	Enviro Solutions Limited	Gomoa East	Okyereko	Okyereko Irrigation Reservoir	Dredging	Dredging	30-Sep-19
44	Enviro Solutions Limited	South Tongu	Glome-Agave	Angor Stream	Dredging	Dredging	31-Aug-21
45	Everyday Tissue Manufacturing Ghana Limited	Awutu-Senya	Kwame Whettey	Groundwater	Abstraction	Industrial	31-Dec-21
46	Fish and Feeds Limited	South Tongu	Agortaga	Volta Lake	Abstraction	Aquaculture	30-Jun-21

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
47	Form Ghana Limited	Berekum	Berekum	Groundwater	Abstraction	Domestic & Irrig.	31-Dec-21
48	Form Ghana Limited	Offinso North	Akumadan	Groundwater and Dam	Abstraction	Domestic & Irrig.	31-Dec-21
49	Ghana Manganese Company Ltd.	Tarkwa Nsuaem	Tarkwa	Kawere stream	Abstraction	Mining	31-Dec-19
50	Ghana Manganese Company Ltd	Tarkwa Nsuaem	Tarkwa	Groundwater	Abstraction	Domestic	31-Dec-19
51	Ghana Manganese Company Ltd	Tarkwa Nsuaem	Tarkwa	Pit C	Abstraction	Mining	31-Dec-19
52	Ghana Nuts Limited	Techiman	Hansua	Groundwater	Abstraction	Industrial	28-Feb-21
53	Ghana Oil Palm Development Co Ltd	Kwaebibirem	Kwae	Groundwater	Abstraction	Irrigation	17-Jan-19
54	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Groundwater	Abstraction	Domestic	31-Dec-19
55	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Tsibu and Huni River	Abstraction	Irrigation	31-Dec-19
56	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Suoni Stream	Abstraction	Industrial	31-Dec-19
57	Ghana Water Company Ltd	Asuogyaman	Kpong New	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
58	Ghana Water Company Ltd	Asuogyaman	Kpong Old	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
59	Ghana Water Company Ltd	Ga South	Weija -Adam Clark	Densu River	Abstraction	Domestic/Municipal	31-Jan-17
60	Ghana Water Company Ltd	Ga South	Weija Candy	Densu River	Abstraction	Domestic/Municipal	31-Jan-17
61	Ghana Water Company Ltd	Ga South	Weija –Bamag	Densu River	Abstraction	Domestic/Municipal	31-Jan-17
62	Ghana Water Company Ltd	Dangme East	Keseve/Adafoah	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
63	Ghana Water Company Ltd	Atwima Nwabiagya	Barekese	River Offin	Abstraction	Domestic/Municipal	31-Jan-17
64	Ghana Water Company Ltd	Atwima Nwabiagya	Owabi	Owabi River	Abstraction	Domestic/Municipal	31-Jan-17
65	Ghana Water Company Ltd	Sekyere West	Mampong	Kyeremea	Abstraction	Domestic/Municipal	31-Jan-17
66	Ghana Water Company Ltd	Ashanti-Akim North	Konongo	Anunu	Abstraction	Domestic/Municipal	31-Jan-17
67	Ghana Water Company Ltd	Sekyere East	Effiduase/ Asokore	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
68	Ghana Water Company Ltd	Obuasi Municipality	Odaso / Obuasi	Odaso	Abstraction	Domestic/Municipal	31-Jan-17
69	Ghana Water Company Ltd	Adansi	New Edubiase	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
70	Ghana Water Company Ltd	Ahafo Ano North	Tepa	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
71	Ghana Water Company Ltd	Agona West	Agona	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
72	Ghana Water Company Ltd	Mpohor Wassa East	Daboase	Pra River	Abstraction	Domestic/Municipal	31-Jan-17
73	Ghana Water Company Ltd	Shama Ahanta East	Inchaban	Anakwari	Abstraction	Domestic/Municipal	31-Jan-17
74	Ghana Water Company Ltd	Tarkwa Nsuaem	Bonsa / Tarkwa	Bonsa	Abstraction	Domestic/Municipal	31-Jan-17
75	Ghana Water Company Ltd	Wassa West	Prestea	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
76	Ghana Water Company Ltd	Wassa West	Bogoso	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
77	Ghana Water Company Ltd	Wassa West	Aboso	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
78	Ghana Water Company Ltd	Nzema East	Axim	Denkyemnsule	Abstraction	Domestic/Municipal	31-Jan-17
79	Ghana Water Company Ltd	Nzema East	Axim	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
80	Ghana Water Company Ltd	Jomoro	Elubo	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
81	Ghana Water Company Ltd	Cape Coast Municipality	Brimsu	River Kakum	Abstraction	Domestic/Municipal	31-Jan-17
82	Ghana Water Company Ltd	Twifo Hemang Lower Denkyira	Twifo Praso	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
83	Ghana Water Company Ltd	Mfantseman	Baifikrom	Ochi Amissa	Abstraction	Domestic/Municipal	31-Jan-17
84	Ghana Water Company Ltd	Awutu Effutu Senya	Winneba	Ayensu River	Abstraction	Domestic/Municipal	31-Jan-17
85	Ghana Water Company Ltd	Agona	Kwayanku	Ayensu River	Abstraction	Domestic/Municipal	31-Jan-17
86	Ghana Water Company Ltd	Asikum-Odoben-Brakwa	Breman - Asikuma	Ochi Nacho River	Abstraction	Domestic/Municipal	31-Jan-17
87	Ghana Water Company Ltd	Upper Denkyira East	Dunkwa-Offin	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
88	Ghana Water Company Ltd	Shama	Sekyere - Heman	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
89	Ghana Water Company Ltd	West Akyem	Akim Aboabo	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
90	Ghana Water Company Ltd	Birim South	Akim Oda	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
91	Ghana Water Company Ltd	Birim South	Akim Asene	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
92	Ghana Water Company Ltd	Birim South	Akim Swedru	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
93	Ghana Water Company Ltd	Kwaebibirim	Asuom	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
94	Ghana Water Company Ltd	Kwaebibirim	Kade	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
95	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Ayensu River	Abstraction	Domestic/Municipal	31-Jan-17
96	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
97	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
98	Ghana Water Company Ltd	New Juaben Municipality	Suhyen	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
99	Ghana Water Company Ltd	Asuogyaman	Anum Boso	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
100	Ghana Water Company Ltd	Kwahu South	Kotoso	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
101	Ghana Water Company Ltd	Kwahu West	Nkawkaw	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
102	Ghana Water Company Ltd	West Akim	Asamankese	Abuchem	Abstraction	Domestic/Municipal	31-Jan-17
103	Ghana Water Company Ltd	Akwapim South	Nsawam	Densu River	Abstraction	Domestic/Municipal	31-Jan-17
104	Ghana Water Company Ltd	East Akim	Apedwa – Asafo	Densu River	Abstraction	Domestic/Municipal	31-Jan-17
105	Ghana Water Company Ltd	East Akim	Kibi	Birim River	Abstraction	Domestic/Municipal	31-Jan-17
106	Ghana Water Company Ltd	East Akim	Kibi	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
107	Ghana Water Company Ltd	Suhum Kraboa-Coaltar	Suhum	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
108	Ghana Water Company Ltd	Atiwa	Anyinam	Birim River	Abstraction	Domestic/Municipal	31-Jan-17
109	Ghana Water Company Ltd	Fanteakwa	Begoro	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
110	Ghana Water Company Ltd	East Akim	Bunso	Birim River	Abstraction	Domestic/Municipal	31-Jan-17
111	Ghana Water Company Ltd	Atiwa	Kwabeng	Awusu River	Abstraction	Domestic/Municipal	31-Jan-17
112	Ghana Water Company Ltd	East Akim	New Tafo	River Bayira	Abstraction	Domestic/Municipal	31-Jan-17
113	Ghana Water Company Ltd	Fanteakwa	Osino	Birim River	Abstraction	Domestic/Municipal	31-Jan-17
114	Ghana Water Company Ltd	Tamale Metropolitan	Dalun / Nawuni	White Volta River	Abstraction	Domestic/Municipal	31-Jan-17
115	Ghana Water Company Ltd	Yendi	Yendi	Daka River	Abstraction	Domestic/Municipal	31-Jan-17
116	Ghana Water Company Ltd	South Dayi	Kpeve	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
117	Ghana Water Company Ltd	Ho Municipality	Tsito	Wuve	Abstraction	Domestic/Municipal	31-Jan-17
118	Ghana Water Company Ltd	Keta	Kpando & Keta	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
119	Ghana Water Company Ltd	Kpandu	Sovie	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
120	Ghana Water Company Ltd	Kpandu	Anfoega	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
121	Ghana Water Company Ltd	Kpandu	Nkonya - Ahenkro	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
122	Ghana Water Company Ltd	Hohoe	Hohoe	Dayi River	Abstraction	Domestic/Municipal	31-Jan-17
123	Ghana Water Company Ltd	Ketu	Agordome / Sega	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
124	Ghana Water Company Ltd	Ketu	Aflao	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
125	Ghana Water Company Ltd	Ketu	Denu	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
126	Ghana Water Company Ltd	Ketu	Agbozume	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
127	Ghana Water Company Ltd	Akatsi	Abor	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
128	Ghana Water Company Ltd	Keta	Avenopeme/ Anyako	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
129	Ghana Water Company Ltd	Jasikan	Jasikan	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
130	Ghana Water Company Ltd	Jasikan	Worawora	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
131	Ghana Water Company Ltd	Kadjebi	Kadjebi / Juapong	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
132	Ghana Water Company Ltd	Sunyani Municipality	Abesim	Tano River	Abstraction	Domestic/Municipal	31-Jan-17
133	Ghana Water Company Ltd	Berekum	Berekum	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
134	Ghana Water Company Ltd	Asutifi	Biaso	Biaso River	Abstraction	Domestic/Municipal	31-Jan-17
135	Ghana Water Company Ltd	Tano North	Dwomo	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
136	Ghana Water Company Ltd	Asutifi	Acherensua	Tano River	Abstraction	Domestic/Municipal	31-Jan-17
137	Ghana Water Company Ltd	Techiman Municipal	Techiman / Tonoso	Tano River	Abstraction	Domestic/Municipal	31-Jan-17
138	Ghana Water Company Ltd	Techiman Municipal	Techiman Boreholes	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
139	Ghana Water Company Ltd	Bolgatanga Municipality	Bolgatanga	Veaa Dam	Abstraction	Domestic/Municipal	31-Jan-17
140	Ghana Water Company Ltd	Bawku-East Municipality	Bawku	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
141	Ghana Water Company Ltd	Kasena-Nankana	Navrongo	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
142	Ghana Water Company Ltd	Bolgatanga Municipality	Zuarungu	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
143	Ghana Water Company Ltd	Wa Municipality	Wa	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
144	GHS Housing Limited	Ga West	Pokuase	Groundwater	Abstraction	Domestic/Municipal	30-Jun-20
145	Global Agri-Development Company (Ghana) Limited	North Tongu	Torgome	Volta River	Abstraction	Irrigation	31-Dec-19
146	Golden Star (Bogoso/Prestea)	Wassa Amenfi East	Mampon/Abronye	Groundwater	Abstraction	Domestic	21-Feb-19
147	Golden Star (Bogoso/ Prestea)	Wassa Amenfi East	Mampon/Abronye	Groundwater	Dewatering	Mining	21-Feb-19
148	Golden Star (Bogoso/ Prestea)	Pretea Huni-Valley	Bogoso	Groundwater	Abstraction	Domestic	31-Dec-19
149	Golden Star (Bogoso/ Prestea)	Pretea Huni-Valley	Bogoso	Groundwater	Abstraction	Mining	31-Dec-19
150	Golden Star (Wassa) Limited	Wassa East	Akyempim	Groundwater	Abstraction	Domestic	31-Dec-19
151	Golden Star (Wassa) Limited	Wassa East	Akyempim	Wassa Main pit & Starter pits	Dewatering	Mining	31-Dec-19
152	Golden Star (Wassa) Limited	Wassa East	Akyempim	Groundwater	Abstraction	Mining	31-Dec-19
153	Golden Star (Wassa) Limited	Tarkwa Nsuaem	Benso	C-Zone Pit	Fish cage	Aquaculture	26-Jun-20
154	Goldfields Ghana Limited (Tarkwa)	Tarkwa Nsuaem Mun.	Tarkwa	Groundwater	Abstraction	Domestic	31-Dec-19
155	Goldfields Ghana Limited (Tarkwa)	Tarkwa Nsuaem Mun.	Tarkwa	Groundwater and surface runoff	Dewatering	Mining	31-Dec-19
156	Goldstone Akrokeri Limited	Adansi North	Akrokeri	Groundwater	Abstraction	Mining	30-Jul-21
157	GR Mawuko Farms Limited	North Tongu	Dadome-Mepe	Tsimortorvui Stream	Abstraction	Irrigation	1-Jun-20
158	International Oils & Fats Limited	Techiman Municipal	Hansua	Groundwater	Abstraction	Industrial	31-Mar-19
159	IWAD Ghana Limited	Mamprugu Moagduri	Yagaba	White Volta River	Abstraction	Irrigation	31-Mar-21
160	John Bitar and Company Limited	Wiawso	Sefwi Dwenase	River Kuzin and Groundwater	Abstraction	Industrial	31-Oct-19
161	JRV Manufacturing Company Ltd	Shai-Osudoku	Ayikuma	Groundwater	Abstraction	Construction	31-Oct-19
162	JRV Manufacturing Company Ltd	Shai-Osudoku	Ayikuma	Groundwater	Abstraction	Commercial	30-Apr-20
163	Juaben Oils Mills Limited	Ejisu Juabeng	Juaben	Groundwater	Abstraction	Industrial	31-Dec-19
164	Kassena Nankana Municipal Assembly	Kassena Nankana Municipal	Doba	Doba Dam	Fish cage	Aquaculture	31-Jan-20
165	Kassena Nankana West District Assembly	Kassena Nankana West	Kandiga	Kandiga Dam	Fish cage	Aquaculture	31-Jan-20
166	Kawute Siidi Enterprise	Sawla-Tuna-Kalba	Sawla	Groundwater	Abstraction	Commercial	31-Dec-19
167	LinjahSand Ghana Limited	North Tongu	Aveyime	Volta River	Dredging	Dredging	19-Jul-20
168	Maleka Farms Limited	Lower Manya Krobo	Akuse	Volta River	Fish Cage	Aquaculture (Cage)	31-Dec-21
169	Maleka Farms Limited	Lower Manya Krobo	Akuse	Volta River	Abstraction	Aquaculture (Pond)	31-Dec-21
170	Mensin Gold Bibiani Limited	Biabiani/Anhwia/Bekwai	Bibiani	Groundwater	Abstraction	Domestic	31-Mar-19
171	Mensin Gold Bibiani Limited	Biabiani/Anhwia/Bekwai	Bibiani	Pit dewatering	Dewatering	Mining	31-Mar-19

