

TABLE OF CONTENTS

TABLE OF CONTENTS	1
ACRONYMS	3
FOREWORD	5
EXECUTIVE SUMMARY	6
CHAPTER 1 – COMMISSION PROFILE	9
1.1 MANDATE	9
1.2 VISION	9
1.3 MISSION STATEMENT	9
1.4 THE COMMISSION	9
1.5 FOCUS AREAS FOR 2017	10
CHAPTER 2 - ADMINISTRATION OF REGULATIONS	11
2.1 ADMINISTRATION OF WATER USE REGULATIONS	11
2.2 WATER USERS COMPLIANCE MONITORING	12
2.3 ADMINISTRATION OF DRILLERS LICENCE AND GROUNDWATER DEVELOPMENT REGULATIONS	13
2.4 ADMINISTRATION OF DAM SAFETY REGULATIONS	15
CHAPTER 3 - MANAGEMENT OF PRIORITY RIVER BASINS	16
3.1 OPERATIONS OF BASIN BOARDS	16
3.2 ECOLOGICAL MONITORING	16
3.3 REGULATORY ACTIVITIES	17
3.4 COLLABORATIVE AND COORDINATION ACTIVITIES	17
3.5 DEVELOPMENT AND IMPLEMENTATION OF RIVER BASIN IWRM PLANS	18
CHAPTER 4 - PUBLIC AWARENESS AND EDUCATION	24 23
4.1 EDUCATIONAL MATERIALS AND PUBLICATIONS	24 23
4.2 PUBLIC ENGAGEMENT	24 23
4.3 EDUCATIONAL CAMPGNS AND MEDIA EVENTS	25 24
4.4 SERVICE PROVISION	25 24
4.5 NETWORKING	26 25
CHAPTER 5 - WATER GOVERNANCE ACTIVITIES	28 27
5.1 POLICY DEVELOPMENT AND IMPLEMENTATION	28 27
5.2 DEVELOPMENT OF LEGISLATIVE INSTRUMENTS	28 27
5.3 ESTABLISHMENT OF GOVERNANCE INSTITUTIONS	28 27
CHAPTER 6 – WATER RESOURCES ASSESSMENT AND PLANNING	29 28
6.1 WATER QUALITY ASSESSMENT	29 28
6.2 IWRM PLANS	32 31
6.3 FLOOD HAZARD ASSESSMENT	33 32
6.4 DROUGHT EARLY WARNING	33 32
CHAPTER 7 - TRANSBOUNDARY WATER MANAGEMENT	35 34

7.1	THE VOLTA BASIN AUTHORITY	3534
7.2	ECOWAS WATER RESOURCES COORDINATION CENTRE.....	3736
7.3	REPORTING ON THE SUSTAINABLE DEVELOPMENT GOAL (SDG) 6 INDICATORS	3837
CHAPTER 8 - ADMINISTRATIVE AND HUMAN RESOURCES		3938
8.1	TRAINING COURSES.....	3938
8.2	ACADEMIC COURSES	3938
8.3	WORKSHOPS, MEETINGS AND CONFERENCES	3938
8.4	COMMITTEES.....	4140
8.5	HUMAN RESOURCES	4140
8.6	LIBRARY	4342
CHAPTER 9 - FINANCIAL STATUS		4443
9.1	AUDITED FINANCIAL STATEMENTS	4443
APPENDIX 1 – MEMBERS OF THE WATER RESOURCES COMMISSION		4544
APPENDIX 2 - WATER USE REGISTER – 2017		4645
APPENDIX 3 - DRILLING LICENSE REGISTER – 2017.....		5655
APPENDIX 4 – AUDITED FINANCIAL STATEMENT FOR 2017		6059

List of Figures

Figure 1: Trend of total number of permits registered from 2008 - 2017	12
Figure 2: Comparison of licence holders in the various categories for 2016 and 2017.	14
Figure 3: Trend of drilling licence holders from 2013 to 2017.....	14
Figure 4: Ecological Monitoring by the Densu Basin Board.....	20
Figure 5: Pra Basin Board with CREMA Executives at Lake Bosomtwe, Abono	20
Figure 6: Monitoring the Water Quality of the Lake Bosomtwe with EPA.....	21
Figure 7: Ecological monitoring with community members and GWCL staff at Jambusi.....	2221
Figure 8: Training of Women Groups around the Lake Bosomtwe	22
Figure 9: Training of Environmental School Clubs.....	22
Figure 10: Lake Bosomtwe Orchard Establishment for Buffer zone Restoration.....	2322
Figure 11: Students of SDA Nursing Training College, Barekese in a Tree-Planting Exercise	2726
Figure 12: Awareness Creation and Education Program on Sunsum FM	2726
Figure 13: Water Quality trends of Major Water Bodies from 2005 to 2017.....	3029

List of Tables

Table 1: Distribution of Water Use Permit Holders in 2017	11
Table 2: List of water use compliant companies for 2017	12
Table 3: Water Quality Classification System.....	2928
Table 4: Trends of water quality from 2005 to 2017	29
Table 5: Estimated water quality Indices for major water bodies in Ghana	3130
Table 6: Average turbidity results of February and July for selected sites.....	3231

ACRONYMS

ABB	-	Ankobra Basin Board
AMCOW	-	African Ministers' Council on Water
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
IGF	-	Internally Generated Funds
IUCN	-	International Union for the Conservation of Nature
IWRM	-	Integrated Water Resources Management
LI	-	Legislative Instrument
MAB	-	Man and Biosphere
MC	-	Minerals Commission
MDAs	-	Ministries, Departments and Agencies
MESTI	-	Ministry of Environment Science Technology and Innovation

MMDAs	-	Metropolitan, Municipal and District Assemblies
MOFA	-	Ministry of Food and Agriculture
MSWR	-	Ministry of Sanitation and Water Resources
NDSU	-	National Dam Safety Unit
NGOs	-	Non-Governmental Organisations
NFOs	-	National Focal Offices
PFCM	-	Permanent Framework for Coordination and Monitoring
PBB	-	Pra Basin Board
RWESCK	-	Regional Water and Environmental Sanitation Centre, Kumasi
SAP	-	Strategic Action Program
SEA	-	Strategic Environmental Assessment
SDG	-	Sustainable Development Goal
TBB	-	Tano Basin Board
TDS	-	Total Dissolved Solids
TSS	-	Total Suspended Solids
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environmental Program
VBA	-	Volta Basin Authority
VRA	-	Volta River Authority
VSIP	-	Volta Basin Strategic Action Program
WACDEP	-	Water, Climate and Development 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

This 19th Annual Report of the Water Resources Commission (WRC) summarises the significant gains 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.

There is no gainsaying the fact, that significant insights were gained during the year 2017, which contributed significantly to the efficient delivery of plans, programs, and projects at the basin, national and international levels.

The Integrated Water Resources Management programme (IWRM) was carried further to other river basins. The Black Volta and Oti basins are gradually coming on stream in terms of introducing practical local level IWRM interventions and establishing WRC's physical presence. Notable efforts and outcomes were the national action against illegal mining activities that had hitherto led to the deterioration of water quality; and the development and testing of flood and disaster risk management systems for the Oti basin at the transboundary level. These and other efforts were not only timely but also logical in view of the priority being placed on improving the ecological health of water resources and flooding as developmental challenges within the national growth and development strategies and plans.

Our international relations with respect to the use of water resources continue to be at the fore. The Volta Basin Authority continues to provide Ghana and the other five riparian countries (Benin, Burkina Faso, Cote d'Ivoire, Mali and Togo) with a forum to effectively manage the resources of the Volta River System. However, this could only be sustained if we made the conscious effort to make international cooperation and the management of our transboundary waters a priority.

On behalf of the Commission, I would like to extend gratitude to its collaborative institutions including the water related regulatory agencies; major water urban and rural supply, irrigation, and hydropower production institutions; water resources data management institutions; and District Assemblies, NGOs, and traditional authorities for their continued support and encouragement to the Commission in carrying out its mandate of regulating and managing the country's water resources.

Sincere appreciation also goes to the Development Partners, particularly the World Bank, for the support to the Commission. Finally, I wish to congratulate the management and staff of the Commission for their zeal and commitment to work despite the inevitable challenges.

BEN AMPOMAH
(EXECUTIVE SECRETARY)

EXECUTIVE SUMMARY

The operations of the WRC in the year 2017 were in the 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 management of the Commission.

Administration of Regulations

In the administration of regulations, a total of 75 water use permits were issued of which 39 were new permits and 36 were renewals. The valid permits recorded in the register totalled 235. About 28 water users were visited for compliance monitoring. The assessment of environmental reports revealed that 17 water users submitted reports in accordance with stipulated conditions in their water use permits. A total of 29 drilling licences consisting of 17 new and 12 renewals were issued. The total number of valid licences registered was 63, which was an increase of 14 from the 49 licenses registered in 2016.

The Dam Safety Regulations LI 2236 of 2016 was adopted in July 2016 and its administration initiated in 2017. Nationwide dissemination of the LI was completed through 10 regional stakeholder workshops, while the receipt of applications for dam registration commenced at the end of the year.

Management of Priority River Basins

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

Programmes and 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. The processes towards developing IWRM plans for the Black Volta and Oti basins were initiated in the year. The initial baseline studies and the application of SEA tools - identification and prioritisation of water resources issues and assessment of the effectiveness of actions - were completed for both basins towards the development of the IWRM plan.

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.

The provision of services focused on making the WRC website and other social media platforms more interactive. Hence, WRC documentaries were linked to YouTube channel, the WRC Facebook and Twitter page for the general public to view documentaries and the results tracked. Results of the tracking showed that the number of viewers of the documentaries had increased from 499 new and 317 returning viewers in July 2017 to 1,031 and 481 respectively by the end of 2017.

Water Governance Initiatives

Regulations are being developed to enforce provisions of the Buffer Zone Policy. The initial technical text of the regulations was developed and subjected to nationwide consultations. The comments and suggestions from the consultations were being collated as at the end of the year. A draft raw water guidelines and criteria on aquatic ecosystems and guidelines for regulating spillage and dewatering in mining areas was also produced to ameliorate raw water quality of all freshwater bodies in Ghana.

Water Resources Assessment and Planning Programs

The Commission has been assessing the state of surface water quality and trends in Ghana 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.

The Water Quality Index (WQI), which gives an indication of the status of water pollution or otherwise, was used to assess the status of waters sampled. The maximum WQI of 71.0 was recorded on the Kpong (main Volta) and classified as fairly good. The overall mean was 51.54, which is also fairly good. The minimum WQI was 38.6, which was recorded at Lake Bosomtwe and classified as poor water quality.

Generally, 23 sampling points representing 56.1% improved in WQI from 2016 while the remaining 18 representing 43.9% dropped in WQI in 2017. The fight against 'galamsey' and temporal halt of activities of small-scale miners that was instituted in March 2017 led to improvement in the quality of water bodies such as Offin, Ankobra, Birim, Pra and Tano by the end of 2017.

Two flood hazard assessment interventions were carried out. The first was completion of the Disaster Risk Management (DRM) project, which aimed at strengthening flood management in the White Volta Basin by building capacity of the national agencies responsible for flood management for improved climate resilience in Ghana.

The second intervention was the development, calibration, validation of a transboundary flood forecasting model and FEWS for both Ghana and Togo for the effective management of floods in the Oti River Basin.

The Commission also carried out activities on improving resiliency of crops to drought through strengthening early warning within Ghana by facilitating transfer and capacity building for climate change adaptation focusing on dry season management and planning.

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.

During the year under review, WRC was engaged in activities of the Volta Basin Authority (VBA) including the recruitment process for a new Executive Director and the Deputy; Development of VBA Communication Strategy and Plan; Volta Basin Strategic Action Programme Implementation Project; Development of a Volta Basin Water Charter; and Study on the Establishment and Capacity Building of National Focal Offices (NFOs). WRC was also involved in five regional validation workshops carried out by the ECOWAS Water Resources Coordination Centre (WRCC).

WRC submitted data and information to the UNECE, the UN designated institute, on the status of Indicator 6.5.2 of the SDG 6, which tracks the transboundary basin area within the country that has operational arrangements for water cooperation. Data and information were also submitted on indicator 6.5.1, which measures progress on the state IWRM implementation.

Administration and Human Resources

The Commission had 34 staff members (22 male and 12 female) at post. Senior staff was 30 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 (CDs, diskettes, flash disks, emails, etc.) and hard copies (printed paper documents). 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 1,357.

Financial Management

The audited financial statements indicate that total income for 2017 was GH¢3,668,333. The general administrative expenditure amounted to GH¢3,963,264, which was a decrease of 48.8% from the GH¢7,741,505 recorded in 2016. This resulted in a negative net operating income of GH¢294,931 in 2017. The accumulated balance as at 1 January 2017 was GH¢2,548,687 and the recorded accumulated balance as at 31 December 2017 was GH¢2,253,756.

CHAPTER 1 – COMMISSION PROFILE

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 Commission was reconstituted on 27th November 2017 after the dissolution of the 4th Commission in January 2017. List of the appointed Commissioners is presented in Appendix 1.

1.5 Focus Areas for 2017

This 19th Annual Report of the WRC underscores the following for the year 2017:

- 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 the year 2017, a total of 75 water use permits were issued of which 39 were new permits and 36 were renewals.

Table 1 shows the distribution of water use permits recorded in 2017. The valid permits recorded in the register totalled 235 (details presented in Appendix 2). These permits cover 9 categories of water uses namely; aquaculture, commercial, construction, domestic/municipal, dredging, industrial, mining, irrigation and power generation. Majority of the permit holders were engaged in domestic/municipal water supply (48%), mining (15%), aquaculture (12%), and irrigation (10%).

Further analysis of the water users shows that the topmost water user was Ghana Water Company Limited (GWCL) accounting for 37% of the total permits and 78% 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	28	11.9
2	Commercial	7	3.0
3	Construction	4	1.7
4	Domestic and Municipal	112	47.7
5	Dredging	7	3.0
6	Industrial	18	7.7
7	Irrigation	23	9.8
8	Mining	35	14.9
9	Power Generation	1	0.4
Total		235	100

Figure 1 shows the trend of total permits registered from 2008–2017. The trend indicated a generally gradual increase of water users over the period 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 awaited documents for permits issuance.

