

TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
ACRONYMS	4
FOREWORD	6
CHAPTER 1 - COMMISSION PROFILE AND INFORMATION.....	14
1.1 Mandate	14
1.2 Vision	14
1.3 Mission Statement.....	14
1.4 The Commission	14
1.5 Focus Areas for 2014	14
CHAPTER 2 - ADMINISTRATION OF REGULATIONS.....	16
2.1 Administration of Water Use Regulations.....	16
2.2 Water Users Compliance Monitoring.....	18
2.2.1 Environmental Issues.....	19
2.2.2 Challenges of Compliance Monitoring	21
2.3 Administration of Drillers Licence and Groundwater Development Regulations	21
2.3.1 Challenges of Drilling Licences Renewal.....	21
2.3.2 Site Verification and Monitoring Activities.....	22
CHAPTER 3 -MANAGEMENT OF PRIORITY RIVER BASINS	23
3.1 Densu Basin	23
3.1.1 Densu Basin Board.....	23
3.1.2 Regulatory Activities.....	23
3.1.3 Awareness Creation, Education and Training	23
3.1.4 Collaborative and Coordination Activities.....	24
3.1.5 Review of the Densu Basin IWRM Plan	24
3.2 White Volta Basin	24
3.2.1 White Volta Basin Board.....	24
3.2.2 Regulatory Activities.....	24
3.2.3 Awareness Creation, Education and Training	24
3.2.4 Collaborative and Coordination Activities	25
3.2.5 Implementation Status of the Basin’s IWRM Plan.....	25
3.3 Ankobra Basin	25
3.3.1 Ankobra Basin Board	25
3.3.2 Regulatory Activities.....	25
3.3.3 Awareness Creation, Education and Training	26
3.3.4 Collaborative and Coordination Activities.....	26
3.3.5 Implementation of Basin IWRM Plan	26
3.4 Pra Basin	26
3.4.1 Pra Basin Board	26
3.4.2 Ecological monitoring	26
3.4.3 Regulatory Activities.....	27
3.4.4 Awareness Creation, Education and Training.....	27
3.4.5 Collaborative and Coordination Activities.....	27
3.4.6 Implementation status of Basin IWRM Plan.....	28
3.5 Tano Basin.....	28
3.5.1 Tano Basin Board.....	28
3.5.2 Ecological Monitoring.....	28

3.5.3	Regulatory Activities.....	28
3.5.4	Awareness Creation, Education and Training	28
3.6	Dayi Basin	29
3.6.1	Dayi Basin Board	29
3.6.2	Implementation of Basin IWRM Plan	29
CHAPTER 4	- PUBLIC AWARENESS AND EDUCATION.....	32
4.1	Implementation of the Communication Strategy	32
4.3	Training in IWRM nationwide.....	32
4.4	Educational Materials and Publications	32
4.5	World Water Day Activities	32
CHAPTER 5	- WATER GOVERNANCE ACTIVITIES.....	34
5.1	Policy Development and Implementation.....	34
5.2	Development of Legislative Instruments.....	34
5.3	Establishment of Governance Institutions	34
CHAPTER 6	- WATER RESOURCES ASSESSMENT AND PLANNING.....	36
6.1	Water Quality Assessment	36
6.1.1	Water Quality Index.....	36
6.2	Hydrogeological Assessment	38
6.3	River Basin IWRM Plans.....	38
6.4	Flood Hazard Assessment.....	38
6.5	Climate Variability and Change Initiatives.....	39
CHAPTER 7	- TRANSBOUNDARY WATER MANAGEMENT	41
7.1	The Volta Basin Authority.....	41
7.2	Ghana/Burkina Faso Joint-Technical Committee on IWRM	41
7.3	ECOWAS Water Resources Coordination Centre	41
CHAPTER 8	- ADMINISTRATIVE AND HUMAN RESOURCES.....	43
8.1	Training Courses	43
8.2	Academic Courses.....	43
8.3	Workshops, Meetings and Conferences.....	43
8.4	Committees	44
8.5	Human Resources.....	45
8.6	Library.....	47
CHAPTER 9	- TECHNICAL ASSISTANCE.....	48
9.1	Norwegian Agency for Development Cooperation	48
9.2	Africa Water Facility	48
9.3	World Bank	48
9.4	UNICEF	49
9.5	International Water Association/EU.....	49
CHAPTER 10	- FINANCIAL STATUS.....	51
10.1	Audited Financial Statements	51
Appendix 1	- Members of the Water Resources Commission	52
Appendix 2	: Water Use Register - 2014.....	53
Appendix 3	: Compliance Environmental Monitoring Data – 2014	65
Appendix 4	: Water Well Drilling Licence Register - 2014	67
Appendix 5	– Audited Financial Statement for 2014.....	71