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
172	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Ongwam River and Groundwater	Abstraction	Irrigation	31-Oct-19
173	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Dagomba line Dam	Abstraction	Irrigation	31-Dec-19
174	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Agyaan Stream	Abstraction	Irrigation	31-Dec-19
175	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Kokode Stream	Abstraction	Irrigation	31-Dec-19
176	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Boumfoum River	Abstraction	Irrigation	31-Dec-19
177	Musahamat Farms Limited	North Tongu	Aveyime	Volta River	Abstraction	Irrigation	31-Dec-20
178	Nabdam District Assembly	Nabdam	Dosabligo	Dosabligo Dam	Fish cage	Aquaculture	31-Jan-20
179	Newmont Ghana Gold Limited	Kenyasi Asutifi	Kenyasi II	Subri stream and runoff	Abstraction	Mining	31-Dec-19
180	Newmont Ghana Gold Limited	Kenyasi Asutifi	Kenyasi II	Groundwater	Abstraction	Mining	31-Dec-19
181	Newmont Ghana Gold Limited	Asutifi North	Kenyasi II	Apensu pit	Discharge	Mining	10-Oct-20
182	Newmont Ghana Gold Limited	Asutifi	Kenyasi II	Groundwater	Abstraction	Mining	31-Dec-20
183	Newmont Ghana Gold Limited	Asutifi North	Kenyasi II	Water Storage Facility	Spillage/Dewatering	Mining	30-Jun-19
184	Newmont Ghana Gold Limited	Tano North	Afrisipa	Groundwater	Abstraction	Domestic	31-Dec-20
185	Newmont Ghana Gold Limited	Asutifi	Kenyasi II	Subika pit and Groundwater	Abstraction	Mining	31-Dec-21
186	Newmont Golden Ridge Limited	Birim North	New Abirem	Abstraction from 2 Sediment Control Structures	Abstraction	Mining	31-Mar-19
187	Newmont Golden Ridge Limited	Birim North	New Abirem	Harvest rainfall-runoff into water storage facility	Abstraction	Mining	31-Mar-19
188	Newmont Golden Ridge Limited	Birim North	New Abirem	Afosu Stream and Sediment Control Structure (SCS 5)	Abstraction	Mining	30-Sep-19
189	Newmont Golden Ridge Limited	Birim North	Hweakwae	Groundwater	Abstraction	Domestic	31-Dec-19
190	Newmont Golden Ridge Limited	Birim North	Hweakwae	Groundwater	Abstraction	Mining	31-Dec-19
191	Newmont Golden Ridge Limited	Birim North	New Abirem	Groundwater	Abstraction	Domestic	31-Dec-20
192	Newmont Golden Ridge Limited	Birim North	Hweakwae	Pra River	Abstraction	Mining	31-Dec-20
193	Newmont Golden Ridge Limited	Birim North	Hweakwae	Pra River	Abstraction	Mining	31-Dec-20
194	Newmont Golden Ridge Limited (Upgrade)	Birim North	New Abirem	Groundwater	Abstraction	Domestic	31-Dec-20
195	Norpalm Ghana Limited	Ahanta West	Ewusiejoe	Butre River	Abstraction	Industrial and Irrigation	31-Dec-20