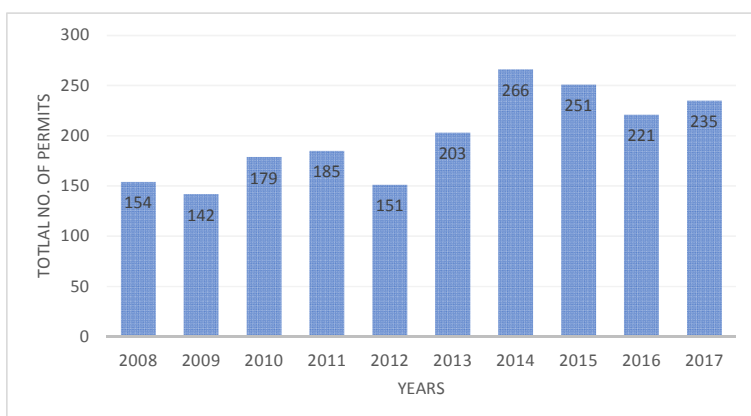


Figure 1: Trend of total number of permits registered from 2008 - 2017

2.2 Water Users Compliance Monitoring

In 2017, 28 water users were visited for compliance monitoring. Most of the aquaculture companies had stopped operations mainly due to financial challenges, while other users had expired permits, outstanding water use charges, and required equipment and structural works for efficient water use, monitoring and pollution prevention.

The assessment of environmental reports revealed that 17 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. 12 were engaged in mining, 3 in industrial and 2 in irrigation water use activities.

Table 2: List of water use compliant companies for 2017

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	Akosombo Textiles Limited	Industrial (textiles manufacturing)

6	Benso Oil Palm Plantation Limited	Irrigation
7	Cargill Ghana Limited	Industrial (cocoa processing)
8	Chirano Gold Mines Limited	Mining
9	Ghana Manganese Company Limited	Mining
10	Ghana Oil Palm Company Limited	Industrial (palm nut processing)
11	Ghana Rubber Estates Limited	Irrigation
12	Gold Fields Ghana Limited (Tarkwa Gold Mine)	Mining
13	Golden Star Resources (Bogoso Prestea) Limited	Mining
14	Mensin Gold Bibiani Limited	Mining
15	Newmont Ghana Gold - Ahafo	Mining
16	Newmont Ghana Gold – Akyem	Mining
17	Perseus Mining Ghana Limited - Edikan Gold Mine	Mining

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

- 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;
- inadequate periodic water quality monitoring by the WRC;
- inaccessibility of certain sites to monitoring officers; and
- absence of water testing probes to determine on-spot water quality parameters.

2.3 Administration of Drillers Licence and Groundwater Development Regulations

In 2017, a total of 29 drilling licences consisting of 17 new and 12 renewals were issued in the following categories:

Category A: 2 licences (companies with 5 or more water well drilling rigs)

Category B: 5 licences (companies with 2 to 4 water well drilling rigs)

Category C: 22 licences (companies with leased or 1 water well drilling rig)

The total number of valid licences registered for 2017 was 63, which was an increase of 14 from the 49 licenses registered in 2016 (Appendix 3). Figures 2 and 3 present the

comparison of licence holders in the various categories for 2016 and 2017, and the trend in total license holders registered from 2013 to 2017 respectively. The increase in 2017 could be attributed to enforcement by the WRC in collaboration with the relevant ministries/agencies for companies to acquire a drilling licence before allowed to bid for government projects.

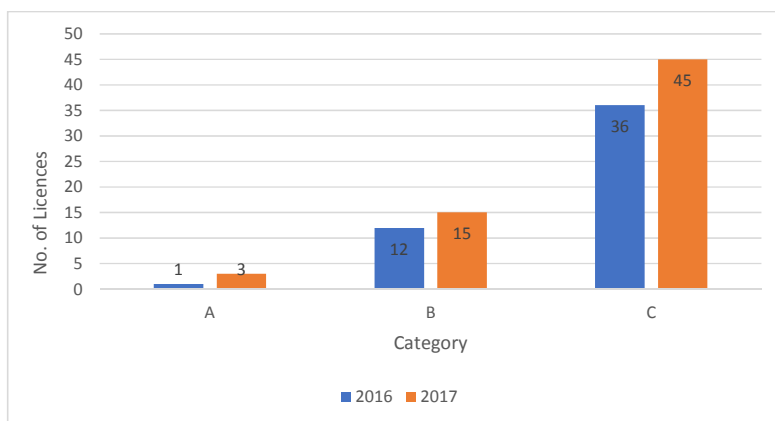


Figure 2: Comparison of licence holders in the various categories for 2016 and 2017.

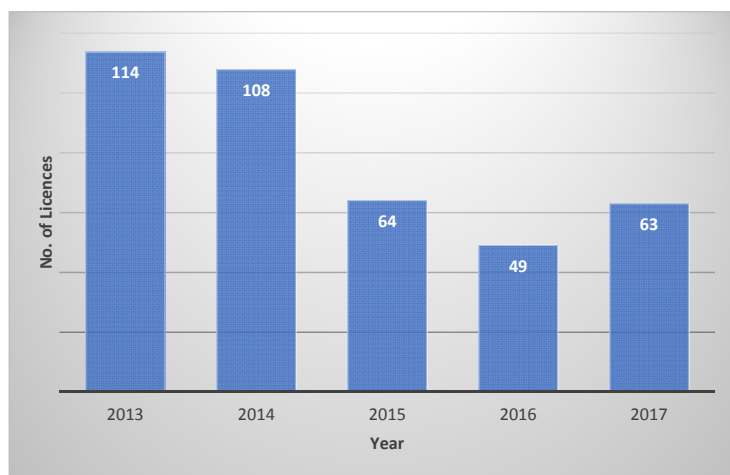


Figure 3: Trend of drilling licence holders from 2013 to 2017

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

- a. Non-specification of drilling of boreholes as a registered activity of the company under the Registered General Department.
- b. Operating without a valid licence from the Commission.
- c. Failure to submit reports on previous work(s) carried out.
- d. 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.
- e. 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.

Nationwide dissemination of the LI was completed through 10 regional stakeholder workshops while the receipt of applications for dam registration commenced at the end of the year.

CHAPTER 3 - MANAGEMENT OF PRIORITY RIVER BASINS

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

The programmes and 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), did not hold meetings since they had served the 3-year term of office and were in the process of being reconstituted. The BVBB had one meeting to identify critical water resources management issues to be addressed in the basin.

3.2 Ecological Monitoring

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

1. Upstream of the Densu River by the Densu Basin Board (DBB) from Koforidua through Densuano, Obuotumpan, Akwadum, Densuso, Apedwa Water Treatment Plant, Akyem Odumase to Potroase (see Figure 4).
2. Ecological monitoring by the Pra Basin Board (PBB) and executives of the Community Resources Management Area (CREMA) at the Lake side, Abono. This enabled the PBB to be acquainted with the activities and challenges of the CREMA in the newly designated Lake Bosomtwe Biosphere Reserve (See Figure 5).
3. Another monitoring exercise by the PBB in collaboration with EPA to ascertain the status of water quality of the Lake Bosomtwe. Six local communities within the Lake Bosomtwe Biosphere Reserve (Abono, Pipie No. II, Anyinatiase, Ankaase, Apewu and Dompaa) were involved in the monitoring exercise (Figure 6).
4. The Tano Basin Board (TBB) ecological monitoring along “hot spots” of the Sunyani stream, Tano River and some of its tributaries at Adongo village and Newmont Ghana Gold Limited, Ahafo mine, to ascertain the impacts of anthropogenic activities on the water resources.
5. The BVBB conducted ecological monitoring along the Black Volta River and some of its tributaries to ascertain the impacts of anthropogenic activities on the water resources. Some observations made were erosion, siltation, and improper waste management along the river banks as well as communities not well informed about buffer zones and the need for their management.

It was recommended that a Water User Association (WUA) should be formed in the Jambusi community to facilitate the management of the water use challenges; develop an action programme to solve the erosion on the banks of the river at Bamboi; and to educate the communities using participatory approach on buffer zone creation, its enforcement and management (Figure 7).

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 water users contributed to the results presented in sections 2.1, 2.2 and 2.3.
2. Identification of major water users and borehole drillers to regularise their activities. Twenty-five (25) major water users were identified and served with notification letters to regularise their activities at Techiman, Yefri, Busua, Nkoranza, Bonsu, Fiapre, Yeji and Sunyani of which six (6) complied accordingly. Another twenty-four (24) major water users were identified and advised to regularise their activities in Wa Municipality, Nandom, Lawra, Nadowli- Kaleo, Bole, Sawla Tuna Kalba, Lambusie-Karni and Sissala West Districts of which six (6) complied.
3. Investigations and interventions halted most of the illegal mining activities within the Atewa Range Forest Reserve, at the source area of the Densu river. Similarly, the red dye pollution of the Nsukwao River by a Batik, Tie and Dye enterprise at Koforidua was comprehensively dealt with to prevent its reoccurrence. A dam breach over the Nsaki River at Deikrom was attributed to poor execution of works which was unauthorised by the WRC. The dam owner was sanctioned appropriately.

3.4 Collaborative and Coordination Activities

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

1. Initiation of the Special Treat Project to construct and operate a wastewater treatment plant to serve the Nsawam Medium Security Prison. The Project when completed would serve the Prison as well as the three neighbouring Municipal Assemblies (the Nsawam Adoagyiri, Ga West and Ga Central) under a public-private-partnership.
2. Support to the 4-year Green Livelihood Alliance Project aimed at assisting the Atewa, East Akyem, West Akyem, Denkyembuor, Kwaebibirim and Fanteakwa District Assemblies to integrate the Sustainable Development Goals (SDGs) into their Medium-Term Development Plans to ensure sustainable ecosystems in selected areas. High level training workshops were organised for the Assemblies as

part of the process of intensifying and sustaining advocacy in the Densu Basin.

3. Consultation and negotiations with relevant institutions (Ga South Municipal Assembly, MESTI, Ministry of Roads and Highways, etc.) to stop illegal commercial and pollution activities especially at the Weija Tollbooth - Tuba, cage-culture in the Weija Lake and farming along the lake and Densu river at Aboabo (pig rearing).
4. Collaborative interventions in the Lake Bosomtwe Biosphere Reserve with A Rocha Ghana trained the CREMA Executives on the CREMA concept and their roles and also trained selected farmers who were predominantly women on Climate Change; embarked on education/training of environmental clubs at Abono JHS and Pipie No II Primary and JHS with the Man and Biosphere (MAB) Committee (Figures 8 and 9). Hosted a German delegation from Lake Schalsee Biosphere Reserve and organised community durbar at Ankaase with the MAB Committee, CREMA, and the Bosomtwe and Bosome Freho District Assemblies.
5. Collaboration with MMDAs including Sekyere South District Assembly and the statutory planning committee to avert an intended project along a waterway; Asutifi North District Assembly to develop a Master Plan for WASH coverage in the District; and Nadowli-Kaleo, Lawra, Wa West and Sawla-Tuna-Kalba DAs on regularising water users and drilling entities.
6. Collaboration on research and development: hosted and trained two (2) attachment students from the Regional Water and Environmental Sanitation Centre in Kumasi (RWESCK) in the Pra Basin secretariat on water resources regulation and management; jointly with EPA and the Techiman Traditional Council planted 1000 species of wawa, mahogany, sapele and acacia trees at the banks of River Tano in Techiman to commemorate the World Environment Day; engaged CSIR-WRI to conduct the national river/stream water quality monitoring and assessment; together with WASCAL undertook capacity building training on climate change; and supported MoFA, UNDP and UNEP to validate, assess and select adaptation options in the three Northern Regions via a consultative stakeholder meeting.
7. Participated in most of the public hearing meetings organized by the EPA as part of the Environmental Impact Assessment processes.

3.5 Development and Implementation of River Basin IWRM Plans

The reviewed Densu Basin IWRM Plan was strategically implemented such as actions on indiscriminate dumping of solid and liquid waste, encroachment and building in water ways, and illegal sand winning and quarrying.

The White Volta Basin IWRM was under review with all the revised materials (maps and workshop results) collated for drafting of the plan. In addition, the 10.2km buffer zone created in the basin was managed to promote planted vegetative land strips along the

water bodies to protect, conserve and sustain the fresh water resources in Bazua, Djentiga 1 and 2, Pwalugu Kubore/Teogo, Yarigungu, and Mognori in Upper East Region.

The Ankobra Basin IWRM Plan was also under review during the year. All the review workshops were completed and relevant materials were also collated. The revised plan takes into consideration the level of degradation of the riparian ecology due to extensive mining activities and others.

Implementation of the Pra Basin IWRM Plan was routinely carried out. Additionally, a fruit tree orchard was established with support from A Rocha Ghana to secure the buffers of four (4) communities around the Lake Bosomtwe (see Figure 10).

Implementation of the Tano Basin IWRM Plan focused on the restoration of buffer zones. A total of 12 hectares of degraded land was demarcated to be reforested. Seven (7) hectares were located along the Tano and Bia rivers and the GWCL reservoir at Berekum. The remaining five (5) hectares were restored at the confluence of the Tano and Disue rivers at Pantoso and Sewfi Akura in the Western Region.

The processes towards developing IWRM plans for the Black Volta and Oti basins were initiated in the year. The initial baseline studies and the application of SEA tools – identification and prioritisation of water resources issues and assessment of the effectiveness of actions were completed for both basins towards the development of the IWRM plans.



Figure 4: Ecological Monitoring by the Densu Basin Board



Figure 5: Pra Basin Board with CREMA Executives at Lake Bosomtwe, Abono



Figure 6: Monitoring the Water Quality of the Lake Bosomtwe with EPA



Figure 7: Ecological monitoring with community members and GWCL staff at Jambusi



Figure 8: Training of Women Groups around the Lake Bosomtwe



Figure 9: Training of Environmental School Clubs



Figure 10: Lake Bosomtwe Orchard Establishment for Buffer zone Restoration

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 Educational Materials and Publications

About 1,000 and 2,000 copies of Diaries and Calendars respectively were printed for distribution to various stakeholders.

An annual performance report was also produced outlining improvement in the state of water quality, protection of water sources and identified challenges that need to be tackled.