List of Figures

Figure 1: The various water use activities for the year 2014.....	17
Figure 2: Total number of permits registered from 2008-2014	17
Figure 3: Comparison of water use activities between 2013 and 2014.....	18
Figure 4: Monthly mean TSS concentration upstream of the Ankobra river from 2011-2014	19
Figure 5: Monthly mean TSS concentration downstream of the Ankobra river from 2011-2014.....	20
Figure 6: TDS concentration comparison of upstream, midstream and downstream reaches.....	20
Figure 7: Comparison of licence category for the year 2013 and 2014.....	21
Figure 8: DBB members on an Island on the Weija Lake	29
Figure 9: World Water Monitoring activity at Densuano in the Densu Basin	29
Figure 10: World Water Monitoring activity at the Weija Dam	29
Figure 11: Water Quality Monitoring on the White Volta River.....	29
Figure 12: Transplanting of Seedlings at Pwalugu in the White Volta Basin	30
Figure 13: Section of the Ankobra River at Domenase.....	30
Figure 14: Compliance monitoring of water quality in the Ankobra Basin.....	30
Figure 15: Indiscriminate waste disposal at Esuoso in the Ankobra Basin	30
Figure 16: Relatively good water quality of the River Mankran River at Mankranso in the Pra Basin	30
Figure 17: Police Investigators at the training workshop in the Pra Basin	30
Figure 18: EU sponsored Project Team Members at ecological and community engagement exercise in the Pra Basin	31
Figure 19: Water weeds and siltation of the Tano River	31
Figure 20: Illegal mining at the confluence of Tano and Disue Rivers at Pantoso.....	31
Figure 21: A Driller without drilling license in the Tano Basin.....	31
Figure 22: Participants at the finals of the Senior High Schools debate.....	33
Figure 23: Sections of the participating schools at the debate	33
Figure 24: Panellists on radio talk show on BAR, Sunyani	33
Figure 25: Climax of the 2014 World Water Day at the Basin Level, Tano.....	33

List of Tables

Table 1: Distribution of Permit Holders in 2014	16
Table 2: Top three permit holders engaged in water supply.....	17
Table 3: List of compliant companies for 2014.....	18
Table 4: Water Quality Classification System	36
Table 5: Trend of water quality from 2005 to 2014.....	36
Table 6: Water Quality Index of Major Rivers in Ghana from 2005 to 2014	37

ACRONYMS

ABB	-	Ankobra Basin Board
AMCOW	-	African Ministers' Council on Water
AWF	-	Africa Water Facility
CBO	-	Community Based Organisation
CONIWAS	-	Coalition of NGOs in the Water and Sanitation Sector
CWP	-	Country Water Partnership
CWSA	-	Community Water and Sanitation Agency
DA	-	District Assembly
DBB	-	Densu Basin Board
DGRE	-	Directorate General for Water Resources (Burkina Faso)
DRM	-	Disaster Risk Management
ECD	-	Environmental Control Dam
ECOWAS	-	Economic Community of West African States
EIA	-	Environmental Impact Assessment
EPA	-	Environmental Protection Agency
EU	-	European Union
FC	-	Forestry Commission
FEWS	-	Flood Early Warning System
GIDA	-	Ghana Irrigation Development Authority
GFDRR	-	Global Facility for Disaster Reduction and Recovery
GMet	-	Ghana Meteorological Agency
GoG	-	Government of Ghana
GRWCG	-	Ghana Raw Water Criteria and Guidelines
GWCL	-	Ghana Water Company Limited
GWP	-	Global Water Partnership
HSD	-	Hydrological Services Department
IGF	-	Internally Generated Funds
ISSER	-	Institute of Statistical, Social and Economic Research
IWA	-	International Water Association
IWMI	-	International Water Management Institute
IWRM	-	Integrated Water Resources Management
JTC	-	Joint Technical Committee
LI	-	Legislative Instrument
MAB	-	Man and Biosphere