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
196	Norpalm Ghana Limited	Ahanta West	Ewusiejoe	Groundwater	Abstraction	Domestic	31-Dec-20
197	Northern Empowerment Association	Bole-Bamboi	Carpenter	Groundwater	Abstraction	Aquaculture (Pond)	30-Mar-21
198	Obelemany Company Limited	Lower Manya Krobo	Obelemany	Volta Lake	Fish Cage	Aquaculture	31-Dec-19
199	Olam Cocoa Processing Ghana Limited	Kumasi Metropolitan	Kaase	Groundwater	Abstraction	Industrial	30-Apr-21
200	OM Metals-SPML (JV)	North Tongu	Torgome	Nyifla Lake & Stream	Abstraction	Construction	31-Mar-21
201	Owere Mines Limited	Asante Akyem Central	Konongo	Groundwater	Abstraction	Mining	31-Dec-20
202	Oyibi Area Water Scheme	Kpone-Katamanso	Oyibi	Groundwater	Abstraction	Commercial	31-Dec-20
203	Perseus Mining (Gh) Limited	Upper Denkyira West	Ayamfuri	Danyami Creek	Abstraction	Mining	31-Mar-21
204	Processed Water Company Limited	Ga South	Ngleshie-Amanfro	Densu River	Abstraction	Commercial	31-Aug-19
205	Regional Building & Contracting Company Ltd	Dangme West	Asutare	Lower Volta River	Abstraction	Dredging	30-Jun-19
206	Resilient & Sustainable Livelihood Transformation	Bongo	Pusu Namongo Dam	Pusu Namongo Dam	Fish Cage	Aquaculture	31-Oct-19
207	Resilient & Sustainable Livelihood Transformation	Talensi District	Datuku	Datuku Dam	Fish Cage	Aquaculture	28-May-20
208	Rhovanni Royal Limited	Tano North	Tanoso	Groundwater	Abstraction	Industrial	31-May-20
209	Savanna Diamond Company Limited	Central Gonja	Buipe	Groundwater	Abstraction	Industrial	30-Sep-21
210	Sijun Tissues Manufacturing Company Limited	Awutu-Senya	Osardu	Ayensu River	Abstraction	Industrial	30-Jul-21
211	Skyfox Limited	Krachi East	Dambai-Monkrate	Oti River	Abstraction	Aquaculture	8-Nov-21
212	Smart Oil Limited	Pru	Yeji	Groundwater	Abstraction	Irrigation	31-Dec-19
213	Sparkling Shovel Limited	North Tongu	Drakofe-Aveyime	Lower Volta River	Dredging	Dredging	30-Sep-19
214	SPV Andrade Gutierrez Odebrecht Limited	Yendi Municipal	Yendi	Groundwater	Abstraction	Construction	30-Apr-21
215	Standard Water & Beverage Limited	South Tongu	Tadame	Volta River	Abstraction	Commercial	2-Apr-19
216	Sun Woo Culturing System Limited	Asuogyaman	Akosombo	Volta Lake	Fish Cage	Aquaculture (cage)	31-Jan-20
217	Tadame Sand Company	North Tongu	Aveyime - Agboganu	Lower Volta River	Dredging	Dredging	31-Oct-20
218	Teng Fei Company Limited	Shai Osudoku	Tokpo	Volta River	Fish Cage	Aquaculture (Cage)	30-Sep-21
219	Teng Fei Company Limited	Shai Osudoku	Tokpo	Volta River	Abstraction	Aquaculture (Pond)	30-Sep-21
220	The Royal Senchi Limited	Asuogyaman	Senchi	Volta River	Recreation	Recreation	30-Jun-20