4.2 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 “Water and Wastewater” to highlight the role of wastewater in attaining the SDGs. The celebration was climaxed on March 22, 2017 at the Action Chapel International, Accra. It was marked with a forum and flag hoisting ceremony, which was well attended by management and staff of water and water related institutions, participating schools, the media and the general public. Three schools that took part in a tree planting competition launched in 2016 were awarded with water storage tanks.
- A stakeholder workshop in each of the ten (10) regions to disseminate the Dam Safety Regulations L.I 2236 and engage stakeholders for inputs in preparation of Buffer Zone Regulations.
- A symposium and a tree planting exercise in collaboration with GWCL for students of Barekese SDA Nursing Training College in the Barekese Reservoir catchment (See Figure 11). A poetry, drama and folklore competition was also organised with A Rocha Ghana and the Ghana Education Service, Bosomtwe District, to sensitize pupils on their roles in conserving Lake Bosomtwe.
- Public hearing in collaboration with the EPA on the proposed re-initiation of the underground mining project of Mensin Gold Bibiani Limited in the Bibiani Anhwiaso Bekwai District.

- The World Environmental Day celebration in Techiman with EPA, Techiman Traditional Council and Techiman SDA JHS.

4.3 Educational Campaigns and Media Events

As part of the WWD celebration, there was a media launch to promote a media outreach campaign on improving the nation's fresh water resources. A special media briefing on the thematic areas: wastewater and drinking water quality; wastewater reuse and recycling; and wastewater and aquatic biodiversity was also organised.

Other media events were interviews granted 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, Joy TV 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 in the basins. These were radio discussions on Space FM in Tarkwa and Trinity FM in Bogoso; and five (5) radio panel discussions and interviews on different occasions on Kessben TV, Luv FM, Hello FM, Sunsum FM and Silver FM in Kumasi (Figure 12).

Educational and training seminars were organised for:

- senior staff of the Ghana Oil Palm Development Company Limited at Kwae in the Eastern Region to aid effective implementation of the Buffer Zone Policy;
- the twenty (20) security personnel at the Weiya Dam security post;
- the revived Environmental School Clubs of Abono MA JHS, Pipie No II Primary and JHS, and Obo JHS in collaboration with EPA; and
- key stakeholders in the Black Volta Basin to equip them with relevant knowledge, tools and skills to facilitate the integration of climate change and adaptation, monitoring and evaluation tools in the planning process for the basin. This was in partnership with IUCN.

4.4 Service Provision

The provision of services focused on making the WRC website and other social media platforms more interactive. Hence, WRC documentaries were linked to YouTube channel, the WRC Facebook and Twitter page for the general public to view and the results tracked.

Results of the tracking showed that the number of viewers of the documentaries increased from 499 new and 317 returning viewers (July 15–Sept 20, 2017) to 1,031 and 481 respectively (Dec. 20, 2017). The reason for the increase was the linkage of the three platforms as well as the upload and live streaming of WRC activities.

4.5 Networking

The networking actions taken during the year were building partnerships with MMDAs, MDAs, NGOs and academic and research institutions; and participation in national and international conferences/forums and meetings. These were the:

- participation in Inter-Regional Workshop on South-South Cooperation for Upscaling IWRM and Ecohydrology as Tools for Achieving Water Security in Africa;
- meetings with A Rocha Ghana; the Development Institute; the public regulatory agencies of the water and environment sectors; and BesNet Ghana – a network of businesses that have come together to support water resources management and ecotourism; and
- meeting with GWCL to develop a documentary on IWRM and water treatment.



Figure 11: Students of SDA Nursing Training College, Barekese in a Tree-Planting Exercise



Figure 12: Awareness Creation and Education Program on Sunsum FM

CHAPTER 5 - WATER GOVERNANCE ACTIVITIES

5.1 Policy Development and Implementation

The Riparian Buffer Zone Policy was the main policy document which was implemented during the year. The policy, which was formally launched in May 2014, 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. Further details are provided in section 7.1 (v) for the buffer zone scheme, which was introduced in the Black Volta basin under the Strategic Action Programme Priority Actions Project, a World Bank supported project through the Volta Basin Authority (VBA) to the riparian countries of the Volta Basin.

5.2 Development of Legislative Instruments

Regulations are being developed to enforce provisions of the Buffer Zone Policy. The initial technical text of the regulations was developed and subjected to nationwide consultations. The comments and suggestions from the consultations were being collated as at the end of the year.

A draft raw water guidelines and criteria on aquatic ecosystems and guidelines for regulating spillage and dewatering in mining areas were also produced to ameliorate raw water quality of all freshwater bodies in Ghana.

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 as well as a National Dam Safety Unit (NDSU).

With respect to the NDSU, a Dam Safety Officer was contracted temporarily to continue the coordination and facilitate the setup of the NDSU. The request to recruit permanent staff for the NDSU was followed intently to ensure its approval.

The set up of the Oti Basin Office and its functional Basin Board was part of the process of developing the IWRM plan for the basin. The Northern Regional Coordinating Council was approached to assist the WRC acquire office space for the Oti Basin office.

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 the months of February and July 2017. 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 annual trend of water quality from 2005 to 2017. The maximum WQI of 71.0 in 2017 was recorded in the Kpong (main Volta) and classified as fairly good. The overall mean in 2017 was 51.54, which is also fairly good. In 2017, the minimum WQI of 38.6 was recorded at Lake Bosomtwe in the Ashanti region and classified as poor water quality. For the first time, Lake Bosomtwe recorded high values of pH (9.2 and 9.28) in both the dry and wet seasons.

Table 4: Trends of water quality from 2005 to 2017

Statistics/year	2005	2006	2007	2008	2010	2011	2012	2013	2014	2015	2016	2017
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
Maximum	68.9	82.8	81.0	65.6	76	69.3	65.6	62.2	62.6	68.6	83.1	71.0
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

Figure 13 illustrates the water quality trends from 2005 to 2017, while Table 5 presents the WQI of the major water bodies in the country from 2010 to 2017.

Generally, 23 sampling points representing 56.1% improved in WQI from 2016 whiles the remaining 18 representing 43.9% dropped in WQI in 2017. River Dayi at Hohoe also recorded a pH of 10.3 in the dry season making the water highly alkaline, which resulted in a significant drop in the WQI from 63.55 in 2016 to 40.5 in 2017. Samples were inaccessible for River Oti at Saboba and River Ankobra at Ampansie in the wet season due to heavy rains.

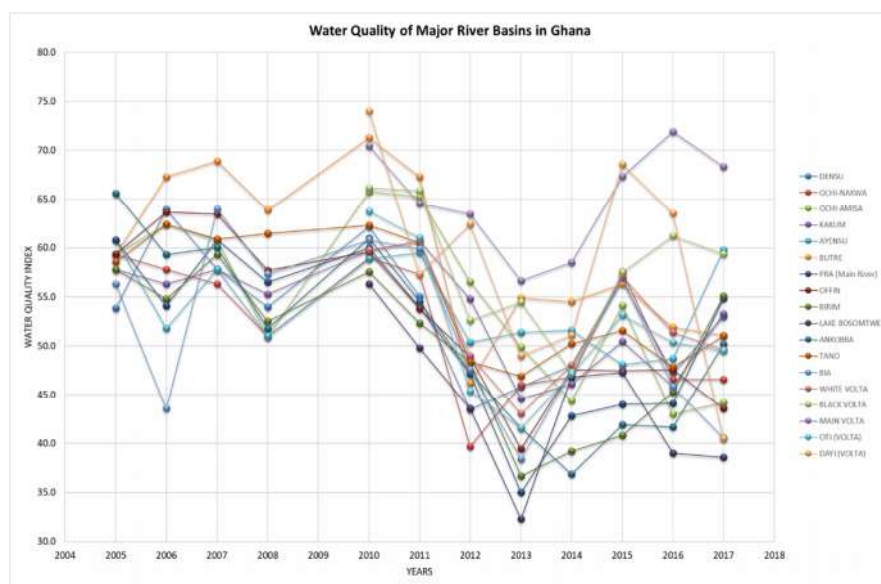


Figure 13: Water Quality trends of Major Water Bodies from 2005 to 2017

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

Sampling Sites	Water Quality Index per Year (2010-2017)							
	2010	2011	2012	2013	2014	2015	2016	2017
Adiembra - R. Offin	61.4	55.3	46.2	35	32.8	38.86	49.68	39.9
Aframso - R. Afram	55.8	63.5	54.3	42.2	53.5	48.47	45.89	42.5
Ajena - Main Volta	73	69.3	65.6	62.2	57.3	66.63	50.06	64.9
Akim Brenase-River Pra (mid)	64.2	57.1	46.2	32.4	41.5	50.07	69.42	52.1
Akim Oda-River Birim (Pra Basin)	58.3	53.5	44.9	38.4	40	38.91	43.97	56.6
Ampansie R. Ankobra	59.6	48.5	40.9	42.8	30	42.33	38.23	45.1
Baafrikrom Reservoir	71.2	67.8	56.3	42.1	38.2	56.33	50.32	47.5
Bamboi - Black Volta	68.5	64.4	54.8	53.2	45.2	53.71	62.41	61.6
Bonsaso - R. Bonsa	65.7	58.3	47.6	45.1	41.3	38.33	44.41	51.1
Buipe - Black Volta	63.8	67.4	50.4	51.7	52.2	59.85	68.28	55.7
Daboase – River Pra	56.8	55.3	46.2	35.7	45	43.04	41.48	61.4
Daboya - White Volta	61.5	61.8	44.9	40.6	45	56.29	52.73	50.3
Dadieso-River Bia	60.8	59.9	47.6	38.4	47.5	56.9	45.83	40.6
Damanko – Oti	61.5	63.1	47.6	44.9	42.8	48.59	53.66	58.2
Dominase- River Ankobra	55.2	57.2	51.8	40.6	41.4	42.41	47.51	48.1
Dunkwa- River Offin (Pra Basin)	57.8	49	39.7	33.6	37.7	45.31	43.78	44.1
Ekosi-River Ochi-Nakwa	59	57.3	39.7	46	46.8	57.57	46.59	46.6
Elubo- River Tano	64.3	61	38.4	54.1	45.9	49.03	40.92	43.7
Ewusijo-River Butre	71.3	67.3	46.2	54.9	54.5	56.34	51.91	51.1
Hohoe - R. Dayi	74	57.3	62.4	49	51.1	68.61	63.55	40.5
Kpong - Main Volta	70.6	68.5	64	51.1	62.6	68.11	63.3	71
Lake Barekese –River Offin	59.6	57.1	60.8	49.8	57.8	58.33	53.1	46.8
Lake Bosomtwe	56.3	49.8	43.6	32.3	46.8	47.3	39.03	38.6
Lake Brimso-River Kakum	59.7	60.7	54.8	44.6	46.1	50.5	45.85	53.3
Lawra - Black Volta				45.6	44.5	58.91	52.93	60.8
Mangoase- River Densu	57.3	52.3	27	36.3	43.5	52.47	43.78	49.6
Mankesim-River Ochi-Amisa	60.4	62.7	56.8	49.9	50.6	54.15	43.01	40.9
Mankrong J – River Ayensu	58.9	59.5	50.4	51.4	51.6	48.1	48.74	59.8
Nabogo - White Volta	61.9	60.4	39.7	41.9	52.7	62.47	54.82	52.5
Nsawam- River Densu	53.9	52.4	47.6	37.5	52.1	45.66	41.01	47.3
Osino- R. Birim	56.8	51.2	51.8	35	38.4	42.69	46.65	53.6
Potroase- River Densu	76	62.2	50.4	51.2	51.7	68.51	55.24	63.1
Prestea –River Ankobra	63.5	54.3	49	38.1	34.9	44.61	36.62	56.5
Pwalugu -White Volta	55.8	59.9	62.4	46.7	46.5	52.56	46.59	45.9
Sabari - R. Oti	65.7	61.9	42.3	36	55.8	51.01	49.15	48.1
Saboba -R. Oti	64	58.1	46.2	43.8	42.8	59.86	48.3	42.3
Sefwi-Wiawso – River Tano	59.2	59.5	54.8	41.6	52.3	52.53	57.3	53.5
Sogakope - Lower Volta	67.8	55.8	60.8	50.7	55.6	67.38	83.07	69.2
Tanoso -R. Tano	63.4	61	51.9	45.1	52.5	53.12	45.39	55.7
Twifo-Praso - R. Pra	58.9	49.4	49	37	41.9	38.89	41.19	51
Weija Lake	61.5	53.2	49	58.2	44.7	59.75	48.89	51.9

The fight against ‘galamsey’ and temporal halt of activities of small-scale miners that was instituted in March 2017 led to improvement in the quality of water bodies such as Offin, Ankobra, Birim, Pra and Tano by the end of 2017. This is evidenced by the significant decreases in Total Suspended Solids (TSS) and Turbidity values in the Pra, Ankobra, Birim, Offin and Bia rivers shown in Table 6.

Table 6: Average turbidity results of February and July for selected sites

Sampling sites	Turbidity (NTU)	
	February 2017	July 2017
Akim Oda-River Birim	3,822	65
Osino - River Birim	2,550	192
Twifo Praso- River Pra	1,805	342
Dunkwa- River Offin	3,978	532
Adiembra - River Offin	4,150	58
Dadieso-River Bia	9,240	109

6.2 IWRM Plans

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

A key planning activity was the completion of the ‘No/low Regrets’ Investment and Financing Strategy for the White Volta Basin. This was undertaken under the Water, Climate and Development Programme (WACDEP) by the Country Water Partnership of the Global Water Partnership and facilitated by the Commission.

The Investment Plan outlines the Investment Objective and Priorities in terms of the actions to implement to address the problems related to IWRM with respect to water security, climate resilience and development in the White Volta Basin. The Investment Financing strategy outlined innovative approaches to fund the Plan including:

- i. development of Special Purpose Vehicle to attract investments for development and continuous maintenance of water resources infrastructure in the basin;
- ii. imposition of Special Tax/Levy on Mineral, Petroleum, and rock resources exploration which have direct bearing on water resources in the basin. Effective implementation of such a regime would prove to be the bedrock of water resources governance support in the basin;

- iii. revision of the Water Abstraction Fees. This implies the revision of relevant aspects of the Water Use Regulations LI 1692 to pave way for increasing rates charged for abstracting raw water for commercial purposes. The funds accrued would be directed towards enhancing water resources governance in the basin;
- iv. fund raising and proposal development. This aims at identifying funding sources and working at winning such funding to support various projects and programs outlined for the basin; and
- v. efficient use of District Assemblies' Common Fund: This strategy seeks to draw contributions (say, 5%) of the District Assembly Internally Generated Funds to a central account created by the Basin Secretariat. The funds accrued will be used for developing and maintaining water resources infrastructure and supporting the governance of the natural environment in the basin.