MC	-	Minerals Commission
MDGs	-	Millennium Development Goals
MMDAs	-	Metropolitan, Municipal and District Assemblies
MWRWH	-	Ministry of Water Resources, Works and Housing
NDSU	-	National Dam Safety Unit
NGOs	-	Non-Governmental Organisations
NORAD	-	Norwegian Agency for Development Cooperation
PFCM	-	Permanent Framework for Coordination and Monitoring
PBB	-	Pra Basin Board
PURC	-	Public Utilities Regulatory Commission
SAP	-	Strategic Action Program
TBB	-	Tano Basin Board
TDS	-	Total Dissolved Solids
TSS	-	Total Suspended Solids
UNDP	-	United Nations Development Program
UNEP	-	United Nations Environmental Program
UNESCO	-	United Nations Educational Scientific and Cultural Organisation
UNICEF	-	United Nations International Children Emergency Fund
VBA	-	Volta Basin Authority
VRA	-	Volta River Authority
WACDEP	-	Water, Climate and Development
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
WSF	-	Water Storage Facility
WVBB	-	White Volta Basin Board
WWD	-	World Water Day

FOREWORD

My colleagues and I came into office during the first quarter of the year 2014. There is no gainsaying the fact, that it was a year that oodles of significant insights were gained, which contributed significantly to inform the decisions towards the efficient delivery of plans, programs, and projects at the basin, national and international levels.

This 16th Annual Report of the Water Resources Commission (WRC), therefore, summarises the significant gains that was made in the administration of regulations; management of priority river basins; information and education; coordination and collaboration; transboundary water management initiatives; general administration and human resources; and financial management.

The Integrated Water Resources Management programme (IWRM) has been carried further to other river basins. The Black Volta and Birim basins are gradually coming on stream in terms of introducing practical local level IWRM interventions and establishing WRC's physical presence. A notable effort and outcome was the initiative to strengthen the institutional capacity of the agencies responsible for flood and disaster risk management. The effort of the National Development Planning Commission in successfully leading the nation-wide engagement with Metropolitan, Municipal and District Assemblies to mainstream water security and climate resilience in their Medium Term Development Plans (2014-2017) is also a notable outcome. These efforts were not only timely but also logical in view of the priority being placed on climate change and resilience 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.

I would like to extend the Commission's 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, 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 pioneer and 3rd Commission for a job well done. I also wish to congratulate the staff of the Secretariat for their zeal and commitment to work despite the inevitable challenges.

AGYEWODIN ADU GYAMFI AMPEM
Chairman, Water Resources Commission

EXECUTIVE SUMMARY

INTRODUCTION

The Water Resources Commission (WRC) was established by an Act of Parliament (ACT 522 of 1996) as the institution generally responsible for the management of Ghana's fresh water resources. The 1st Commission was appointed in 1998 and operations started in 1998. The 4th and current Commission took office in March 2014.

This is the 16th Annual Report of the WRC. It highlights the regulatory and water resources assessment and management activities, administrative matters, manpower, technical assistance, and financial status of the Commission during the year 2014.

ADMINISTRATION OF REGULATIONS

During the year 2014, a total of 78 water use permits were issued out of which 42 were new permits and the remaining 36 were renewals. The total number of permits recorded in the water register was 266.