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
221	The Royal Senchi Limited	Asuogyaman	Senchi	Volta River	Abstraction	Domestic	30-Jun-20
222	Triton Aquaculture Africa Ltd	Asuogyaman	Dodi Asantekrom	Volta Lake	Fish Cage	Aquaculture	31-May-20
223	Triton Aquaculture Africa Ltd	Asuogyaman	Dodi Asantekrom	Volta Lake	Abstraction	Aquaculture (Pond)	31-Dec-20
224	Tropical Hoppa Farms	Upper Manya Krobo	Poponya Fantem	Volta Lake	Fish cage	Aquaculture	2-Apr-20
225	Tropo Farms Limited	Asuogyaman	Anyaaase	Volta Lake	Abstraction	Aquaculture	30-Jun-19
226	Tropo Farms Limited	Shai-Osudoku	Asutsuare	Kpong Irrigation Canal	Abstraction	Aquaculture (pond)	31-Dec-19
227	Tropo Farms Limited (Renewal)	Asuogyaman	Mpakadan	Volta Lake	Fish Cage	Aquaculture (Cage)	31-Dec-21
228	Tropo Farms Limited (Renewal)	Asuogyaman	Mpakadan	Groundwater and Volta Lake	Abstraction	Aquaculture (Pond)	31-Dec-21
229	Twifo Oil Palm Plantation Limited	Lower Denkyira	Twifo Heman	Borehole	Abstraction	Domestic	31-Dec-19
230	Twifo Oil Palm Plantation Ltd	Lower Denkyira	Twifo Heman	River Obou	Abstraction	Irrigation	31-Dec-19
231	Twifo Oil Palm Plantation Ltd	Lower Denkyira	Twifo Heman	River Obou	Abstraction	Industrial	31-Dec-19
232	Vegpro Ghana Limited	North Tongu	Torgome	Kpong Dam Reservoir	Abstraction	Irrigation	31-Dec-21
233	Volta River Authority	Kassena Nankana	Pungu	Groundwater	Abstraction	Industrial	31-May-20
234	Voltic (Ghana) Limited	Nsawam-Adoagyiri	Akwadum	Groundwater	Abstraction	Commercial	31-Dec-20
235	Voltic (Ghana) Limited	Ga West	Medie	Groundwater	Abstraction	Commercial	31-Dec-20
236	Waterhealth Ghana Ltd (Amanokrom)	Akwapim North	Amanokrom	Sraboia Spring	Abstraction	Municipal/Domestic	31-Dec-20
237	Waterhealth Ghana (Asukawkaw)	Krachi East	Asukawkaw	Asukawkaw River	Abstraction	Municipal/Domestic	31-Dec-20
238	Waterhealth Ghana (Dambai)	Krachi East	Dambai	Volta Lake	Abstraction	Municipal/Domestic	31-Dec-20
239	Waterhealth Ghana (Manhean)	Ga West	Manhean	Densu River	Abstraction	Municipal/Domestic	31-Dec-20
240	Waterhealth Ghana (Ziope)	Adaklu-Anyibge	Ziope	Tsiave River	Abstraction	Municipal/Domestic	31-Dec-20
241	West African Football Academy	South Tongu	Fieve-Sogakope	Volta Lake	Abstraction	Domestic	31-Dec-20
242	Worlding Investment Company Ltd	South Dayi	Kpeve-Tornu	Volta Lake	Fish Cage	Aquaculture	31-Mar-19
243	Z & J Ghana Limited	Ga South Municipal	Weija	Densu River	Dredging	Dredging	27-Feb-20
244	Zoomlion Ghana Limited	Nandom	Kokoligo	Kokoligo Dam	Fish cage	Aquaculture	31-Jul-20
245	Zoomlion Ghana Limited	Wa West	Vieri	Vieri Dam	Fish cage	Aquaculture	31-Jul-20
246	Zoomlion Ghana Limited	Wa West	Baleofiri	Baleofiri Dam	Fish cage	Aquaculture	31-Jul-20
247	Zoomlion Ghana Limited	Wa West	Guo	Guo Dam	Fish cage	Aquaculture	31-Jul-20

Appendix 3: Drilling License Register – 2018

No	Licence Holder	Address	Tel. Numbers	Company Registration No.	Licence No.	Category	Expiry Date
1	Abowta and Sons Company Ltd	P. O. Box 38, Tamale	0244275118	CA-81,758	WRC/WDL/109/17	C	03-Oct-20
2	Access Development Limited	P. O. Box ER 567, Tamale	0202836139/ 0264176966	CS451342014	WRC/WDL/174/16	C	22-Feb-19
3	Aganco Enterprise	P. O. Box 245, Ola, Bolgatanga	0505079385/0546269362	BN-97,780D	WRC/WDL/183/16	C	19-Sep-19
4	Amabange Company Limited	P. O. Box TN 3, Tuna, Northern Region	0243655445	CS092012016	WRC/WDL/264/18	C	17-Jun-21
5	AMD Company Limited	P. O. Box AN 10431, Accra-North	0265510060/ 0204610060	CS013022012	WRC/WDL/166/18	C	28-Mar-21
6	Amor De Dios Enterprise	P. O. Box GP 20431, Accra	0243541341/ 0276981296	BN465092013	WRC/WDL/245/18	C	28-Mar-21
7	Ask Limited	P. O. Box 105, Bekwai Ashanti	0500660113/0244823321 0560621962	CS166822017	WRC/WDL/248/18	C	28-Mar-21
8	Aziida Company Limited	P. O. Box 657, Bolgatanga	0208087136 /0245278042	CS141142016	WRC/WDL/195/17	C	16-Jul-20
9	Bauer Resources Ghana Limited	PMB L 12, Legon, Accra	0302544113	CA-72,956	WRC/WDL/050/16	B	19-Sep-19
10	Bengeo Empire Limited	P. O. Box AT 406, Achimota, Accra	0244147597/ 0240531412	CS195892017	WRC/WDL/219/18	C	7-Feb-21
11	Betterworld Engineering Limited	P. O. Box MC 2110, Takoradi	0207326916	CA-83,337	WRC/WDL/184/16	C	12-Oct-19
12	BGP-Bay Geophysical Services Ltd	P. O. Box AJ 160, Airport Accra	0261677741 /0243173852	CS706602015	WRC/WDL/231/18	A	19-Feb-21
13	Both Side Company Limited	P. O. Box 356, Bolga-Upper East Region	-	CA-63,452	WRC/WDL/091/16	C	24-Feb-19
14	Cephavick Limited	P.O. Box TL 2571, Tamale	0208196246/ 0240915177	CA-17,548	WRC/WDL/005/17	B	09-Feb-20
15	Champion Man Company Limited	P. O. Box KW 302, Kwadaso – Kumasi	0207542404/ 0244811272	CA-60,706	WRC/WDL/052/17	C	27-Nov-20
16	Chobaa Enterprise Limited	P. O. Box 88, Bolgatanga	0202520084/ 0244483520	CS095502012	WRC/WDL/189/17	C	09-Feb-20
17	Clean Vision Construction Limited	P. O. Box NT 308, New Tafo, Kumasi	0208236777	CS594962015	WRC/WDL/247/18	C	28-Mar-21

18	Country Water Company Limited	P. O. Box TA 2, Taifa-Accra	0242110442	86,810	WRC/WDL/117/17	C	05-Sep-20
19	Crceg Limited	P. O. Box KD 934, Accra	0244994353/ 0549551896	CS604542015	WRC/WDL/193/17	A	06-Jun-20
20	Cross Industria Xchange Services Limited	P. O. Box KB 48 Korle Bu	0243444446	CS287372013	WRC/WDL/249/18	C	28-Mar-21
21	Customer Company Limited	P. O. Box AT 1005, Accra	0244657345	CS593462015	WRC/WDL/207/18	C	23-Jan-21
22	Dabeas Water Services and Trading Enterprise	P. O, Box SE 1280, Suame-Kumasi	0243462763	BN-12,331D	WRC/WDL/268/18	C	19-Aug-21
23	Danib Limited	P. O. Box KIA 18197, Accra	0249684180	CS117882018	WRC/WDL/263/18	C	17-Jun-21
24	Davdom Drilling Company Limited	P. O. Box 91, Accra	0247643928 /0265983732 0500467632	CS000702016	WRC/WDL/173/16	C	11-Feb-19
25	Derkak Construction Company Limited	P. O. Box GP 4521, Accra	0244232763/ 0202222103	CS156422016	WRC/WDL/197/17	C	05-Sep-20
26	Discovery Lands, Engineers and Planners Limited	P. O. Box WC 303, Wenchi	0544080079/0200306357	CS030272016	WRC/WDL/181/16	C	22-Aug-19
27	Divine Synergy Company Limited	P. O. Box AH 8015, Ahinsan, Kumasi	0248576666	CS148382017	WRC/WDL/269/18	C	19-Sep-21
28	Drillrock Ghana Limited	P. O. Box 46, Abossey Okai, Accra	0244666712/0200295571	CA-85,218	WRC/WDL/175/16	C	28-Feb-19
29	Drissam Ventures	P. O. Box KW 152, Kumasi	0244681412	BN010522017	WRC/WDL/261/18	C	17-Jun-21
30	E E & E Construct Ltd	P.O. Box AN 1163, Accra	0248666332/ 0208153708 / 0244436479	CA-18,392	WRC/WDL/014/16	B	31-Jan-19
31	Earth Technology 2010 Plus Enterprise	P. O. Box OS 1815 Osu, Accra	0244537319	BN601402014	WRC/WDL/177/16	C	9-Jun-19
32	Elex Investment Ghana Limited	P. O. Box TL. 2299, Tamale	0266565050/ 0244736725	CA-70,832	WRC/WDL/066/18	C	05-Nov-21
33	Emipak Company Limited	P. O. Box GP 17999, Accra	0244464548	CS200622017	WRC/WDL/257/18	C	17-Jun-21
34	Esuon Ghana Limited	P. O. Box CT 3588, Cantonments	0244313377	CS617242015	WRC/WDL/250/18	C	28-Mar-21
35	Falcon-B Enterprise	P. O. Box GP 22997, Accra	0554097800/ 0573523568	BN034162018	WRC/WDL/256/18	C	10-May-21
36	Fidiado Company Limited	P. O. Box 287, Bolgatanga	0208559076	CU716162016	WRC/WDL/194/17	C	16-Jul-20