6.3 Flood Hazard Assessment

Two flood hazard assessment interventions were carried out. The first was completion of the Disaster Risk Management (DRM) project, which aimed at strengthening flood management in the White Volta Basin by building capacity of the national agencies responsible for flood management for improved climate resilience in Ghana. The final activities that were undertaken included:

- testing of the developed communication strategy in communities;
- testing the improved Flood Early Warning System (FEWS) for more accurate flood forecasting during the flood season in White Volta Basin;
- production of the technical report;
- financial and technical auditing which included field verification of installations; and
- submission of the final report to the World Bank.

The second intervention was the development, calibration, and validation of a transboundary flood forecasting model and FEWS for both Ghana and Togo for the effective management of floods in the Oti Basin. As part of the development of FEWS for the Oti basin, experts from the WRC, HSD and VRA were trained in hydrological and hydraulic modelling with Sobek and flood forecasting.

6.4 Drought Early Warning

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

- A national workshop on dry season management on seasonal and long-term scale was organised to identify the gaps and needs for inclusion into the dry season management component of the project.
- Identification and assessment of needs for local adjustment to existing practices and methods for dry season management. The needs assessment was based on the outcomes from the national workshop and stakeholder meetings.
- Developed a detailed description of the proposed technology with respect to adjustment of current technology or method; requirements for functionality and validation of a specific use case in Ghana.
- Technical training was undertaken for selected staff within the key organizations to provide detailed knowledge and capacity in using the transferred technologies in Ghana.

The Commission submitted a proposal and was granted approval for the readiness and preparatory support from the Green Climate Fund (GCF) to develop a full proposal.

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), 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, which is shared by six (6) countries: Benin, Burkina Faso, Ivory Coast, Ghana, Mali, and Togo, 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. New Executive Directorate

The recruitment process for a new Executive Director and the Deputy, which involved the participation of the focal institutions of the six-member countries, was completed.

The Assembly of Heads of State and Government at its 2nd Summit held on the sidelines of the ECOWAS Summit in June 2017 in Monrovia, Liberia formally appointed Mr. Robert Yaovi Dessouassi and Mr. Millogo Dibi as the Executive Director and Deputy Executive Director of VBA, respectively for a four-year period. Furthermore, the Assembly of Heads of State and Government authorised the Chairman of the Council of Ministers to henceforth appoint the Executive Directorate at the end of the recruitment process, and upon approval by the Chairman of the Assembly of Heads of State and Governments.

2. 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 the 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 consultant was recruited and the initial activities were carried out to develop the Communication Strategy and Plan, as well as define and provide basic communication support materials.

3. 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 Global Environmental Facility. 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.

The following activities were carried out in the year under review:

- Forestry Consulting Unit (Ghana) Limited carried out feasibility studies on baseline conditions and cost options to define the logic of the intervention of the sub-project.
- The report of the studies was validated at a workshop held in Bole in August, 2017 and attended by beneficiaries of the project including representatives of the local district assemblies, traditional authorities, and civil society groups.
- Social and environmental screening activities within the basin at Chache and Agbelikame in the Bole District in March, 2017. The screening reports were validated and submitted to the EPA for assessment to determine whether an Environmental Impact Assessment needs to be carried out.
- Management Committees were established in Chache and Agbelikame communities to monitor, supervise and coordinate the reforestation and provide information and feedback.

4. 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.

The inception workshop for the study was held in June, 2017 in Ouagadougou, Burkina Faso on the methodology for the study, content of the three phases of the Water Charter development process, expected outputs, and obtained stakeholders' concerns.

The consulting team, BRLi, started work on the 1st phase in Ghana in July, 2017 with the identification of main water uses and relevant stakeholders; a diagnostic review and prioritisation of transboundary IWRM issues in consultation with stakeholders in Ghana; and suggested solutions and expectations for inclusion in the Water Charter.

A national stakeholder validation workshop was organized in December, 2017 in Bolgatanga to review the phase 1 draft report covering the Technical, Legal and Institutional Diagnostic Study.

5. Study on the Establishment and Capacity Building of National Focal Offices (NFOs)

VBA engaged the consultancy firm, Initiatives Conseils International (ICI), to carry out this 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 NFOs.

In connection with the study, the National Focal Point, National Assistant/Operational Focal Point and relevant stakeholders in the water, finance, foreign affairs and environment sectors in Ghana were engaged and interviewed in June 2017. The engagements centred on the strengths and weaknesses of focal structures, and the opportunities and threats to the focal structures. The different roles in the mobilisation and collection of annual financial contributions and arrears were also assessed.

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. In August 2017, WRCC conducted the regional workshop

to validate the preliminarily drafted Convention, Statutes and Organic Texts for the proposed Comoe-Bia-Tano Basin Authority.

WRCC also organised other regional validation workshop on the following:

- the draft Guidelines for the Management of Shared Water Resources in West Africa in May 2017;
- the Gender Integration in IWRM: Situation Analysis and Outline of Actions Program for effective and efficient implementation in West Africa in September 2017;
- the set of reference indicators on the state of IWRM implementation in the 15 ECOWAS member states and at the regional level in October 2017; and
- the strategy document and action plan for capacity building of stakeholders in the field of IWRM in West Africa and training module, also in October 2017.

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.

In the year under review, WRC submitted data and information on the status of SDG Indicator 6.5.2, which tracks the transboundary basin area within the country that has operational arrangements for water cooperation. Data and information were also submitted on the indicator 6.5.1, which measures progress on the state IWRM implementation. The submitted results were to be published as part of the global report on the progress of SDG 6.5 in 2018.

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. Water Resources Management; Human Resource Development Cooperation Programme in China, October 15 - November 14, 2017
2. Managing and Leading In-House Legal, October 26-27, 2017
3. Harmonized Approach to Cash Transfer Training, November 1–2, 2017
4. Database Training for staff, November 7, 2017
5. Diagnosis of Water Courses in France, December 18-22, 2017

8.2 Academic Courses

One permanent staff and two contract staff members completed their Masters degree program while one permanent staff completed her Bachelors program:

1. Francis Acquah-Swanzy, MSC. Water Resources Management
2. Ethel Ansaah Addae, MPhil. Geography & Regional Planning
3. Nana Oku-Afari Opoku, Msc. Geographical Information Systems
4. Laiza Sully, Bachelor of Bus. Admin. in Human Resource Management

Mawuli Lumor completed his PhD degree program.

8.3 Workshops, Meetings and Conferences

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

1. Regional Steering Committee Meeting on Preparation of the Greater Accra Regional Spatial Development Framework (February 1, 2017)
2. Workshop on country-led monitoring to track progress toward achieving the SDG 6 targets, organized by the Ministry of Sanitation and Water Resources (February 16-17, 2017)
3. SIRVIR West Africa Stakeholder Mapping Workshop on Improving Environmental Management Using Earth Observation Technologies (March 2-3, 2017)

4. Disclosure workshop on “Environmental Baseline Monitoring and Proposed Marine Spatial Planning” organized by EPA (March 16, 2017)
5. Volta Basin Strategic Action Programme Implementation Project reforestation activities organized by VBA (March 20-25, 2017)
6. World Bank Water Week, Washington DC (March, 2017)
7. Workshop on the development of Buffer zone LI and Dissemination of Dam Safety Regulations, Takoradi, Koforidua, Kumasi, Sunyani, Ho, Bolga, Tamale and Wa (June – December, 2017)
8. SIRVIR West Africa Service Design Workshop on Improving Environmental Management Using Earth Observation Technologies (June 9-10, 2017)
9. Workshop on “Implementing the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication” organized by FAO (June 20-23, 2017)
10. Workshop on the Greater Accra Region Sustainable Development Planning Framework (June 27, 2017)
11. Inception workshop for the study on the development of the Volta Basin Water Charter organized by VBA (June 29-30, 2017)
12. Regional Workshop on Dam Safety Regulations and Draft Regulations of the Buffer Zone Policy (July 18, 2017)
13. Workshop on Integrating Ecosystem Services and Sustainable Development Goals into the Denkyembour District Assembly Medium Term Development Plan, 2018-2021 (September 13-14, 2017)
14. Working Group Meeting on Zero Draft Policy on Environmental Management of Oil and Gas (October 18-19, 2017)
15. Workshop to validate the revised Sector Specific Forest and Wood Industry Sector Guidelines organized by EPA (October 25, 2017)
16. Inception workshop for the Green Climate Fund project (October, 2017)
17. Workshop on Strengthening Flood Forecasting in the Volta Basin: Science cooperation with Kobe and Kyoto Universities on Flood Forecasting (November 3-15, 2017)
18. Greater Accra Regional Workshop on Dam Safety Regulations and Formulation of Buffer Zone Regulations (November 16, 2017)
19. National Workshop on Report Launch and Dialogue on Public Perception of the State of Corruption, Public Accountability and Environmental Governance in Ghana (November 29 and December 5, 2017)
20. Training Workshop for Small-scale Miners on Environmental Sustainance (Impacts, Policies, Laws and Regulations at the Atewa Landscape, December 12-13, 2017)
21. 8th Civil Society Annual Parallel Review of the Natural Resources and Environment Sector in Ghana (December 14, 2017)
22. Training Workshop for Civil Society Organizations on Forest and Water Resource Management and Responsible Mining (December 19, 2017)

8.4 Committees

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

1. Steering Committee of the Oti Basin Flood Hazard Assessment project, VBA, Accra (June, 2017).
2. Steering Committee for the implementation of the Environmental management plan for Akosombo and Kpong dams, Akosombo.
3. Steering Committee of the Pwalugu Multipurpose Dam Project, Volta River Authority.
4. Joint Ghana-Togo Project Coordination team for the construction of a hydropower dam on River Oti, Ministry of Energy
5. Sector Medium-Term Development Plan Technical Working Group at the Ministry of Sanitation and Water Resources Ghana – Steering Committee, Togo water supply scheme
6. Annual Progress Reporting and Reviewing of Sectorial Development Agenda/Goals under the auspices of National Development Planning Commission
7. Committee on Annual Progress Reporting and Reviewing of Sectorial Development Plans at the Ministry of Sanitation and Water Resources
8. Natural Resources EIA Technical Review Committee meetings hosted by EPA. Reports reviewed by WRC: Environmental Management Plan of African Golden Tilapia Farm Limited; Environmental Management Plan of Tropo Farms Limited; and Environmental Management Plan of African Golden Tilapia Farm Limited.

8.5 Human Resources

The Commission had 34 staff members (22 male and 12 female) at post. Senior staff was 30 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. Mr. Enoch B. Asare | Director, Planning |
| 4. Mrs. Bernadette Adjei | Chief Legal Officer |
| 5. Ms. Linda G. Ennison | Chief Admin. Officer |
| 6. Dr. Ronald K. Abrahams | Chief Officer, Densu Basin, Koforidua |
| 7. Dr. Bob Alfa | Chief Engineer – Surface Water |
| 8. Mr. Aaron Aduna | Chief Officer, White Volta Basin, Bolga |
| 9. Mrs. Adwoa Dako | Principal PRO |

10. Mr. Steven A-Boateng	Principal Accountant
11. Mr. Mawuli Lumor Principal	Principal Officer, Ankobra Basin, Tarkwa
12. Ms. Esi Biney	Principal Ecologist
13. Mr. George Baah	Senior Information Tech. Specialist
14. Mrs. Dufie Abena Bremang	Senior Officer, Pra Basin, Kumasi
15. Mr. Solomon Danso-Ankamah	Senior Officer, Tano Basin, Sunyani
16. Mr. Eric Muala	Senior Monitoring Officer
17. Mr. Edwin Afosah-Anim	Senior Engineer – Surface Water
18. Mr. Joachim Ayiwe Abungba	Basin Officer, Black Volta Basin, Wa.
19. Mr. Fred Wiredu Bremang	Information Tech. Specialist
20. Ms. Afran Anti Adwoa Fosua	Monitoring Officer
21. Mr. Kwadwo Twum Karikari	Assistant Accountant, Head office
22. Mr. Francis Acquah-Swanzy	Assistant Officer, Ankobra Basin, Tarkwa
23. Mr. Yaw Boateng Opoku	Assistant Officer, Pra Basin, Kumasi
24. Ms. Berlinda Prah	Assistant Officer, Tano Basin, Sunyani
25. Ms. Dorcas Abban	Senior Administrative Officer, Densu Basin
26. Ms. Grace Quaicoe	Administrative Officer, Ankobra Basin, Tarkwa
27. Mr. Emmanuel M. Mensah	Administrative Assistant, Head Office, Accra
28. Mrs. Florence M. Dagbanu	Assistant Admin. Officer, Head Office, Accra
29. Ms. Abigail Adziakpor	Assistant Admin. Officer, Head Office, Accra
30. Ms. Liaza Sulley	Assistant Admin. Officer, Bolga.
31. Mr. Edward K. Toah	Chief Driver, Head Office, Accra
32. Mr. Samuel Quaye	Chief Driver, Head Office, Accra
33. Mr. Daniel Botchway	Senior Driver, Head Office, Accra
34. Mr. Papa Salifu	Labourer, Head Office, Accra

Secondment:

1. Mad. Comfort Aba Ennin	Internal Auditor
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Contract Appointments:

1. Mr. Roland Amanor	Assistant Officer, Water Quality (Accra)
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2. Ms. Ethel A. Addae	Assistant Officer, Planning (Accra)
3. Mr. Andrew Asaviansa	Assist. Officer (WVB)
4. Mr. Yaw Appiah-Adjei	Library Assistant
5. Ms. Raissa Manomba-Asamoah	Assistant Officer (Densu)
6. Mr. Solomon Ofori Sarkodie	Engineer, Groundwater
7. Mr. Yaw Konadu Yiadom	Assistant Officer (Tano)
8. Mrs. Zenabu Gyamfi	Admin. Assistant (Accra)
9. Ms. Stella Awusi	Cleaner (Tano)
10. Madam Emelia Boateng	Cleaner (Pra)
11. Mrs. Joyce Annor	Cleaner (Accra, Annexe)
12. Ms. Pascalina Nsoh	Cleaner (WVB)
13. Ms. Sylvia Amena	Cleaner (Ankobra)
14. Mr. Baba Salifu Kantinka	Security Officer (Ankobra)
15. Mr. Joseph Baba Abongo	Driver (WVB)

8.6 Library

The library in the year 2017, 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 40 books, newsletters, journals and compact disks were received and logged into the library database, which brought the total items in the library to 1,357.