The permits were for water uses including aquaculture, commercial, construction, domestic and municipal (water supply), dredging, industrial, irrigation, mining, power generation, and recreation. The majority of 206 permit holders were engaged in domestic/municipal water supply, mining and aquaculture activities representing 46%, 22% and 10% respectively.

Compliance Monitoring

In terms of compliance, only 16 companies submitted their monthly, quarterly and /or annual reports environmental reports. The two main issues identified during the analysis of the 2014 environmental reports were illegal small-scale mining and unsafe waste management practices. Golden Star (Bogoso/Prestea) Limited reported that galamsey activities in the upstream and downstream reaches of the Ankobra River at Prestea increased the concentration of suspended solids which resulted in an elevation in turbidity. Consequently, the Ankobra River at Prestea is not used for domestic, irrigation, or fishing purposes due to its polluted nature.

Challenges identified during compliance monitoring included failure of permit holders to submit monitoring data due to the high cost of engaging the services of water testing companies; and inadequate periodic surveillance of areas covered by water use permits.

Drilling Licence and Groundwater Development Regulations

The administration of the drilling licence and groundwater development regulations resulted in the issuance of 17 drilling licences consisting of 13 new and 4 renewals. The 2014 Drilling Licence Register recorded 108 registered drilling licences as against 111 registered licence holders in 2013. The 2014 register indicates that 2% were category A drilling licence holders, while 21% and 77% holders had categories B and C licences respectively.

Most of the drilling companies that applied to renew their drilling licences faced a number of challenges including the failure to submit reports on previous work(s) carried out; companies that provided reports did not have some vital information such as the GPS readings, lithology, depth to water strike, estimated yields, pumping test and water quality data of the boreholes drilled; and companies that executed jobs for mining companies failed to submit pumping test and water quality data of wells drilled, because such data was not included in their job assignments.

MANAGEMENT OF PRIORITY RIVER BASINS

Densu Basin

The Densu Basin Board held 2 meetings to review the Densu IWRM Plan developed in the year 2007. The regulatory activities carried out in the basin included exercises to control indiscriminate dumping of solid and liquid waste, building in waterways, sand winning, and quarrying especially within the Weija Acquisition and Atewa reserve; and investigation reports of alleged illegal mining from communities at the source area of the basin.

Most of the collaborative and coordination activities were organized with District Assemblies, International NGOs and Development Partners to deal with specific issues. Examples of such collaborative activities were the 5-year Payment for Watershed Services Project initiated in 2012; the proposed Special Treat Project under the Dutch Government funded Ghana WASH Window to rebuild a wastewater treatment plant at the Nsawam Medium Security Prison; and the A Rocha Ghana led Project that aims at turning the Atewa Forest Range into a National Park.

White Volta Basin

The White Volta Basin Board was reconstituted during the year and held one meeting. The regulatory activities carried out within the basin were on the follow-up of water users identified in 2013 to regularize their operations, site visits, and facilitation of the process for granting new and renewal of drilling licenses.

The secretariat was part of some collaborative and coordination initiatives including the WASCAL program on research and capacity building of stakeholders and the Basin Officers; CILSS Initiative on capacity building of communities focusing on ecosystem restoration; engagement of MMDAs to enforce community initiated by-laws on buffer zones and the mainstreaming of water resources issues in their development plans; and technical assistance to the EPA on the implementation of the Sustainable Land and Water Management and the Ghana Environmental Resource Management projects. The EPA also supported the secretariat with seedlings to undertake some riverbank rehabilitation and protection activities in Pwalugu, Weisi and Bachonsa.

Ankobra Basin

The Ankobra Basin Board held two meetings in 2014. The first meeting was to reconstitute the Board, while the second meeting started the processes of reviewing the IWRM Plan to take into consideration the level of degradation of the riparian vegetation due to extensive mining activities in the basin.

Other activities included collaboration with the “Trading Ghana’s Waters for Gold” team to produce a documentary on how ‘galamsey’ is destroying the country’s waters and participation in all the public hearing meetings organized by the EPA as part of the Environmental Impact Assessment process in the basin.