37	Finder Enterprise	P. O. Box CT 4792, Accra	024863970	BN007172016	WRC/WDL/176/16	C	20-Mar-19
38	Geocoast Engineering Services Limited	P. O. Box CT 8903, Cantonments	0503008892/ 0246725863	C-97,697	WRC/WDL/260/18	C	17-Jun-21
39	Geo-Frontier Global Company Limited	P. O. Box 28, Nadowli, UWR	0209962271/ 0244466177	CS026362016	WRC/WDL/179/16	C	9-Jun-19
40	Geo-Hydro and Environmental Consult	P. O. Box 579, Wa	0243659627	BN944562015	WRC/WDL/266/18	C	25-Jun-21
41	Geosystems Consulting Limited	P. O. Box 28, Abuakwa - Kumasi	0244584745	CA-40,567	WRC/WDL/069/17	C	06-Jun-20
42	Global Sonn Limited	P. O. Box NT 679, Accra New Town	0244761813 0503407230	CS597002015	WRC/WDL/185/16	C	12-Oct-19
43	Global-Ten Limited	P. O. Box CT 5416, Cantonments, Accra	0243825586	CS160162018	WRC/WDL/273/18	C	12-Dec-21
44	Gud Heart Quarry and Construction Limited	P. O. Box 16377, Accra	0262223670 0244223670	CS694622015	WRC/WDL/222/18	C	7-Feb-21
45	Handock Research & Borehole Drilling	P. O. Box TD 511, Takoradi	0207774550 0277684653	CG062902016	WRC/WDL/244/18	C	28-Mar-21
46	Hu Bei Geology & Engineering Company Limited	P. O. Box 282 Education Ridge, Tamale	0244726979	C-78,734	WRC/WDL/048/16	B	10-Aug-19
47	Hydronomics Limited	P. O. Box LG 924, Legon, Accra	0244733966 0202028791	CS396252014	WRC/WDL/114/18	B	31-Jul-21
48	Ideas and Shapes Limited	P. O. Box TL 2311, Tamale	0200279208 0541602816	CA-83,078	WRC/WDL/267/18	C	31-Jul-21
49	Ismorab Company Limited	P. O. Box KN 3932, Kaneshie	0277737570	CS143092013	WRC/WDL/239/18	C	12-Mar-21
50	J. Adom Limited	P. O. Box KD 429, Kanda, Accra	0244944406 0302261494	C-8766	WRC/WDL/061/18	C	2-Dec-21
51	Jagan T. Ghana Company Limited	P. O. Box CS 19, Community 7, Tema	0240240673 0322064566	CS418312014	WRC/WDL/182/16	B	19-Sep-19
52	Joissam Construction Limited	P. O. Box AD 1188, Adabraka – Accra	0246479689 0302325388	CA-16243	WRC/WDL/049/17	B	24-Jan-20
53	Joss Engineering Limited	P. O. Box MC 2861, Takoradi	0242643564 0541082431	CA-72,043	WRC/WDL/206/18	C	23-Jan-21
54	Keldem Engineering Company Limited	P. O. Box AF 1815 Adenta-Accra	0208128443 0268122443	CS162642013	WRC/WDL/135/17	C	31-Jan-20
55	Kenbrits Limited	P. O. Box MP 4655, Mamprobi	0244256969 0243533975	CS192092013	WRC/WDL/227/18	C	7-Feb-21
56	Kendicks Construction Limited	P. O. Box MC 122, Takoradi	0243084435 0202251018	C-65,253	WRC/WDL/228/18	C	7-Feb-21

57	Khsad Engineering and Contracting Ghana Limited	P. O. Box MD 218, Medina	0263169733	CS398242014	WRC/WDL/255/18	C	28-Mar-21
58	Kinkubi Solutions	P. O. Box SN 366, Santasi-Kumasi	0243504248	BN-29,924D	WRC/WDL/088/18	B	17-Dec-21
59	KM-Doky Ventures	P. O. Box CH 15, Kyirapatre, Kumasi	0244235793	BN00HUS2015	WRC/WDL/180/16	C	4-Jul-19
60	Kofnap Company Limited	P. O. Box CT 4907, Cantonment, Accra	0504829904 0549633150	CS549082015	WRC/WDL/224/18	C	7-Feb-21
61	Kontraata Limited	P. O. Box WY 2188, Kwabenya	0243713406	CS742722015	WRC/WDL/230/18	C	7-Feb-21
62	Larikott Construction Limited	P. O. Box OS 1031, Osu	0244286436	CS428482014	WRC/WDL/265/18	C	17-Jun-21
63	Leka Interactive Company Limited	P. O. Box 474, Teshie-Nungua	0265510060 0204610060	CA-83,361	WRC/WDL/83/18	C	28-Mar-21
64	Links Drilling & Construction Ltd	P. O. Box 819, Nkawkaw	0202918131	CA-67,879	WRC/WDL/190/17	B	06-Jun-20
65	Maduson Enterprise Limited	P. O. Box 23, Wa	0207534335 0244507151	CS560292015	WRC/WDL/201/17	C	01-Nov-20
66	M-Mesh Enterprise	P. O. Box 126 Achimota-Accra	0244494558 0209863853	BN368932013	WRC/WDL/178/16	C	9-Jun-19
67	Morasko Limited	P. O. Box 608, Wa, Upper West	0209356498 0244924757	CS1191322016	WRC/WDL/274/18	C	19-Dec-21
68	Naaviq Company Limited	P. O. Box 2061, Accra	0545443652 0501523889	CS196252016	WRC/WDL/238/18	C	12-Mar-21
69	Namoo and Sons Limited	P. O. Box 391, Wa, Upper West	020823859 0543826224	CS194802013	WRC/WDL/154/17	C	18-Jul-20
70	New Services Limited	P. O. Box 708, New Atuabo Junction	0574765210 0243919705	BN00KD12015	WRC/WDL/186/16	C	12-Oct-19
71	Nisis Engineering Designs Company Limited	P. O. Box AT 1070, Achimota	0200801155 0246463501	CS363202014	WRC/WDL/254/18	C	28-Mar-21
72	OFH Western Homes Limited	P. O. Box 244, Bolgatanga	0263156215 0249301362	CS078132016	WRC/WDL/234/18	C	12-Mar-21
73	Our-Turn Logistics and Construction Limited	P. O. Box 360, Wa	0207636262 0244545118	CS009332012	WRC/WDL/192/17	C	06-Jun-20
74	Pakangyi Plumbing Works	P. O. Box 199, Navrongo	0507116055 0541109794	BN087102017	WRC/WDL/199/17	C	05-Oct-20
75	Phyness Logistics Services	P. O. Box 149, Madina	0244608565	BN212792017	WRC/WDL/216/18	C	7-Feb-21