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 2017 was GH¢3,668,333. On the other hand, details of expenditure show that general administrative expenditure for the period amounted to GH¢3,963,264 a decrease by 48.8% from the GH¢7,741,505 recorded in 2016. This resulted in a negative net operating income of GH¢294,931 in 2017. The accumulated balance as at 1 January 2017 was GH¢2,548,687 and the recorded accumulated balance as at 31 December 2017 was GH¢2,253,756.

The detailed Audited Financial Statements for the year ended 31 December 2017 is presented in Annex 4.

Appendix 1 – Members of the Water Resources Commission

- | | | |
|-------------------------------|---|-------------------------------------|
| 1. Cdr. J. C. Addo (Rtd.) | - | Chairman |
| 2. Mr. Jacob Ziema 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 – 2017

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
1	8 Degrees North Limited	Tano North	Duayaw Nkwanta	Groundwater	Abstraction	Industrial	30-Sep-18
2	A & O Scale Limited	Shai-Osudoku	Volivo	Lower Volta River	Dredging	Dredging	31-Dec-19
3	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Mine Water Dam, Lima Pit, Adaye Pit Kwesie South Pit and Tamang Dam	Abstraction	Mining	31-Dec-18
4	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Groundwater	Abstraction	Domestic	31-Dec-18
5	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Rex and Damang Cutback Complex Pits	Dewatering	Mining	31-Dec-18
6	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Dewater Amoanda and Tomento1, 2 and East Pits	Abstraction	Mining	30-Nov-19
7	Adamus Resources Limited	Ellembelle	Salman	Bonums stream	Diversion	Mining	27-Aug-18
8	Adamus Resources Limited	Ellembelle	Salman	Groundwater	Abstraction	Domestic	31-Dec-19
9	Adamus Resources Limited	Ellembelle	Salman	Salman South Pit	Fish Cage	Aquaculture	31-Dec-19
10	Adamus Resources Limited	Ellembelle	Salman	Mine pits	Dewatering	Mining	31-Jun-19
11	African Plantation for Sustainable Development	Sene West	Lailai-Bantama	Groundwater	Abstraction	Domestic	31-Dec-18
12	African Plantation for Sustainable Development	Sene West	Lailai-Bantama	Dam on Sokopi River	Abstraction	Irrigation	31-Dec-18
13	African Plantation for Sustainable Development	Sene West	Bantama-Lailai	River Sene	Abstraction	Irrigation	31-Jul-20
14	Akosombo Textiles Limited	Asuogyaman	Akosombo	Volta Lake	Abstraction	Industrial	31-Dec-18
15	Aksa Energy Company Ghana Limited	Kpone-Katamanso	Tema	Groundwater	Abstraction	Domestic and Industrial	11-Apr-20
16	Amaja Tubular Service Limited	Ahanta West District	Aboadze	Groundwater	Abstraction	Industrial	30-Apr-18
17	Amsig Resources	Kumbungu	Dalun	Bontanga River	Abstraction	irrigation	3-Oct-20

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
18	Andrade Gutterrez/Odebrecht	Nanumba North & South, Yendi	Eastern Corridor Road	Oti River and Nakpachei Dam	Construction	Construction	30-Apr-18
19	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	Atsofoe Stream	Diversion	Mining	27-Aug-18
20	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	Discharging into Angonabeng stream	Discharge	Minning	31-Dec-18
21	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	UEE and Block 4 Dams	Abstraction	Minning	31-Dec-18
22	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	Groundwater	Abstraction	Domestic	31-Dec-18
23	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	Dewatering into Atsofoe and Angonabeng stream	Dewatering	Minning	31-Dec-18
24	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Tarkwa	Ajoba Pit	Pit Dewatering	Mining	17-Aug-20
25	AngloGold Ashanti (Obuasi Mine)	Obuasi Municipal	Obuasi	Jimi River	Abstraction	Domestic	31-Dec-19
26	Anyako Farms Limited	North Tongu	Torgome	Volta River	Abstraction	Irrigation	2-Apr-20
27	Ariku Company Limited	Binduri	Bazua	White Volta	Abstraction	Irrigation	30-Jun-19
28	Asanko Gold Ghana Limited	Amansie West	Esaase-Mpatoam	Groundwater	Abstraction	Domestic	5-Jul-20
29	Aspet A. Company Limited	Techiman Municipal	Techiman	Groundwater	Abstraction	Commercial	31-Mar-19
30	Ayada Enterprise	Pru District	Yeji	Groundwater	Abstraction	Commercial	31-Dec-18
31	Babator Farming Company Limited	Bole District	Babator	Black Volta River	Abstraction	Irrigation	31-Mar-19
32	Benso Oil Palm Plantation Limited	Mpohor Wassa East	BOPP	Enikokoo stream	Abstraction	Irrigation	31-Dec-18
33	Benso Oil Palm Plantation Limited	Mpohor Wassa East	Mporhor	K8 and K11 Dam	Abstraction	Industrial	31-Dec-18
34	Blackman Fish Farm and Hatchery	Nsawam-Adoagyiri Municipal	Adoagyiri	Bonyono stream and Groundwater	Abstraction	Aquaculture (pond)	31-Dec-19
35	Bui Power Authority	Bole	Bui	Bui Dam (Black Volta)	Abstraction	Hydro Power	31-Dec-19
36	Canadian Feed The Children and Resilient & Sustainable Livelihood Transformation	Bongo	Gorogo Dam	Gorogo Dam	Fish Cage	Aquaculture	31-Oct-18
37	Canadian Feed The Children and Resilient & Sustainable Livelihood Transformation	Bongo	Soe-Yindongo Dam	Soe-Yindongo Dam	Fish Cage	Aquaculture	30-Nov-18

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
38	Canadian Feed The Children and Resilient & Sustainable Livelihood Transformation	Jirapa	Konzakalah Dam	Konzakalah Dam	Fish Cage	Aquaculture	30-Nov-18
39	Canadian Feed The Children and Resilient & Sustainable Livelihood Transformation	Lawra District	Naburnye Dam	Naburnye Dam	Fish Cage	Aquaculture	30-Jun-19
40	Cargil Ghana Limited	Tema Metropolitan	Tema	Groundwater	Abstraction	Industrial	31-Dec-19
41	Cenpower Generation Company Ltd	Kpone-Katamanso	Kpone	Groundwater	Abstraction	Domestic	30-Jun-18
42	Cenpower Generation Company Ltd	Kpone-Katamanso	Kpone	Groundwater	Abstraction	Industrial	30-Jun-18
43	Cenpower Generation Company Limited	Kpong-Katamanso	Kpone	Gao Lagoon	Spillage/Discharge	Spillage	20-Jun-20
44	China Fujian Fishing (GH) Limited	Shai-Osudoku	Asutsuare	Kpong Irrigation Project Canal and Volta River	Abstraction	Aquaculture (pond)	3-Oct-20
45	China Fujian Fishing (GH) Limited	Shai-Osudoku	Asutsuare	Volta River	Fish cage	Aquaculture (cage)	3-Oct-20
46	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Groundwater	Abstraction	Domestic	31-Dec-19
47	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Suraw River and Groundwater	Abstraction	Mining	31-Dec-19
48	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Obra, Tano, Akwaaba, & Paboase pits	Pit Dewatering	Mining	31-Dec-19
49	Community Water and Sanitation Agency	Central Tongu	Adidome	Volta River	Abstraction	Domestic/Municipal	28-Feb-18
50	Construtora Queiroz Galvao	Binduri	Bazua	White Volta River and Ground water	Abstraction	Construction	18-Jul-20
51	Delta Fisheries Limited	South Dayi	Abui No. 1	Volta Lake	Fish Cage	Aquaculture	22-Oct-18
52	Delta Fisheries Limited	South Dayi	Abui No. 1	Volta Lake	Abstraction	Aquaculture	22-Oct-18
53	Divine-Will Farms Company Ltd	Asuogyaman	Avegame-Akwamu	Volta Lake	Fish Cage	Aquaculture	31-Aug-18
54	Ecobank Ghana Limited	Accra Metropolitan	Ridge	Groundwater	Abstraction	Domestic	31-Mar-19
55	Eni (Gh) Exploration & Production Limited	Techiman Municipal	Sanzule	Groundwater	Abstraction	Industrial	31-Oct-18
56	Enviro Solutions Limited	Gomoa East	Okyereko	Okyereko Reservoir	Dredging	Dredging	30-Sep-19

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
57	Form Ghana Limited	Berekum	Berekum	Groundwater	Abstraction	Irrigation	31-Dec-18
58	Form Ghana Limited	Offinso North	Akumadan	1 Borehole and Dam	Abstraction	Irrigation	31-Dec-18
59	Ghana Manganese Company Ltd	Tarkwa Nsuaem	Tarkwa	Kawere stream	Abstraction	Mining	31-Dec-19
60	Ghana Manganese Company Ltd	Tarkwa Nsuaem	Tarkwa	Groundwater	Abstraction	Domestic	31-Dec-19
61	Ghana Manganese Company Ltd	Tarkwa Nsuaem	Tarkwa	Pit C	Abstraction	Dewatering	31-Dec-19
62	Ghana Oil Palm Development Company Limited	Kwaebibirem	Kwae	Groundwater	Abstraction	Irrigation	17-Jan-19
63	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Groundwater	Abstraction	Domestic	31-Dec-19
64	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Tsibu and Huni River	Abstraction	Irrigation	31-Dec-19
65	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Suoni Stream	Abstraction	Industrial	31-Dec-19
66	Ghana Water Company Ltd	Asuogyaman	Kpong New	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
67	Ghana Water Company Ltd	Asuogyaman	Kpong Old	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
68	Ghana Water Company Ltd	Ga South	Weija-Adam Clark	Densu	Abstraction	Domestic/Municipal	31-Jan-17
69	Ghana Water Company Ltd	Ga South	Weija Candy	Densu	Abstraction	Domestic/Municipal	31-Jan-17
70	Ghana Water Company Ltd	Ga South	Weija –Bamag	Densu	Abstraction	Domestic/Municipal	31-Jan-17
71	Ghana Water Company Ltd	Dangme East	Keseve/Adafoah	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
72	Ghana Water Company Ltd	Atwima Nwabiagya	Barekese	River Offin	Abstraction	Domestic/Municipal	31-Jan-17
73	Ghana Water Company Ltd	Atwima Nwabiagya	Owabi	Owabi	Abstraction	Domestic/Municipal	31-Jan-17
74	Ghana Water Company Ltd	Sekyer West	Mampong	Kyeremea	Abstraction	Domestic/Municipal	31-Jan-17
75	Ghana Water Company Ltd	Ashanti-Akim North	Konongo	Anunu	Abstraction	Domestic/Municipal	31-Jan-17
76	Ghana Water Company Ltd	Sekyer East	Effiduase / Asokore	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
77	Ghana Water Company Ltd	Obuasi Municipality	Odaso / Obuasi	Odaso	Abstraction	Domestic/Municipal	31-Jan-17
78	Ghana Water Company Ltd	Adansi	New Edubiase	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
79	Ghana Water Company Ltd	Ahafo Ano North	Tepa	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
80	Ghana Water Company Ltd	Agona West	Agona	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
81	Ghana Water Company Ltd	Mpohor Wassa East	Daboase	Pra	Abstraction	Domestic/Municipal	31-Jan-17
82	Ghana Water Company Ltd	Shama Ahanta East	Inchaban	Anakwari	Abstraction	Domestic/Municipal	31-Jan-17
83	Ghana Water Company Ltd	Tarkwa Nsuaem	Bonsa / Tarkwa	Bonsa	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
84	Ghana Water Company Ltd	Wassa West	Prestea	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
85	Ghana Water Company Ltd	Wassa West	Bogoso	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
86	Ghana Water Company Ltd	Wassa West	Aboso	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
87	Ghana Water Company Ltd	Nzema East	Axim	Denkyemnsule	Abstraction	Domestic/Municipal	31-Jan-17
88	Ghana Water Company Ltd	Nzema East	Axim	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
89	Ghana Water Company Ltd	Jomoro	Elubo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
90	Ghana Water Company Ltd	Cape Coast Municipality	Brimsu	River Kakum	Abstraction	Domestic/Municipal	31-Jan-17
91	Ghana Water Company Ltd	Twifo Hemang Lower Denkyira	Twifo Praso	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
92	Ghana Water Company Ltd	Mfantseman	Baifikrom	Ochi Amissa	Abstraction	Domestic/Municipal	31-Jan-17
93	Ghana Water Company Ltd	Awutu Effutu Senya	Winneba	Ayensu	Abstraction	Domestic/Municipal	31-Jan-17
94	Ghana Water Company Ltd	Agona	Kwayanku	Ayensu	Abstraction	Domestic/Municipal	31-Jan-17
95	Ghana Water Company Ltd	Asikum-Odoben-Brakwa	Breman - Asikuma	Ochi Nacho	Abstraction	Domestic/Municipal	31-Jan-17
96	Ghana Water Company Ltd	Upper Denkyira East	Dunkwa-Offin	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
97	Ghana Water Company Ltd	Shama	Sekyere - Heman	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
98	Ghana Water Company Ltd	West Akyem	Akim Aboabo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
99	Ghana Water Company Ltd	Birim South	Akim Oda	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
100	Ghana Water Company Ltd	Birim South	Akim Asene	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
101	Ghana Water Company Ltd	Birim South	Akim Swedru	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
102	Ghana Water Company Ltd	Kwaebibirim	Asuom	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
103	Ghana Water Company Ltd	Kwaebibirim	Kade	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
104	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Ayensu	Abstraction	Domestic/Municipal	31-Jan-17
105	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
106	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
107	Ghana Water Company Ltd	New Juaben Municipality	Suhyen	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
108	Ghana Water Company Ltd	Asuogyaman	Anum Boso	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
109	Ghana Water Company Ltd	Kwahu South	Kotoso	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
110	Ghana Water Company Ltd	Kwahu West	Nkawkaw	Ground Water	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
111	Ghana Water Company Ltd	West Akim	Asamankese	Abuchem	Abstraction	Domestic/Municipal	31-Jan-17
112	Ghana Water Company Ltd	Akwapim South	Nsawam	Densu	Abstraction	Domestic/Municipal	31-Jan-17
113	Ghana Water Company Ltd	East Akim	Apedwa – Asafo	Densu	Abstraction	Domestic/Municipal	31-Jan-17
114	Ghana Water Company Ltd	East Akim	Kibi	Birim	Abstraction	Domestic/Municipal	31-Jan-17
115	Ghana Water Company Ltd	East Akim	Kibi	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
116	Ghana Water Company Ltd	Suhum Kraboa-Coaltar	Suhum	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
117	Ghana Water Company Ltd	Atiwa	Anyinam	Birim	Abstraction	Domestic/Municipal	31-Jan-17
118	Ghana Water Company Ltd	Fanteakwa	Begoro	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
119	Ghana Water Company Ltd	East Akim	Bunso	Birim	Abstraction	Domestic/Municipal	31-Jan-17
120	Ghana Water Company Ltd	Atiwa	Kwabeng	Awusu	Abstraction	Domestic/Municipal	31-Jan-17
121	Ghana Water Company Ltd	East Akim	New Tafo	River Bayira	Abstraction	Domestic/Municipal	31-Jan-17
122	Ghana Water Company Ltd	Fanteakwa	Osino	Birim	Abstraction	Domestic/Municipal	31-Jan-17
123	Ghana Water Company Ltd	Tamale Metropolitan	Dalun / Nawuni	White Volta	Abstraction	Domestic/Municipal	31-Jan-17
124	Ghana Water Company Ltd	Yendi	Yendi	Daka	Abstraction	Domestic/Municipal	31-Jan-17
125	Ghana Water Company Ltd	South Dayi	Kpeve	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
126	Ghana Water Company Ltd	Ho Municipality	Tsito	Wuve	Abstraction	Domestic/Municipal	31-Jan-17
127	Ghana Water Company Ltd	Keta	Kpando & Keta	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
128	Ghana Water Company Ltd	Kpandu	Sovie	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
129	Ghana Water Company Ltd	Kpandu	Anfoega	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
130	Ghana Water Company Ltd	Kpandu	Nkonya - Ahenkro	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
131	Ghana Water Company Ltd	Hohoe	Hohoe	Dayi River	Abstraction	Domestic/Municipal	31-Jan-17
132	Ghana Water Company Ltd	Ketu	Agordome / Sega	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
133	Ghana Water Company Ltd	Ketu	Aflao	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
134	Ghana Water Company Ltd	Ketu	Denu	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
135	Ghana Water Company Ltd	Ketu	Agbozume	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
136	Ghana Water Company Ltd	Akatsi	Abor	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
137	Ghana Water Company Ltd	Keta	Avenopeme/ Anyako	Ground Water	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
138	Ghana Water Company Ltd	Jasikan	Jasikan	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
139	Ghana Water Company Ltd	Jasikan	Worawora	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
140	Ghana Water Company Ltd	Kadjebi	Kadjebi / Juapong	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
141	Ghana Water Company Ltd	Sunyani Municipality	Abesim	Tano	Abstraction	Domestic/Municipal	31-Jan-17
142	Ghana Water Company Ltd	Berekum	Berekum	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
143	Ghana Water Company Ltd	Asutifi	Biaso	Biaso	Abstraction	Domestic/Municipal	31-Jan-17
144	Ghana Water Company Ltd	Tano North	Dwomo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
145	Ghana Water Company Ltd	Asutifi	Acherensua	Tano	Abstraction	Domestic/Municipal	31-Jan-17
146	Ghana Water Company Ltd	Techiman Municipal	Techiman / Tonoso	Tano	Abstraction	Domestic/Municipal	31-Jan-17
147	Ghana Water Company Ltd	Techiman Municipal	Techiman Boreholes	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
148	Ghana Water Company Ltd	Bolgatanga Municipality	Bolgatanga	Vea Dam	Abstraction	Domestic/Municipal	31-Jan-17
149	Ghana Water Company Ltd	Bawku-East Municipality	Bawku	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
150	Ghana Water Company Ltd	Kasena-Nankana	Navrongo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
151	Ghana Water Company Ltd	Bolgatanga Municipality	Zuarungu	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
152	Ghana Water Company Ltd	Wa Municipality	Wa	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
153	Golden Star (Bogoso/Pretea)	Wassa Amenfi East	Mampon/Abronye	Groundwater	Abstraction	Domestic	21-Feb-19
154	Golden Star (Bogoso/Pretea)	Wassa Amenfi East	Mampon/Abronye	Groundwater	Dewatering	Mining	21-Feb-19
155	Golden Star (Bogoso/Pretea)	Pretea Huni-Valley	Bogoso	Groundwater	Abstraction	Domestic	31-Dec-19
156	Golden Star (Bogoso/Pretea)	Pretea Huni-Valley	Bogoso	Groundwater	Abstraction	Mining	31-Dec-19
157	Golden Star (Wassa) Limited	Wassa East	Akyempim	Groundwater	Abstraction	Domestic	31-Dec-19
158	Golden Star (Wassa) Limited	Wassa East	Akyempim	Wassa Main & Starter pits	Dewatering	Mining	31-Dec-19
159	Golden Star (Wassa) Limited	Wassa East	Akyempim	Groundwater	Abstraction	Mining	31-Dec-19
160	Golden Star (Wassa) Limited	Tarkwa Nsuaem	Benso	C-Zone Pit	Fish cage	Aquaculture	26-Jun-20
161	Goldfields Ghana Ltd (Tarkwa)	Tarkwa Nsuaem Municipal	Tarkwa	Groundwater	Abstraction	Domestic	31-Dec-19
162	Goldfields Ghana Ltd (Tarkwa)	Tarkwa Nsuaem Municipal	Tarkwa	Groundwater & surface runoff	Dewatering	Mining	31-Dec-19
163	GR Mawuko Farms Limited	North Tongu	Dadome-Mepe	Tsimortorvui Stream	Abstraction	irrigation	1-Jun-20
164	International Oils & Fats Limited	Techiman Municipal	Hansua	Groundwater	Abstraction	Industrial	31-Mar-19