Pra Basin

Pra Basin Board monitored some water bodies to observe the water quality trends in the Offin sub-basin and interacted with communities on water resources challenges to inform the choice of solutions. Most of the rivers monitored were in good condition.

A key regulatory activity was the visit to Offinso in collaboration with the EPA to ascertain the closeness of a proposed site to the Offin River for the Association of Garages.

Collaborative and coordination activities were undertaken with the NADWOS Projects to organize a sensitization walk as part of the World Water Day celebrations; EPA to demarcate the riparian buffer width at Kwakye Dida in the Sekyere Central District; and the UNESCO sponsored project 'Sustainable Management of Lake Bosomtwe' as a member of the Project Steering and Man & Biosphere (MAB) Committees.

Tano Basin

A sub-committee meeting was held to develop an action plan by the three committees to address challenges confronting the basin. Ecological monitoring was conducted to ascertain the impacts of anthropogenic activities on the water resources.

Some observations were made and actions taken in collaboration with the EPA to stop Sames Group Construction Limited from clearing areas within the riparian buffers of a tributary along Tanoso; control the encroachment of the buffer for construction, siting of fuel filling stations, and as dumping sites for industrial and household waste at Techiman, Pantoso, Sefwi Akura, Sefwi Wiaso, Dadieso and Samreboi.

Dayi Basin

The Dayi Basin Board became functional and had 2 meetings and undertook one ecological monitoring in the year.

The Board also established the Legal and Enforcement; Land Use and Climate Change; and the Public Awareness and Education sub-committees to assist the Board to perform its work.

PUBLIC AWARENESS AND EDUCATION

Public awareness and education activities that were undertaken mainly at the national level focused on the implementation of the WRC Communication Strategy and Action Plan 2012-2016. A number of nationwide radio and television discussions were organized on the state of water resources in the country, particularly on the issue of 'galamsey' and its impact on water resources.

The National Buffer Zone Policy was launched and nationwide distribution of the policy document was initiated. Nationwide IWRM training workshops were organised for about 220 media personnel in eight regions (except Central and Volta regions) and 215 police investigators in nine regions, except the Volta Region.

Two documentaries were produced on the Tano and Pra basins for screening on national television networks as well as during the training workshops for the police and the media personnel.

The WRC continued with the role of hosting the National Planning Committee to organise the World Water Day celebrations. The celebrations included an essay writing competition for 12 selected basic schools and a debate for 8 selected Senior High Schools in the Sekondi-Takoradi Metropolis. The climax was a durbar and flag-hoisting event, which was preceded by a street procession through the principal streets of Takoradi, the Western Regional capital.

WATER GOVERNANCE

The Riparian Buffer Zone Policy was formally launched and its implementation continued during the year with relevant sections stated as conditions in water use permits issued. Pilot buffer zones were established to protect sections of water bodies in the White Volta and Dayi basins through donor-funded projects.

The Dam Safety Regulations was presented to the Parliamentary Sub Committee on Subsidiary Legislation and is ready to be laid in Parliament. A Dam Safety Officer has been contracted temporarily to continue the coordination and facilitate the set up of the National Dam Safety Unit.

The Upper West Regional Coordinating Council is assisting the WRC to acquire office space for the Black Volta basin office, which is to be located in Wa, the regional capital.

WATER RESOURCES ASSESSMENT AND PLANNING

Water Quality Assessment

The Commission has been monitoring the quality of surface waters in Ghana with the main objective of collecting and analysing water quality data to determine the state of water quality in the country, pollution, and trends, if any.

The monitoring program covers 41 monitoring stations including thirty-two (32) river stations and nine (9) reservoir/lakes stations. The year 2014 witnessed a deterioration of water quality, generally across the country. Notable improvement in water quality was the Lake Bosomtwe, which recorded a WQI of 32.3 in 2013 and increased to 46.8 in 2014. This was due to the removal of a number of aquaculture cages within the lake.