76	Rahmex Enterprise Limited	P. O. Box 40, Wa	0209023731 0244292031	CS750352015	WRC/WDL/045/18	C	7-Feb-21
77	Rif Connac Limited	P. O. Box KS 11590, Kumasi		CA-41,898	WRC/WDL/165/18	C	05-Nov-21
78	Rural Water Development Programme of Church of Christ	P. O. Box CE 11897, Tema	0244160776 0208202478	G-3,785	WRC/WDL/008/18	B	12-Mar-21
79	Samotrust Company Limited	P. O. Box AN 10370, Accra-North	0544716172 0245392282	CS371762014	WRC/WDL/225/18	C	7-Feb-21
80	Sandcrest Construction Limited	P. O. Box CT 11351, Cantonments, Accra	0209289288 0244782896	CS527582014	WRC/WDL/191/17	C	06-Jun-20
81	Sed Investments International Limited	P. O. Box KT 617, Kotobabi - Accra	0244299077 0274352012	CS719892015	WRC/WDL/198/17	C	11-Sep-20
82	SJA Contractors & Trading Co. Ltd	P. O. Box M216, Mankesim	0244470038	CS066722017	WRC/WDL/243/18	C	28-Mar-21
83	Sky Delta Ghana Limited	P. O. Box 0850, Osu, Accra	0207239656 0244261741	CS408282014	WRC/WDL/252/18	C	28-Mar-21
84	Sparkx SM Ghana Limited	P. O. Box 834, Darkuman	0200710072 /0243135356	CS446492014	WRC/WDL/200/17	C	01-Nov-20
85	Sungbawiera Company Limited	P. O. Box AT 19, Achimota Market	0208110651 0249595456	CS475982014	WRC/WDL/251/18	C	28-Mar-21
86	Sunziel Company Limited	P. O. Box GP 20219, Accra	0208240217	CS050032017	WRC/WDL/209/18	C	23-Jan-21
87	Teresil Company Limited	P. O. Box DT 1433, Adenta, Accra	0245798700 / 0244607104 /0504454332	CS073252017	WRC/WDL/221/18	B	7-Feb-21
88	Towey Ghana Limited	P. O. Box MD 1892, Medina	0202205691/ 0302419612	CS730242015	WRC/WDL/253/18	C	28-Mar-21
89	Twea Tibo Limited	P. O. Box WY 2936, Kwabenya, Accra	0243134703	CS264832017	WRC/WDL/218/18	C	7-Feb-21
90	Ultimate Good Thinking Enterprise	P. O. Box 58, Bawku	0245282583 0209472545	BN599292017	WRC/WDL/213/18	C	7-Feb-21
91	Umarib (Ghana) Limited	P. O. Box 1412, Accra	0243726853	CS586942015	WRC/WDL/236/18	C	12-Mar-21
92	Venital Enterprise	P. O. Box AH 77 Agona Ahanta	0244239801 0209389499	BN419332013	WRC/WDL/188/17	C	15-Jan-20
93	Vibe A Engineering Limited	P. O. Box DS 801, Dansoman, Accra	0248585591 0246938590	CS059462017	WRC/WDL/217/18	C	7-Feb-21
94	Watersan Engineers Limited	P. O. Box TA 88, Taifa-Accra	0244276109 / 0265206981	CA-72,975	WRC/WDL/129/16	C	8-Feb-19
95	Wenenco Limited	P. O. Box 1424, Sunyani	020-8116401 / 0244764164	CA-98,769	WRC/WDL/142/17	A	09-Feb-20
96	Western Water Works Limited	P. O. Box 181, Sekondi	0244267859	CS197722017	WRC/WDL/036/17	B	29-Nov-20
97	Yooka Construction and Trading Limited	P. O. Box TU 69, TUC, Accra	0265127771	CS127142016	WRC/WDL/187/17	C	15-Jan-20

Appendix 4 – Audited Financial Statement for 2018

WATER RESOURCES COMMISSION

REPORTS AND FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2018

**Morrison & Associates
Chartered Accountants, Tax & Management Consultants
Trinity House (2nd Floor)
Ring Road East
Accra**

REPORT OF THE COMMISSIONERS

The Commissioners present their report and the audited financial statements of the Commission for the year ended 31 December, 2018.

Statement of Commissioners' Responsibilities

The Water Resources Commission Acts 1996 (Act 522) requires the Commission to prepare financial statements for each financial year, which gives a true and fair view of the state of affairs of the Commission.

In preparing these financial statements the Commissioners are required to

Select suitable accounting policies in accordance with International Public Sector Accounting Standards (IPSAS) and to apply them consistently and

Make judgments and estimates that are reasonable and prudent

The Commissioners are responsible for ensuring that the Commission keeps proper accounting records that disclose with reasonable accuracy at any time the financial position of the Commission. The Commissioners are also responsible for safeguarding the assets of the Commission and taking reasonable steps for the prevention and detection of fraud and other irregularities.

Financial Statements

The results for the year are as set out in the attached financial statements

	2018	2017
	GH¢	GH¢
Accumulated Fund at 1 st January	2,253,756	2,548,687
Prior year Adjustment	(9,503)	-
Deficit for the year	(529,505)	(294,931)
Accumulated at 31 st December	1,714,748	2,253,756
Total Assets	2,188,021	2,376,212

The Commissioners consider the state of the Commission's affairs to be satisfactory.

Nature of Business

The objects of the Commission are to regulate and manage the utilization of water resources and co-ordinate policies in relation to them.

Auditors

The Auditors, Morrison and Associates appointment by the Auditor-General was for the 2018 financial year end audit. They will therefore vacate office after the audit.

REPORT OF THE INDEPENDENT AUDITORS TO THE MEMBERS OF WATER RESOURCES COMMISSION

Opinion

We have audited the financial statements of Water Resources Commission for the year ended 31 December 2018 which comprise statement of income and expenditure, the statement of changes in equity, and the statement of cash flows for the year then ended; and a summary of significant accounting policies and other explanatory notes.

In our opinion, the accompanying financial statements give a true and fair view of the financial position of Water Resources Commission as at 31 December 2018, and of its financial performance and its cash flows for the year then ended in accordance with International Financial Reporting Standards and in the manner required by the Companies Act, 1963 (Act 179) and the International Public Sector Accounting Standards (IPAS).

Basis for opinion

We conducted our audit in accordance with International Standard on Auditing (ISA). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the Commission in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code). We have fulfilled our other ethical responsibilities in accordance with the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of the Commissioners for the financial statements

The Commissioners are responsible for the preparation of financial statements that give a true and fair view of in accordance with International Financial Reporting Standards and in the manner required by the Companies Act, 1963 (179) and the International Public Sector Accounting Standards (IPAS) and for such internal control as the Commissioners determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Commissioners are responsible for assessing the Commissioner's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the Commissioners either intend to liquidate the Commission or to cease operations, or have no realistic alternative but to do so.

The Commissioners are responsible for overseeing the financial reporting process.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an

auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of the audit in accordance with ISAs, we exercise professional judgment and maintain professional scepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control;
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Commission.
- Conclude on the appropriateness of the Commissioners' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the ability to continue as a going concern if we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Or conclusions are based on the audit evidence obtained up to the date of auditor's report. However, future events or conditions may cause the Commission to cease to continue as a going concern; and
- Evaluate the overall presentation, structure and content of the financial statements. Including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Commissioners regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our outfit.


We also provide the Commission with statements that we have complied with relevant ethical requirements regarding independence, and have communicated with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable, related safeguards.

Report on other legal and regulatory requirements

The Companies Act, 1963 (Act 179) requires that in carrying out our audit we consider and report on the following matters. We confirm that:

- i. We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit.
- ii. In our opinion proper books of account have been kept by the Commission so far as appears from our examination of those books; and
- iii. The Commission's balance sheet (Commission's statement of financial position) and Commission's profit and loss account (the Commissioner's statement of comprehensive income) are in agreement with the books of account.