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
165	IWAD Ghana Limited	Mamprugu Moagduri	Yagaba	Kulpawn River	Abstraction	Commercial	31-Mar-18
166	John Bitar and Company Limited	Wiawso	Sefwi Dwenase	River Kuzin & Groundwater	Abstraction	Industrial	31-Oct-19
167	JRV Manufacturing Company Ltd	Shai-Osudoku	Ayikuma	Groundwater	Abstraction	Construction	31-Oct-19
168	JRV Manufacturing Company Ltd	Shai-Osudoku	Ayikuma	Groundwater	Abstraction	Commercial	30-Apr-20
169	Juaben OilS Mills Limited	Ejisu Juabeng	Juaben	Groundwater	Abstraction	Industrial	31-Dec-19
170	Kassena Nankana Municipal Assembly	Kassena Nankana Municipal	Doba	Doba Dam	Fish cage	Aquaculture	31-Jan-20
171	Kassena Nankana West District Assembly	Kassena Nankana West	Kandiga	Kandiga Dam	Fish cage	Aquaculture	31-Jan-20
172	Kawute Siidi Enterprise	Sawla-Tuna-Kalba	Sawla	Groundwater	Abstraction	Commercial	31-Dec-19
173	Kukobila-Nasia Farms Limited	Savelugu	Kukobila	Nasia River	Abstraction	Irrigation	31-Dec-18
174	LinjahSand Ghana Limited	North Tongu	Aveyime	Volta River	Dredging	Dredging	19-Jul-20
175	Mensin Gold Bibiani Limited	Biabiani/Anhwia/Bekwai	Bibiani	Groundwater	Abstraction	Domestic	31-Mar-19
176	Mensin Gold Bibiani Limited	Biabiani/Anhwia/Bekwai	Bibiani	Pit dewatering	Dewatering	Mining	31-Mar-19
177	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Ongwam River & Grdwater	Abstraction	Irrigation	31-Oct-19
178	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Dagomba line Dam	Abstraction	Irrigation	31-Dec-19
179	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Agyaan Stream	Abstraction	Irrigation	31-Dec-19
180	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Kokode Stream	Abstraction	Irrigation	31-Dec-19
181	Miro Forestry Ghana Limited	Asante Akim North	Agogo	Boumfoum River	Abstraction	Irrigation	31-Dec-19
182	MSF Engenharia, S. A	La Dade-Kotopon	Airport Res. Area	Groundwater	Abstraction	Construction	30-Sep-18
183	Nabdam District Assembly	Nabdam	Dosabligo	Dosabligo Dam	Fish cage	Aquaculture	31-Jan-20
184	Newmont Ghana Gold Limited	Asutifi North	Kenyasi II	Water Storage Facility	Spillage/Dewatering	Mining	30-Apr-18
185	Newmont Ghana Gold Limited	Kenyasi Asutifi	Kenyasi II	Subri stream and run-offs	Abstraction	Mining	31-Dec-19
186	Newmont Ghana Gold Limited	Kenyasi Asutifi	Kenyasi II	Groundwater	Abstraction	Mining	31-Dec-19
187	Newmont Ghana Gold Limited	Asutifi North	Kenyasi II	Apensu pit	Discharge	Mining	10-Oct-20
188	Newmont Ghana Gold Limited	Asutifi	Kenyasi II	Groundwater	Abstraction	mining	31-Dec-20
189	Newmont Ghana Gold Limited	Asutifi	Kenyasi II	Groundwater	Abstraction	Mining	31-Dec-18
190	Newmont Ghana Gold Limited	Asutifi	Kenyasi II	Tano River	Abstraction	Mining	31-Dec-18

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
191	Newmont Golden Ridge Limited	Birim North	Hweakwae	Dam	Abstraction	Mining	30-Nov-18
192	Newmont Golden Ridge Limited	Birim North	New Abirem	Abstraction from Sediment Control Structures	Abstraction	Mining	31-Mar-19
193	Newmont Golden Ridge Limited	Birim North	New Abirem	Harvest rainfall-runoff into water storage facility	Abstraction	Mining	31-Mar-19
194	Newmont Golden Ridge Limited	Birim North	New Abirem	Afosu Stream & Sediment Control Structure (SCS 5)	Abstraction	Mining	30-Sep-19
195	Newmont Golden Ridge Limited	Birim North	Hweakwae	Groundwater	Abstraction	Domestic	31-Dec-19
196	Newmont Golden Ridge Limited	Birim North	Hweakwae	Groundwater	Abstraction	Mining	31-Dec-19
197	Newmont Golden Ridge Limited	Birim North	New Abirem	Groundwater	Abstraction	Domestic	31-Dec-20
198	Obelemanya Company Limited	Lower Manya Krobo	Obelemanya	Volta Lake	Fish Cage	Aquaculture	31-Dec-19
199	Olam Cocoa Processing Ghana Ltd	Kumasi Metropolitan	Kaase	Groundwater	Abstraction	Industrial	30-Apr-18
200	Perseus Mining (Gh) Limited	Upper Denkyira West	Ayamfuri	Groundwater	Abstraction	Domestic	31-Dec-18
201	Perseus Mining (Gh) Limited	Upper Denkyira West	Ayamfuri	Groundwater	Abstraction	Mining	31-Dec-18
202	Perseus Mining Ghana Limited	Upper Denkyira West	Ayamfuri	Groundwater	Abstraction	Mining	31-Dec-18
203	Plantations Socfinaf Ghana Ltd	Wassa East	Daboase	Groundwater	Abstraction	Domestic	31-Aug-18
204	Plantations Socfinaf Ghana Ltd.	Wassa East	Daboase	Pond and Kent dam	Abstraction	Irrigation	31-Aug-18
205	Processed Water Company Ltd	Ga South	Ngleshie-Amanfro	Densu River	Abstraction	Commercial	31-Aug-19
206	Regional Building & Contracting Company Limited	Dangme West	Asutuare	Lower Volta River	Abstraction	Dredging	30-Jun-19
207	Resilient & Sustainable Livelihood Transformation	Bongo	Pusu Namongo Dam	Pusu Namongo Dam	Fish Cage	Aquaculture	31-Oct-19
208	Resilient & Sustainable Livelihood Transformation	Talensi District	Datuku	Datuku Dam	Fish Cage	Aquaculture	28-May-20
209	Rhovanni Royal Limited	Tano North	Tanoso	Groundwater	Abstraction	Industrial	31-May-20
210	Samartex Timber and Plywood Company Limited	Wassa Amenfi West	Samreboi	Tano River	Abstraction	Industrial	31-Dec-18
211	Sandvik Mining & Construction Ghana Limited	Amansie West	Pakyi No. 1	Groundwater	Abstraction	Domestic	31-Dec-18
212	Savanna Diamond Company Ltd	Central Gonja	Buipe	Groundwater	Abstraction	Industrial	30-Sep-18

No	User Name	District/Municipal/Metro	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
213	Smart Oil Limited	Pru	Yeji	Groundwater	Abstraction	Irrigation	31-Dec-19
214	Sparkling Shovel Limited	North Tongu	Drakofe-Aveyime	Lower Volta	Dredging	Dredging	30-Sep-19
215	Special Ice Company Limited	Ga East	Ayimensah	Groundwater	Abstraction	commercial	31-Dec-18
216	Sugar Land Limited	Shai-Osudoku	Kortorkor	Klebu Lake	Abstraction	Irrigation	31-Dec-18
217	Sun Woo Culturing System Ltd	Asuogyaman	Akosombo	Volta Lake	Fish Cage	Aquaculture (cage)	31-Jan-20
218	Tadame Sand Company	North Tongu	Aveyime- Agboganu	Lower Volta River	Dredging/ Abstraction	Dredging	31-Oct-20
219	Tropical Hoppa Farms	Upper Manya Krobo	Poponya Fantem	Volta Lake	Fish cage	Aquaculture	2-Apr-20
220	Tropo Farms Limited	Asuogyaman	Anyaaase	Volta Lake	Abstraction	Aquaculture	30-Jun-19
221	Tropo Farms Limited	Shai-Osudoku	Asutsuare	Kpong Irrigation Canal	Abstraction	Aquaculture (pond)	31-Dec-19
222	Twifo Oil Palm Plantation Limited	Lower Denkyira	Twifo Heman	Borehole	Abstraction	Domestic	31-Dec-19
223	Twifo Oil Palm Plantation Limited	Lower Denkyira	Twifo Heman	River Obou	Abstraction	irrigation	31-Dec-19
224	Twifo Oil Palm Plantation Limited	Lower Denkyira	Twifo Heman	River Obou	Abstraction	Industrial	31-Dec-19
225	Vegpro Ghana Limited	North Tongu	Torgome	Kpong Dam Reservoir	Abstraction	Irrigation	31-Dec-18
226	Volta Red Farms Limited	Kadjebi	Ahamansu	Wawa River	Abstraction	Industrial	4-May-18
227	Volta River Authority	Kassena Nankana	Pungu	Groundwater	Abstraction	Industrial	31-May-20
228	West African Fish Limited	Asuogyaman	Domiabra	Volta Lake	Fish Cage	Aquaculture	31-Dec-18
229	West African Fish Limited	Asuogyaman	Domiabra	Volta Lake	Abstraction	Domestic	31-Dec-18
230	Worlding Investment Co. Ltd	South Dayi	Kpeve-Tornu	Volta Lake	Fish Cage	Aquaculture	31-Mar-19
231	Z & J Ghana Limited	Ga South Municipal	Weija	Densu River	Dredging	Dredging	27-Feb-20
232	Zoomlion Ghana Limited	Nandom	Kokoligo	Kokoligo Dam	Fish cage	Aquaculture	31-Jul-20
233	Zoomlion Ghana Limited	Wa West	Vieri	Vieri Dam	Fish cage	Aquaculture	31-Jul-20
234	Zoomlion Ghana Limited	Wa West	Baleofiri	Baleofiri Dam	Fish cage	Aquaculture	31-Jul-20
235	Zoomlion Ghana Limited	Wa West	Guo	Guo Dam	Fish cage	Aquaculture	31-Jul-20