Other rivers that showed distinct improvement in quality included the Densu at Nsawam; Tano at Sefwi-Wiawso; and the Volta at Aframso, Sabari, Nabogo and Kpong. The continued and unregulated activities of small-scale miners (galamsey) were almost entirely responsible for the apparent deterioration of some water bodies such as the Tano, Birim, Offin and Ankobra. This is evidenced by the elevation of parameters such as Total Suspended Solids, in water bodies such as the Pra River.

Hydrogeological Assessment

The National Nuclear Research Institute (NNRI) on behalf of the WRC continued to monitor the 35 monitoring wells located in the three (3) northern regions in Ghana. Field data on static water Levels were collected for information on the fluctuations in groundwater levels. Field parameters such as temperature, pH and conductivity were measured in situ, while hydro-chemical activities and analysis of stable isotope continued at the end of the year.

River Basin IWRM Plans

The focus was to initiate the review of 3 existing IWRM Plans to incorporate changing trends in water management issues in the basins. Workshops were organised to complete the stakeholder engagement processes for the outcomes to be incorporated into the Densu and White Volta IWRM Plans. However, the review of the Ankobra IWRM Plan was initiated with the 1st stakeholder engagement workshop.

The process was initiated to engage a consultant to undertake baseline studies as a major input into the development of the IWRM Plan for the Black Volta Basin.

Flood Hazard Assessment

The Global Facility for Disaster Reduction and Recovery (GFDRR), managed by the World Bank, is supporting the 2nd phase of the Flood Hazard Assessment program with a grant of US\$1.3 million. It is to strengthen the institutional capacity of the agencies responsible for flood and disaster risk management in support of Ghana's efforts to achieve the Hyogo Framework for Action for disaster reduction.

The Project Agreement was signed by both parties (World Bank and the Ministry of Finance) in August 2014; the procurement plan and notice for procurement were approved; the Terms of References for procurement of goods and services were finalised; and bid documents for the procurement of hydro meteorological equipment were also approved by the World Bank.

Climate Variability and Change Initiatives

The 5-year Water, Climate and Development Programme (WACDEP) entered its 4th year in 2014. It aims at integrating water security and climate resilience in the development planning processes, build climate resilience, and support countries to adapt to a new climate regime through increased investments in water security.

The notable outcome of was that the National Development Planning Commission was successfully engaged in leading the nation-wide engagement with MMDAs, while CWP/WRC provided the technical backstopping for mainstreaming water security and climate resilience in their Medium Term Development Plans (2014-2017). Also the Reference Group to the WACDEP Technical Group paid a working visit, which provided insights into opportunities for the project to develop an Investment Plan.

TRANSBOUNDARY WATER MANAGEMENT

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

The Volta Basin Authority

The 5th Meeting of the Council of Ministers of the Volta Basin Authority was held on 17 March 2014 in Lome, Togo. In preparation for this meeting, the 7th Experts Committee meeting was held from 12 to 15 March 2014 at the same venue.

A study on short and medium term autonomous and sustainable financing mechanisms of the VBA was completed. As part of the future plans and programs and external support for the VBA a study on the mid-term evaluation of the Strategic Plan 2010 - 2014 was carried out and the development of a new Strategic Plan 2015-2019 was initiated. Finally, the Council of Ministers and the Ministers in charge of environment endorsed the Strategic Action Programme of the Volta Basin, which is the follow-up document from the Transboundary Diagnostics Analysis study of the Volta Basin that identified water and environment issues that need to be addressed.

Ghana/Burkina Faso Joint-Technical Committee on IWRM

The Ghana-Burkina Faso Joint Technical Committee on IWRM (JTC-IWRM) was set up in 2005 to strengthen consultation for the joint management of the natural resources of the Volta Basin and to advise the Ministers in charge of water of the two countries.

The exchange of hydrological information between the two countries continued especially with respect to the water levels of the Bagre and Kompienga Dams during the wet season.

ECOWAS Water Resources Coordination Centre

The ECOWAS Permanent Framework for Co-ordination and Monitoring (PFCM) of Integrated Water Resources Management (IWRM) in West Africa basically promotes and co-ordinates the implementation of community integrated water resources management in West Africa, in compliance with ECOWAS mission and policies.