The engagement partner on the audit resulting in the independent auditor's report is Samuel Wifred Yaw Inkoom (ICAG/P/1118)



Morrison & Associates (ICAG/F/2019/097)
Chartered Accountants, Tax & Management Consultants
Trinity House (2nd Floor)
Ring Road East
P. O. Box CT 2890, Accra, Ghana

Date: 20th January, 2020

STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31ST DECEMBER 2018

		2018	2017
INCOME	Notes	GH¢	GH¢
Revenue-IGF	4	1,688,135	1,872,750
Revenue-GoG Subvention	4	1,174,810	1,066,100
Other revenue	5	<u>541,538</u>	<u>729,483</u>
		3,404,483	3,668,333
EXPENDITURE			
Staff Cost	6	1,854,398	1,384,602
Administrative Expenses	7	<u>2,047,098</u>	<u>2,578,662</u>
		<u>3,901,496</u>	<u>3,963,264</u>
Surplus/(Deficit) (Transferred to Accumulated Fund)		<u>(497,013)</u>	<u>(294,931)</u>

STATEMENT OF CHANGES IN EQUITY FOR THE YEAR ENDED 31 DECEMBER 2018

2018	DEVELOPMENT FUND GH¢	ACCUMMULATED FUND GH¢	TOTAL GH¢
Balance at 1st January	59,845	2,253,756	2,313,601
Prior Year Adjustment		²⁰ (9,503)	(9,503)
Deficit for year	<u>-</u>	<u>(497,013)</u>	<u>(497,013)</u>
Balance at 31st December	<u>59,845</u>	<u>1,747,240</u>	<u>1,807,085</u>
2017	DEVELOPMENT FUND GH¢	ACCUMMULATED FUND GH¢	TOTAL GH¢
Balance at 1st January	59,845	2,548,687	2,608,532
Surplus for year	<u>-</u>	<u>(294,931)</u>	<u>(294,931)</u>
Balance at 31st December	<u>59,845</u>	<u>2,253,756</u>	<u>2,313,601</u>

STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER, 2018

Assets	NO TES	2018	2017
		GH¢	GH¢
NON - CURRENT ASSETS			
Property, Plant and Equipment	8	835,047	915,055
Capital Expenditure	9	71,485	69,864
Intangible Assets	10	<u>19,090</u>	<u>28,773</u>
		925,622	1,013,692
CURRENT ASSETS			
Receivable & Prepayments	11	1,072,041	1,062,751
Cash & Bank Balances	12	<u>190,358</u>	<u>299,770</u>
		1,262,399	1,362,521
TOTAL ASSETS		<u><u>2,188,021</u></u>	<u><u>2,376,213</u></u>
 LIABILITIES & ACCUMMULATED FUND			
LIABILITIES			
Current Liabilities			
Bank Overdraft	13	338,767	8,642
Payable & Accruals	14	<u>74,661</u>	<u>53,969</u>
		413,428	62,611
Accumulated fund		1,747,240	2,253,756
Development fund		<u>59,845</u>	<u>59,845</u>
		<u>1,807,085</u>	<u>2,313,601</u>
TOTAL LIABILITIES & ACCUMMULATED FUND		<u><u>2,220,513</u></u>	<u><u>2,376,212</u></u>



CHAIRMAN OF THE BOARD



EXECUTIVE SECRETARY

ACCRA, 17 January 2020

STATEMENT OF CASHFLOWS FOR THE YEAR ENDED 31ST DECEMBER, 2018

	2018	2017
OPERATING ACTIVITIES	GH¢	GH¢
Surplus for the year	(497,013)	(294,931)
Depreciation charge	183,636	198,309
Amortization	22,376	16,280
Capital Expenditure Write-off	16,246	(16,246)
Increase in receivables	(9,290)	385,670
Decrease in payables	<u>20,692</u>	<u>(79,449)</u>
Cash flow from Operating Activities	<u>(263,352)</u>	<u>209,633</u>
 INVESTING ACTIVITIES		
Acquisition of Property, Plant and Equipment	(105,486)	(226,692)
Acquisition of Intangible Assets	(20,338)	(33,574)
Capital Expenditure	<u>(17,867)</u>	<u>-</u>
Cash Used in Investing Activities	<u>(143,691)</u>	<u>(260,266)</u>
Net Cash flows	<u>(407,043)</u>	<u>(50,633)</u>
 Analysis of changes in cash and cash equivalent during the year		
Balance at 1st January	258,636	309,269
	<u>(407,043)</u>	<u>(50,633)</u>
	<u>(148,407)</u>	<u>258,636</u>
 Analysis of balances of cash and cash equivalents		
Cash at Bank	185,576	299,770
Cash on Hand	4,782	-
Bank Overdraft	<u>(338,767)</u>	<u>(8,642)</u>

	<u>(148,408)</u>	<u>291,128</u>	
4a	REVENUE- GoG SUBVENTION	2018	2017
		GH¢	GH¢
	GOG Subvention	1,121,612	1,066,100
	Goods & services	53,198	
		<u>1,174,810</u>	<u>1,066,100</u>
4b	REVENUE- IGF		
	Abstraction fees	1,848,343	1,860,641
	Non abstraction fees	38,361	32,403
	Administration fees	272,800	249,550
	Application fees	9,350	11,900
	Drilling fees	69,045	52,000
	Capping deduction	(549,764)	(333,744)
		<u>1,688,135</u>	<u>1,872,750</u>
5	OTHER INCOME		
	UNDP	265,585	467,100
	World Water Day	72,320	48,000
	UNICEF	-	31,200
	Exchange Gain	7,615	72,002
	Vehicle Disposal	-	34,001
	Development Institute	-	50,000
	Tropenbos Ghana	-	25,000
	IUCN	67,385	-
	GWP	59,219	-
	Dutch Embassy	38,500	-
	Project Parades	23,517	-
	Income /Other fees	3,108	2,180
	DHIRO	4,289	-
		<u>541,538</u>	<u>729,483</u>
6	STAFF COST	2018	2017
		GH¢	GH¢
	Salaries and Wages	911,206	775,633
	Limited Engagements	236,354	258,978

SSF 13.5%	162,285	123,331
Car Maintenance Allowance	12,062	11,921
Security Allowance	4,623	5,062
Entertainment Allowance	7,177	6,688
Fuel/ Transport allowance	95,598	16,792
Rent /Housing Subsidy Allowance	19,388	18,066
Commuted /Travel allowance	26,591	25,828
Domestic Servant Allowance	3,999	3,560
Professional/Overtime	8,566	
Medicals	52,377	28,632
Training	24,741	4,564
Welfare	189,071	74,802
Long Service Award	14,660	5,304
Commissioner's Fees	56,950	-
Basin board meetings	6,050	18,041
Entity tender committee	3,700	7,400
Sitting allowance	19,000	-

1,854,398

1,384,602

	2018	2017
7 ADMINISTRATIVE COST	GH¢	GH¢
Electricity and water	36,043	96,235
Cleaning and sanitation	26,991	36,705
Auditor's Remuneration	40,000	30,000
Printing and stationery	111,360	123,211
Entertainment	4,037	6,505
Advertisement ,publicity and public relations	105,622	124,053
Telephone and postage	105,385	131,650
Local travelling and transport	176,817	78,750
Local hotel accommodation	54,912	53,427
Other travel and transport	1,795	8,460
Night allowance	33,370	38,519

Foreign travel	13,532	3,376
Foreign travel per diem	64,328	88,825
Security services	33,068	43,934
Local consultancy	62,669	352,430
Operational Enhancement	192,365	106,434
Toll charges tickets	576	871
Office supplies	3,170	3,600
Insurance	40,016	31,586
Fuel and lubricant	180,823	256,554
Vehicle repairs and maintenance	207,921	244,420
Residential building repairs	16,632	5,602
Office building repairs	6,269	11,965
Equipment repairs	53,802	65,853
Seminars, workshops and conferences	282,707	399,798
Court/Prof. Expenses	2,500	3,293
Bank Charges	623	1,771
Depreciation and Amortisation	206,010	214,589
Capital Expenditure write off	<u>(16,246)</u>	<u>16,246</u>
Balance carried forward	<u>2,047,098</u>	<u>2,578,662</u>