Appendix 3: Drilling License Register – 2017

No	Licence Holder	Address	Telephone Numbers	Company Registration No.	Licence No.	Category	Expiry Date
1	7A's Christian Construction and Development Consult Limited	P. O. Box AN 5038, Accra-North	0244504131/0264504131	CA-74,771	WRC/WDL/081/15	C	25-Jul-18
2	Abowta and Sons Company Limited	P. O. Box 38, Tamale	024-4275118	CA-81,758	WRC/WDL/109/17	C	3-Oct-20
3	Access Development Limited	P. O. Box ER 567, Tamale	0202836139 / 0264176966	CS451342014	WRC/WDL/174/16	C	22-Feb-19
4	Aganco Enterprise	P. O. Box 245, Ola, Bolgatanga	0505079385 / 0546269362	BN-97,780D	WRC/WDL/183/16	C	19-Sep-19
5	AMD Company Limited	P. O. Box AN 10431, Accra-North	0 265510060	CS13022012	WRC/WDL/166/15	C	4-Feb-18
6	Aziida Company Limited	P. O. Box 657, Bolgatanga	0208087136 /0245278042	CS141142016	WRC/WDL/195/17	C	16-Jul-20
7	Bauer Resources Ghana Limited	PMB L 12, Legon, Accra	0302-544113	CA-72,956	WRC/WDL/050/16	B	19-Sep-19
8	Betterworld Engineering Limited	P. O. Box MC 2110, Takoradi	020-7326916	CA-83,337	WRC/WDL/184/16	C	12-Oct-19
9	Bizgeo Company Limited	PMB MD 127, Madina-Accra	0 244985520	CA-22,859	WRC/WDL/057/15	C	11-Nov-18
10	Blessedfield Limited	P. O. Box 7204, Cantonments, Accra	0302971075/0244313377 /0244657439	CS615512015	WRC/WDL/111/15	C	16-Nov-18
11	Both Side Company Limited	P. O. Box 356, Bolgatanta		CA-63,452	WRC/WDL/091/16	C	24-Feb-19
12	Cephavick Limited	P.O. Box TL 2571, Tamale	0208196246/ 0240915177	CA-17,548	WRC/WDL/005/17	B	9-Feb-20
13	Champion Man Company Limited	P. O. Box KW 302, Kwadaso – Kumasi	020-7542404, 0244811272	CA-60,706	WRC/WDL/052/17	C	27-Nov-20
14	Chobaa Enterperise Limited	P. O. Box 88, Bolgatanga	0202520084 /0244483520	CS095502012	WRC/WDL/189/17	C	9-Feb-20
15	Country Water Company Limited	P.O. Box TA 2, Taifa-Accra	024-2110442	86,810	WRC/WDL/117/17	C	5-Sep-20
16	Crceg Limited	P. O. Box KD 934, Accra	0244994353/ 0549551896	CS604542015	WRC/WDL/193/17	A	6-Jun-20
17	Danwillie Hydro Works Limited	P. O. Box 39, Effia Kuma Estates, Takoradi	0 204970258	CS500332014	WRC/WDL/164/15	B	2-Feb-18
18	Davdom Drilling Company Limited	P. O. Box 91, Accra	0247643928 / 0265983732 /0500467632	CS000702016	WRC/WDL/173/16	C	11-Feb-19

No	Licence Holder	Address	Telephone Numbers	Company Registration No.	Licence No.	Category	Expiry Date
19	Derkak Construction Company Ltd	P. O. Box GP 4521, Accra	0244232763/ 0202222103	CS156422016	WRC/WDL/197/17	C	5-Sep-20
20	Discovery Lands, Engineers and Planners Limited	P. O. Box WC 303, Wenchi	0544-080079 / 0200-306357	CS030272016	WRC/WDL/181/16	C	22-Aug-19
21	Drillrock Ghana Limited	P. O. Box 46, Abossey Okai, Accra	0244666712/0200295571	CA-85,218	WRC/WDL/175/16	C	28-Feb-19
22	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
23	Earth Technology 2010 Plus Enterprise	P. O. Box OS 1815 Osu, Accra	0244537319	BN601402014	WRC/WDL/177/16	C	9-Jun-19
24	Fidiado Company Limited	P. O. Box 287, Bolgatanga	020-8559076	CU716162016	WRC/WDL/194/17	C	16-Jul-20
25	Finder Enterprise	P. O. Box CT 4792, Accra	024863970	BN007172016	WRC/WDL/176/16	C	20-Mar-19
26	Geo-Frontier Global Company Ltd	P. O. Box 28, Nadowli, UWR	0209962271, 0244466177	CS026362016	WRC/WDL/179/16	C	9-Jun-19
27	Geogroup Limited	P. O. Box AY 40, Asuoyeboa	0244704444/0202511869	CA-10,154	WRC/WDL/171/15	A	3-Nov-18
28	Geosource Drilling Technologies Ltd	P. O. Box 1632, Accra	0266682142/0264546999	CA-22,285	WRC/WDL/096/15	B	1-Oct-18
29	Geosystems Consulting Limited	P. O. Box 28, Abuakwa – Kumasi	024-4584745	CA-40,567	WRC/WDL/069/17	C	6-Jun-20
30	Global Sonn Limited	P. O. Box NT 679, Accra New Town	0244761813/ 0503407230	CS597002015	WRC/WDL/185/16	C	12-Oct-19
31	Heisa Engineering Company Limited	P. O. Box JT 223, James Town, Accra	0 244228454	C-65,305	WRC/WDL/105/15	B	30-Nov-18
32	Hu Bei Geology & Engineering Company Limited	P. O. Box 282 Education Ridge, Tamale	0244-726979	C-78,734	WRC/WDL/048/16	B	10-Aug-19
33	Hydrolog Geoinformatics Limited	P. O. Box GP 13525, Accra	0207854667/0543701222	CA-37791	WRC/WDL/167/15	C	4-Mar-18
34	Hydronomics Limited	P. O. Box LG 924, Legon, Accra	0202028791/0244733966	CA-10,929	WRC/WDL/114/15	B	23-Jul-18
35	Jagan T. Ghana Company Limited	P. O. Box CS 19, Community 7, Tema	0240-240673 / 0322-064566	CS418312014	WRC/WDL/182/16	B	19-Sep-19
36	Joissam Construction Limited	P. O. Box AD 1188, Adabraka – Accra	024-6479689, 0302-325388	CA-16243	WRC/WDL/049/17	B	24-Jan-20
37	Keldem Engineering Company Limited	P. O. Box AF 1815 Adenta-Accra	020-8128443, 026-8122443	CS162642013	WRC/WDL/135/17	C	31-Jan-20

No	Licence Holder	Address	Telephone Numbers	Company Registration No.	Licence No.	Category	Expiry Date
38	KM-Doky Ventures	P. O. Box CH 15, Kyrapatre, Kumasi	0244235793	BN00HUS2015	WRC/WDL/180/16	C	4-Jul-19
39	Leka Interactive Company Limited	P. O. Box TN 474, Teshie-Nungua	0 265510060	CS357252014	WRC/WDL/083/15	C	4-Feb-18
40	Links Drilling & Construction Limited	P. O. Box 819, Nkawkaw	020-2918131	CA-67,879	WRC/WDL/190/17	B	6-Jun-20
41	Macbeney Company Limited	P. O. Box 2643, Sunyani	0 505555505	C-72,166	WRC/WDL/163/15	C	1-Feb-18
42	Maduson Enterprise Limited	P. O. Box 23, Wa	020-7534335, 024-4507151	CS560292015	WRC/WDL/201/17	C	1-Nov-20
43	Mikanbros Company Limited	P. O. Box MB 687, Ministries – Accra	0 248235568	CA-77,893	WRC/WDL/080/15	C	2-Aug-18
44	M-Mesh Enterprise	P. O. Box 126 Achimota-Accra	0244494558,0209863853	BN368932013	WRC/WDL/178/16	C	9-Jun-19
45	Namoo and Sons Limited	P. O. Box 391, Wa, U/West	020-823859, 0543826224	CS194802013	WRC/WDL/154/17	C	18-Jul-20
46	New Services Limited	P. O. Box 708, New Atuabo Junction	057-4765210, 024-3919705	BN00KD12015	WRC/WDL/186/16	C	12-Oct-19
47	Our-Turn Logistics & Construction Ltd	P. O. Box 360, Wa	020-7636262, 024-4545118	CS009332012	WRC/WDL/192/17	C	6-Jun-20
48	Pakangyi Plumbing Works	P. O. Box 199, Navrongo	050-7116055, 054-1109794	BN087102017	WRC/WDL/199/17	C	5-Oct-20
49	Permanent Supply Group Limited	P. O. Box MP 2797, Mamprobi-Accra	0546095771/0243577000 /0244636574	CS572592015	WRC/WDL/169/15	C	25-May-18
50	Rays Boat Company Limited	P. O. Box 3308, Kumasi	0 203108697	CA-61,834	WRC/WDL/027/15	C	18-Nov-18
51	Rif Connac Limited	Kumasi	0208173727/0248227074	CA-41,898	WRC/WDL/165/15	C	4-Feb-18
52	Rural Water Development Project Programme of Church of Christ	P. O. Box AN 6017, Accra-North	0244160776/0303931993	G-3,785	WRC/WDL/008/15	B	4-Feb-18
53	Sandcrest Construction Limited	P. O. Box CT 11351, Cantonments, Accra	020-9289288, 024-4782896	CS527582014	WRC/WDL/191/17	C	6-Jun-20
54	Sed Investments International Limited	P. O. Box KT 617, Kotobabi – Accra	024-4299077, 027-4352012	CS719892015	WRC/WDL/198/17	C	11-Sep-20
55	Sparkx SM Ghana Limited	P. O. Box 834, Darkuman	020-0710072, 0243-135356	CS446492014	WRC/WDL/200/17	C	1-Nov-20

No	Licence Holder	Address	Telephone Numbers	Company Registration No.	Licence No.	Category	Expiry Date
56	SRI Venkat Lazmi Borehole Limited	P. O. Box 24, Ashongman Estates	0 206030034	CS078512012	WRC/WDL/170/15	B	4-Jun-18
57	Starco Ventures Limited	P. O. Box 1235, Koforidua	0 244375529	CA-17,860	WRC/WDL/044/15	B	10-Mar-18
58	Venital Enterprise	P. O. Box AH 77 Agona Ahanta	024-4239801, 020-9389499	BN419332013	WRC/WDL/188/17	C	15-Jan-20
59	Watersan Engineers Limited	P. O. Box TA 88, Taifa-Accra	0244276109 / 0265206981	CA-72,975	WRC/WDL/129/16	C	8-Feb-19
60	Wenenco Limited	P. O. Box 1424, Sunyani	020-8116401, 024-4764164	CA-98,769	WRC/WDL/142/17	A	9-Feb-20
61	Western Water Works Limited	P. O. Box 181, Sekondi	024-4267859	CS197722017	WRC/WDL/036/17	B	29-Nov-20
62	Yadis Company Limited	Bolgatanga	0208369553/0240169773	CS376202014	WRC/WDL/168/15	C	6-Apr-18
63	Yooka Construction and Trading Ltd	P. O. Box TU 69, TUC, Accra	026-5127771	CS127142016	WRC/WDL/187/17	C	15-Jan-20

Appendix 4 – Audited Financial Statement for 2017

WATER RESOURCES COMMISSION

ANNUAL REPORT AND FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2017

AADS Consult
Chartered Accountants
Republic House (5th Floor)
Kwame Nkrumah Avenue
Accra

REPORT OF THE COMMISSIONERS

The Commissioners present their report and the audited financial statements of the Commission for the year ended 31 December, 2017.

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 Results

	2017 GH¢	2016 GH¢
Total Revenue	3,668,333	3,862,331
Total expenditure	3,963,264	7,741,505
Net operating income	(294,931)	(3,879,174)
Accumulated fund		
Accumulated Fund at 1 st January	2,548,687	6,427,861
Surplus for the year	(294,931)	(3,879,174)
Accumulated at 31 st December	2,253,756	2,548,687
Non current assets	1,013,691	984,260
Current assets	1,353,879	1,257,690
Total assets	2,367,570	2,241,950
Current liabilities	53,969	133,418
Accumulated fund	2,253,756	2,548,687
Development fund	59,845	59,845
Total liabilities and funds	2,367,570	2,741,950

Nature of Business

The Water Resources Commission established by the Water Resources Commission Act 1996 (Act 522) of the Republic of Ghana is responsible for the management of the utilization of water resources and for the co-ordination of any policy in relation to them.

There was no change in the nature of business of the Commission during the year.

Auditors

The Auditors AADS CONSULT have indicated their willingness to continue in office and will so do subject to reappointment by the Auditor-General in accordance with section 26 (2) of the Water Resources Commission Act 1996 (Act 522).

INDEPENDENT AUDITOR'S REPORT TO THE GOVERNMENT OF GHANA

REPORT ON THE AUDIT OF FINANCIAL STATEMENTS

Our opinion

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 2017, 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).