Under the PFCM, ECOWAS member states approved a draft Directive for the Development of Large-scale Water Infrastructure in the region, which would be binding when adopted. The guidelines for developing water infrastructure in West Africa state that large dams should be fully evaluated at least every 10 years. Such evaluations should assess their economic, social and environmental impact as well as inform decisions about future investments and policy-making for large dams.

ADMINISTRATIVE AND HUMAN RESOURCES

Targeted staff training programs were undertaken both at the national and international levels. The main focus was on competency-based training mainly in water resources management. Four staff members completed their BSc. Administration programs, while one and two staff members are pursuing their Masters and PhD degree programs respectively.

The Commission had 37 staff members (24 male and 13 female) at post. The number of senior staff was 27 with the remaining 10 as junior staff.

Library

The library in the year 2014, continued to collect/receive materials/information both in soft copies (CDs, diskettes, flash disks, emails, etc.) and hard copies (printed paper documents). A total number of 43 books, newsletters, journals and compact disks were received and logged into the library database, which brought all items in the library to a total of 1,184.

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.

TECHNICAL ASSISTANCE

Norwegian Agency for Development Cooperation

The Norwegian Agency for Development Cooperation (NORAD) provided a 3-year assistance for the establishment of a National Dam Safety Unit and the development of Dam Safety Regulations.

Africa Water Facility

WRC is the executing agency for two (2) projects supported by the African Development Bank through the Africa Water Facility (AWF):

Re-optimization of Operations of Akosombo and Kpong Dams on the Volta River Project: A Mid-term review was completed in February 2014 from which new activities to improve livelihoods downstream (public health, agriculture, and water supply) were introduced.

Design For Reuse – Harvesting the Value of Effluent and Nutrients for Sustaining the Operation of Sanitation Facilities Project: Monitoring was ongoing on the reuse of the rehabilitated pilot wastewater treatment plant for irrigation in Presec, Legon, Accra; pilot value chain was constructed for wastewater treatment plants and effluent used for aquaculture in Kumasi; and training manuals were developed for the training of potential beneficiaries.

World Bank

The Global Facility for Disaster Reduction and Recovery (GFDRR), managed by the World Bank, responded to a Government of Ghana request and allocated a grant of US\$ 1.3 million to further strengthen flood management through the Disaster Risk Management (DRM) country plan. The WRC is the executing agency with respect to the project's coordination and implementation.

UNICEF

The Government of Netherlands and UNICEF are in partnership to execute the 'Accelerating Sanitation and Water for all in Ghana' project. UNICEF WASH has recognised the importance of sustaining and protecting water sources, and, as part of the programme, tasked the WRC to build the capacity of selected MMDAs and School Health Clubs (SHCs) to mainstream water resources management into their core functions, particularly within the context of climate change adaptation and mitigation, to ensure sustainable water supply.

International Water Association/EU

The International Water Association through the support of EU is funding the 'Capacity Building in Water Quality Monitoring and Surveillance in Ghana' project since 2012. It is to give a significant impulse to the health situation in Ghana by improving the control on the quality of drinking water. The main participating organisations include the GWCL, WRC, PURC, ProNet, and the Ministry of Water Resources, Works and Housing.

The main task assigned to WRC is to raise awareness on the importance of water quality within the Ghanaian society with the main objective of reducing pollution of water bodies.

Target groups within the MDAs and MMDAs were identified for awareness raising in the three project areas, which are the Barekese, Weiija and Daboase catchments. Some key institutions include EPA, MC, FC, RCC, WASH Journalist network, MLGRD, NGOs, etc. Effective strategies were developed to reach target groups within the communities and the other identified target groups in the three catchments to reduce pollution

FINANCIAL STATUS

The audited financial statements indicate that total income for 2014 was GH¢4,508,383. On the other hand, details of expenditure show that general administrative expenditure for the period amounted to GH¢3,776,578 - a decrease by 6.85% from the GH¢4,054,412 recorded in 2013. This resulted in a net gain of GH¢731,805 but a decrease of 60.4% compared to that of 2013 which was GH¢1,848,057. The accumulated balance as at 1 January 2014 was GH¢4,438,008 and the recorded accumulated balance as at 31 December 2014 was GH¢5,169,803.