8a	Plant, Property & Equipment	2018			2017		
		Cost/Valuation	Accumulated Depreciation	Carrying amount	Cost	Accumulated Depreciation	Carrying amount
		GH¢	GH¢	GH¢	GH¢	GH¢	GH¢
	Land & Building	673,753	(119,236)	554,517.00	633,753	(100,223)	533,530.00
	Plant and Equipment	197,019	(155,151)	41,868.00	184,733	(141,097)	43,636.00
	IT Equipment & Computers	351,573	(302,518)	49,055.00	303,343	(283,877)	19,466.00
	Furniture & Fittings	174,545	(147,237)	27,308.00	174,545	(135,930)	38,615.00
	Motor Vehicles	992,127	(891,520)	100,607.00	992,127	(774,012)	218,115.00
	Work in progress	61,692	-	61,692.00	61,692	-	61,692.00
		2,450,709	(1,615,661)	835,047	2,350,192	(1,435,138)	915,055

8b Reconciliation of opening carrying values with closing carrying values

2018	Opening Balance	Additions	Adjustment/Write-off	Depreciation	Closing Balance
	GH¢	GH¢	GH¢	GH¢	GH¢
Land & Building	533,530	40,000	-	(19,013)	554,517
Plant and Equipment	43,636	12,286	2,081	(16,135)	41,868
IT Equipment & Computers	19,466	53,200	(3,591)	(20,020)	49,055
Furniture & Fittings	38,615	-	(346)	(10,960)	27,309
Motor Vehicles	218,115	-	-	(117,508)	100,607
Work in progress	61,692	-	-	-	61,692
	915,055	105,486	(1,856)	(183,636)	835,047

2017	Opening Balance	Additions	Adjustment/Write-off	Depreciation	Closing Balance
	GH¢	GH¢	GH¢	GH¢	GH¢
Land & Building	342,622	209,121	-	(18,213)	533,530
Plant and Equipment	47,311	13,894	-	(17,569)	43,636

9	CAPITAL EXPENDITURE	Opening Balance	Additions	Write Off	Balance at
	2018	GH¢	GH¢	GH¢	31/12/2018
					GH¢

IT Equipment & Computers	43,606	1,450	-	(25,590)	19,466
Furniture & Fittings	55,817	2,227.00	-	(19,429)	38,615
Motor Vehicles	392,857	-	(57,234)	(117,508)	218,115
Work in progress	61,692	-	-	-	61,692
	943,905	226,692	(57,234)	(198,309)	915,055

Pra Basin	8,009	-	4,004	4,005
Tano Basin	24,169		8,055	16,114
Black Volta Basin	37,686	17,867	4,187	51,366
	<u>69,864</u>	<u>17,867</u>	<u>16,246</u>	<u>71,485</u>

2017	Opening Balance GH¢	Additions GH¢	Write Off GH¢	Balance at 31/12/2017 GH¢
Pra Basin	12,013		(4,004)	8,009
Tano Basin	32,224	-	(8,055)	24,169
Black Volta Basin	41,873		(4,187)	37,686
	<u>86,110</u>	<u>-</u>	<u>(16,246)</u>	<u>69,864</u>

10 INTANGIBLE ASSETS	2018		2017			
	Cost/ Valuation GH¢	Accumulated Amortisation GH¢	Carrying Amount GH¢	Cost/ Valuation GH¢	Accumulated Amortisation GH¢	Carrying amount
Navision Software	<u>49,111</u>	<u>(30,021)</u>	<u>19,090</u>	<u>45,053</u>	<u>(16,280)</u>	<u>28,773</u>
	<u>49,111</u>	<u>(30,021)</u>	<u>19,090</u>	<u>45,053</u>	<u>(16,280)</u>	<u>28,773</u>

10a Reconciliation of opening carrying values with closing carrying values

2018	Opening Balance GH¢	Additions GH¢	Disposals/ Written- Off GH¢	Amortisation GH¢	Balance at 31/12/2018 GH¢
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Navision Software	<u>28,773</u>	<u>20,338</u>	<u>(7,647)</u>	<u>(22,375)</u>	<u>19,090</u>
	<u>28,773</u>	<u>20,338</u>	<u>(7,647)</u>	<u>(22,375)</u>	<u>19,090</u>

10b Reconciliation of opening carrying values with closing carrying values

2017	Opening Balance GH¢	Additions GH¢	Disposals/ Written-Off GH¢	Amortisation GH¢	Balance at 31/12/2017 GH¢
Navision Software	<u>11,479</u>	<u>33,574</u>		<u>(16,280)</u>	<u>28,773</u>
	<u>11,479</u>	<u>33,574</u>	=	<u>(16,280)</u>	<u>28,773</u>

	2018 GH¢	2017 GH¢
11 RECEIVABLES AND PREPAYMENTS		
Staff Debtors	-	1,595
Trade and sundry	1,040,957	1,010,592
Bad debt	(295)	(295)
GRA-PAYE	2,254	
Accountable Imprest	21,539	43,273
Mobilization	<u>7,586</u>	<u>7,586</u>
	<u>1,072,041</u>	<u>1,062,751</u>
12 CASH AND BANK BALANCES		
Bank Balance	185,576	299,770
Cash In Transit	<u>4,782</u>	-
	<u>190,358</u>	<u>299,770</u>
13 BANK OVERDRAFT		
Bank of Ghana IGF	338,538	-
Ecobank Cedi IGF	216	8,642

	Ecobank Cedi DRMCP	13	-
		338,767	8,642
14	PAYABLES & ACCRUALS	2018	2017
	Sundry	7,785	
	Withholding Tax	1,966	1,907
	Agaley	-	(47)
	Mannitech	-	507
	Welfare	3,998	-
	Accruals - Audit Fees	40,000	30,000
	Retention- Works	13,849	13,849
	Payable Goods	515	-
	Payable Services	<u>6,548</u>	<u>7,753</u>
		<u>74,661</u>	<u>53,969</u>

15 CAPITAL EXPENDITURE COMMITMENTS

Capital commitments as at 31st December 2018 amounted to Nil (2017: Nil).

16 CONTINGENCIES

There were neither contingent liabilities nor contingent assets as at 31st December 2018 (2017: Nil).

17 POST REPORTING PERIOD EVENTS

Events subsequently to the Statement of Financial Position are reflected in the Statement of Financial Position only to the extent that they relate to the year under consideration and the effect is material. (2017: Nil)

18 CATEGORIES OF FINANCIAL ASSETS

The accounting policies for financial assets measured at Fair Value Through Surplus or Deficit have been applied to the following line items

	2018	2017
	GH¢	GH¢
Bank Balances	185,576	299,770
Receivables	1,040,662	1,011,892

Exchange gain of GH¢ 7,615 (2017: 72,002) is in respect of bank balances which have been classified as financial assets at fair value through surplus or deficit.

Bank charge of GH¢ 623 (2017:GH¢ 1,771) is in respect of bank balances which have been classified as financial assets measured at fair value through surplus or deficit.

19 CATEGORIES OF FINANCIAL LIABILITIES

The accounting policies for financial liabilities measured at Fair Value Through Surplus or Deficit have been applied to the following line items:

	2018	2017
	GH¢	GH¢
Bank Overdraft	338,767	8,642
Payables and Accruals	72,695	52,062

NB: This is exclusive of statutory obligations

20 PRIOR YEAR ADJUSTMENT

The prior adjustment is in respect of misstatement in depreciation charged in the prior years, which resulted in understatement of depreciation and overstatement of accumulated fund by GH¢ 9,503

21 RELATED PARTY TRANSACTIONS

Relationship

Members of key management (Refer to list of Commissioners)

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly including any Commissioners (whether executive or otherwise) of the company.

Related party transactions	2008	2017
	GH¢	GH¢
Commissioners' Expenses		