What we have audited

We have audited the financial statements of Water Resources Commission for the year ended 31 December 2017.

The financial statement on pages 8 to 31 comprise:

- 1. The statement of financial position as at 31 December, 2017;
- 2. The statement of comprehensive income for the year then ended;
- 3. The statement of changes in equity for the year then ended;
- 4. The statement of cash flows for the year then ended; and
- 5. The notes to the financial statements which include a summary of significant accounting policies

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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 believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

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.

Other information

The Commissioners are responsible for the other information. The other information comprises the Report of the Commissioners, The Corporate Governance Framework and the Value Added Statement but does not include the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with your audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other

information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information, we conclude that if there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

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:

- 1. 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;
- 2. Obtain an understanding of internal control relevant 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;
- 3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Commission.

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1.1. 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

2.1. 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:

- 1.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.
- 2.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
- 3.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 Stephen David Nii Armaah (ICAG/P/1081)



AADS CONSULT (ICAG/F/2018/070)

**Chartered Accountants
Republic House (5TH Floor)
Kwame Nkrumah Avenue
Accra, Ghana**

Date: 11TH December, 2018

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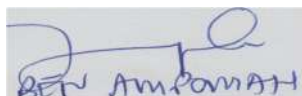
STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 31 DECEMBER, 2017

	NOTES	2017	2016
INCOME		GH¢	GH¢
Revenue	2a	1,872,750	1,889,773
Other revenue	2b	1,795,583	1,972,558
Total Revenue		3,668,333	3,862,331
LESS EXPENDITURE			
Staff Cost	3a	1,359,161	1,454,760
Commissioners' Emoluments	3b	25,441	150,351
Administrative Expenses	3c	2,316,056	5,062,782
Auditor's Remuneration		30,000	28,500
Financial Cost	3d	1,771	18,646
Depreciation Charges	3e	198,309	194,610
Write off	3f	16,246	15,984
Amortization	3g	16,280	20,382
Disaster Risk Management and	3h		795,490
		3,963,264	7,741,505
Net Operating Income		(294,931)	(3,879,174)

STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER, 2017

Assets	NOTES	2017	2016
Non - current assets		GH¢	GH¢
Plant, Property and Equipment	4	915,054	886,671.00
Capital expenditure	5	69,864	86,110.00
Intangible assets	6	28,773	11,479.00
		1,013,691	984,260.00
Current Assets			
Receivables	7	1,062,751	1,448,421.00
Cash and cash equivalents	8	291,128	309,269.00
		1,353,879	1,757,690.00
Total assets		2,367,570	2,741,950.00
Liability			
Current Liabilities			
Payables	9	53,969	133,418.00
		53,969	133,418.00
Accumulated fund		2,253,756	2,548,687.00
Development fund		59,845	59,845.00
		2,313,601	2,608,532.00
		2,367,570	2,741,950.00

The financial statements were approved by the Commissioners on December 11, 2018 and are signed on their behalf by:



Name: Ben Ampomah
Executive Secretary



Name: S. Acheampong-Boateng
Accountant

STATEMENT OF CHANGES IN NET ASSETS /EQUITY FOR THE YEAR ENDED 31 DECEMBER, 2017

	Development	Accumulated	Total
	Fund	Fund	
	GH¢	GH¢	GH¢
Balance at 1st January 2017	59,845	2,548,687	2,608,532
Surplus for year	-	(294,931)	(294,931)
Balance at 31st December 2017	59,845	2,253,756	2,313,601

	Development	Accumulated	Total
	Fund	Fund	
	GH¢	GH¢	GH¢
Balance at 1st January 2016	59,845	6,427,861	6,487,706
Surplus for year	-	(3,879,174)	(3,879,174)
Balance at 31st December 2016	59,845	2,548,687	2,608,532

STATEMENT OF CASH FLOW FOR THE YEAR ENDED 31 DECEMBER 2017

	2017	2016
	GH¢	GH¢
Operating Activities		
Surplus for the year	(294,931)	(3,879,174)
Depreciation charge	198,309	194,610
Amortization	16,280	20,382
White Volta capital expenditure write off	-	3,925
Pra capital expenditure write off	4,004	4,004
Tano capital expenditure write off	8,055	8,055
Black Volta Basin expenditure write-off	4,187	-
Disaster Risk Management and control Project	-	795,490
Operating cash flow before changes in working capital	(64,096)	(2,852,708)
Changes in working capital		
Increase in receivables	385,670	(132,423)
Decrease in payables	(79,449)	43,195
Net changes in working capital	306,221	(89,228)
Net cash generated from operating activities	242,125	(2,941,936)
Investing activities		
Additions to property and equipment	226,692	25,585
Additions to capital expenditure	-	20,575
Additions to intangible assets	33,574	13,218
Additions to capital work in progress	-	61,692
Disaster Risk Management and Control Project	-	-
Proceeds from sale of fixed assets	-	-
Net cash flow from investing activities	260,266	121,070
Net increase in cash and cash equivalent	(18,141)	(3,063,006)
Cash and cash equivalents at 1 January	309,269	3,372,275

Cash and cash equivalents at 31 December

291,128

309,269

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

Note 2a: Revenue	2017	2016
	GH¢	GH¢
Abstraction fees	1,860,641	1,628,756
Non-abstraction fees	32,403	38,717
Administration fees	249,550	176,800
Application fees	11,900	4,500
Drilling fees	52,000	41,000
Capping deduction	(333,744)	
	1,872,750	1,889,773
	GH¢	GH¢
Note 2b: Other Revenue		
GOG Subvention	1,066,100	1,124,079
Income /Other fees	2,180	338,441
World Water Day	48,000	43,842
World Bank- DRMCP		466,196
UNDP	407,200	
UNDP	59,900	
UNICEF	31,200	
Exchange Gain	72,002	
Vehicle Disposal	34,001	
Development Institute	50,000	
Tropenbos Ghana	25,000	-
	1,795,583	1,972,558
Note 3a: Staff Cost		
	GH¢	GH¢
Salaries and Wages	775,633	919,037
Limited Engagements	258,978	214,437
SSF 13.5%	123,331	138,108
Car Maintenance Allowance	11,921	11,921
Security Allowance	5,062	5,376
Entertainment Allowance	6,688	6,690
Fuel/ Transport allowance	16,792	17,325
Rent /Housing Subsidy Allowance	18,066	16,398
Commuted /Travel allowance	25,828	25,828
Domestic Servant Allowance	3,560	3,246
Medicals	28,632	57,255
Training	4,564	21,745
Welfare	74,802	12,010

Long Service Award	5,304	5,384
	<u>1,359,161</u>	<u>1,454,760</u>

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

Note 3b: Commissioners Emoluments	2017	2016
	GH¢	GH¢
Fees	-	70,750
Basin board meetings	18,041	57,401
Entity tender committee	7,400	5,000
Sitting allowance	-	17,200
	<u>25,441</u>	<u>150,351</u>

Note 3c: Administrative expenses		GH¢
Electricity and water	96,235	132,034
Cleaning and sanitation	36,705	20,394
Printing and stationery	123,211	123,050
Entertainment	6,505	19,463
Advertisement, publicity and public relations	124,053	272,487
Telephone and postage	131,650	109,436
Local travelling and transport	78,750	62,299
Local hotel accommodation	53,427	86,170
Other travel and transport	8,460	16,939
Night allowance	38,519	35,976
Foreign travel	3,376	122,869
Foreign travel per diem	88,825	77,561
Security services	43,934	31,212
Local consultancy	352,430	2,721,582
Operational Enhancement	106,434	4,440
Other consultancy expenses	-	10,000
Material and consumables	-	385,887
Toll charges tickets	871	950
Office supplies	3,600	2,474
Insurance	31,586	18,438
Fuel and lubricant	256,554	245,541
Vehicle repairs and maintenance	244,420	201,803
Residential building repairs	5,602	
Repairs & maintenance-furniture and equipment		4,091
Balance carried forward	1,835,147	4,705,096

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

	2017	2016
	GH¢	GH¢
Balance brought forward	1,835,147	4,705,096
Office building repairs	11,965	8,644
Equipment repairs	65,853	57,903
Seminars, workshops and conferences	399,798	291,139
Court Expenses	3,293	-
	<u>2,316,056</u>	<u>5,062,782</u>
Note 3d: Financial Charges	GH¢	GH¢
Bank Charges	1,771	18,646
	<u>1,771</u>	<u>18,646</u>
Note 3 e Depreciation	GH¢	GH¢
Land and building	18,213	7,692
Plant and machinery	17,569	19,816
Computer	25,590	34,062
Furniture and fittings	19,429	22,429
Motor vehicles	117,508	110,611
	<u>198,309</u>	<u>194,610</u>
Note 3f Write- off	GH¢	GH¢
White Volta	-	-
Pra	4,004	4,004
Tano	8,055	8,055
Black Volta	4,187	-
	<u>16,246</u>	<u>15,984</u>
Note 3g Intangible assets	GH¢	GH¢
MBS Navision	16,280	20,382
	<u>16,280</u>	<u>20,382</u>
Disaster Risk Management Control Project		
Automatic Rain Gauge		212,018
Hydro Equipment		583,472
		<u>795,490</u>

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

Notes 4a	Land and Building	Plant and Equip	IT Equipment and Computers	Office Equipment	Motor Vehicles	Work in progress	Totals
Plant, Property and Equipment	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢
Cost							
Bal, at 1st Jan. 2017	424,632	170,839	301,893	172,318	1,049,361	61,692	2,180,735
		-		-	-		-
Additions	209,121	13,894	1,450	2,227	-		226,692
Transfers							-
Disposal		-		-	(57,234)		(57,234)
Bal. at 31st Dec. 2017	633,753	184,733	303,343	174,545	992,127	61,692	2,350,193
Accumulated Dep.							
Charge for the year	18,213	17,569	25,590	19,429	117,508	-	198,309
Release on disposal		-	-	-	(57,234)	-	(57,234)
Bal. at 31st Dec. 2017	100,223	141,097	283,877	135,930	774,012		1,435,139
Net Book Value							
At 31st Dec, 2017	533,530	43,636	19,466	38,615	218,115	61,692	915,054
At 31st Dec., 2016	342,622	47,311	43,606	55,817	335,623	-	886,671

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

NOTES 4b	Land and Building	Plant and Equipment	IT Equipment and Computers	Office Equipment	Motor Vehicles	Work in progress	Totals
Plant, Property and Equipment	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢
Cost							
Bal. at 1st Jan. 2016	298,194	165,860	296,506	157,099	1,049,361	21,298	1,988,318
Additions		4,979	5,387	15,219	-	82,267	107,852
Transfers	126,438					(41,873)	84,565
Bal. at 31st Dec. 2016	424,632	170,839	301,893	172,318	1,049,361	61,692	2,180,735
Accumulated Dep.							
Bal. at 1st Jan. 2016	74,318	103,712	224,225	94,072	603,127	-	1,099,454
Charge for the year	7,692	19,816	34,062	22,429	110,611	-	194,610
Release on disposal	-	-	-	-	-	-	-
Bal. at 31st Dec. 2016	82,010	123,528	258,287	116,501	713,738		1,294,064
Net Book Value							
At 31st Dec, 2016	342,622	47,311	43,606	55,817	335,623	61,692	886,671

At 31st Dec., 2015	223,876	62,148	72,281	63,027	446,234	-	888,864
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NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

Note 5a	Balance at		Write	Balance at
Capital Expenditure	01/01/2017		Off	31/12/2017
	GH¢		GH¢	GH¢
White Volta	-	-	-	-
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>16,246</u>	<u>69,864</u>

Note 5b	Balance at	Additions	Write	Balance at
Capital Expenditure	01/01/2016		Off	31/12/2016
White Volta	3,925	-	3,925	-
Pra Basin	16,017		4,004 -	12,013
Tano Basin	40,279	-	8,055 -	32,224
Black Volta Basin	-	41,873	-	41,873
	<u>60,221</u>	<u>41,873</u>	<u>15,984 -</u>	<u>86,110</u>

Note 6a	Balance at			Balance at
Intangible Assets	01/01/2017	Additions	Amortization	31/12/2017
Navision Software	11,479	33,574	16,280	28,773

Note 6 b	Balance at			Balance at
Intangible Assets	01/01/2016	Additions	Amortization	31/12/2016
Navision Software	18,643	13,218	20,382	11,479

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

	2017	2016
	GH¢	GH¢
Note 7: Receivables		
Staff Debtors	1,595	(1,338)
Trade and sundry	1,010,592	1,363,260
Bad debt	(295)	(295)
Accountable Imprest	43,273.00	60,246 -
Mobilization	7,586	26,548
	1,062,751	1,448,421

Note 8: Cash and cash equivalents

For the purposes of the cash flow statement, cash and cash equivalent include cash and balance with banks.

Ecobank Cedi IGF 010134404643404	(8,642.00)	22,085
Ecobank Dollar IGF 011134404643401	3,520.00	(2,346)
Ecobank Euro EU-WRC 011134404643403	126,490.00	92,206
Ecobank Cedi WRC-IWRM 010134404643405	122,733.00	3,408
Ecobank Euro AKRRRP 011134404643408		(9,083)
Ecobank Cedi DRMCP 010134404643407	309.00	290
Ecobank Cedi GOG/SIS 010134404643401	22,328.00	60,219
Ecobank Cedi DRP 010134404643412		10
Ecobank Cedi GEF 010134404643410	914.00	62,349
Bank of Ghana Cedi IGF 1018631483477	8,076.00	79,957
Bank of Ghana Cedi DRMCP 1018631483488	15,400.00	5
Cash in Transit	-	(72)
Imprest	-	241
	291,128	309,269

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER, 2017

NOTE 9: Payables	2017	2016
	GH¢	GH¢
Sundry		81,846
PAYE	-	7
Withholding Tax	1,907	6,087
Agaley	(47)	(47)
Mannitech	507	507
Electricity		6,030
Accruals - Audit Fees	30,000	27,810
Retention- Works	13,849	6,169
Payable Goods	-	(5)
Payable Services	7,753	1,812
Others		3,202
	53,969	133,418

Note 10: Post Balance Sheet Events

Events subsequently to the balance date are in the financial statements only to the extent that they relate to the year under consideration and the effect is material.

Note 11: Related Parties

Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial or operational decisions.

Note 12: Going Concern Considerations

These financial statements have been prepared on a going concern basis, which assumes that the commission will continue to operate.