CHAPTER 1 - COMMISSION PROFILE AND INFORMATION

1.1 Mandate

The Water Resources Commission (WRC) was established by an Act of Parliament (ACT 522 of 1996) as the institution generally responsible for the management of Ghana's fresh water resources. It is specifically mandated to regulate and manage the water resources and to coordinate 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

As a public sector organisation, 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 represented on the Commission 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 list of members of the 4th Commission is presented in Appendix 1 of this Report.

1.5 Focus Areas for 2014

This 16th Annual Report of the WRC underscores the following for the year 2014:

- 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

During the year 2014, a total of 78 water use permits were issued out of which 42 were new permits and the remaining 36 were renewals.

The total number of permits recorded in the register at the end of the year 2014 was 266. The permits were for ten different water use activities namely aquaculture, commercial, construction, domestic and municipal (water supply), dredging, industrial, irrigation, mining, power generation, and recreation. Majority of the permit holders were engaged in domestic/municipal water supply, mining and aquaculture activities representing 46%, 22% and 10% respectively.

The distribution of permits recorded in the water use register in 2014 is presented in Table 1, while Figure 1 shows the proportion of permit holders. Table 2, which presents the top three permit holders for the water supply activity shows that Ghana Water Company Limited (GWCL) acquired about 71% of the total number. The 2014 water use register is presented in Annex 2.

Table 1: Distribution of Permit Holders in 2014

No.	Water use Activity	Total no. of permits	Percentage of total no. of permits
1	Aquaculture	27	10.2
2	Commercial	14	5.3
3	Construction	4	1.5
4	Domestic and Municipal	123	46.2
5	Dredging	8	3.0
6	Industrial	16	6.0
7	Mining	58	21.8
8	Irrigation	8	3.0
9	Power Generation	2	0.8
10	Recreation	2	0.8
11	Industrial/Domestic	1	0.4
12	Industrial/Irrigation	2	0.8
13	Irrigation/Domestic	1	0.4
Total		266	100

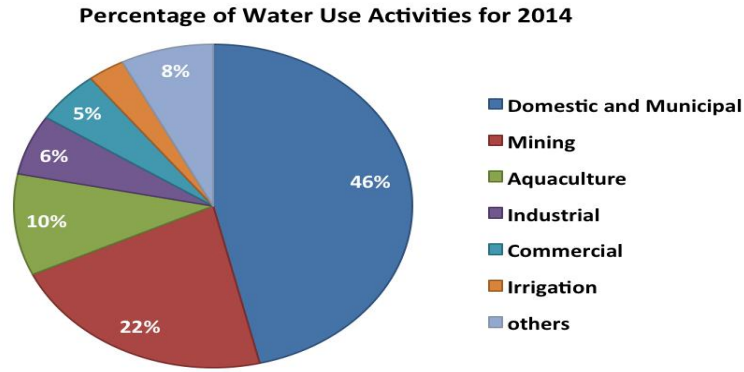


Figure 1: The various water use activities for the year 2014

Table 2: Top three permit holders engaged in water supply

No.	Domestic and Municipal (Water Supply)	Total no. of permits (2014)	Percentage of total no. of permits (2014)
1	GWCL	87	70.7
2	Water Health Ghana Ltd	19	15.4
3	Golden Star (Wassa) Limited	3	2.4
4	Others	14	11.0
	Total	123	100.0

Analysis of the annual total number of water use permits registered from 2008 to 2014 showed decreasing trends in 2009 and 2012 as presented in Figure 2. This trend was due to the removal of expired permits from the register and/or a lower number of new permits issued for those years. However, steady increases were recorded from 2010 to 2011 and from 2013 to 2014 due to an increase in the number of new permits acquired.

Generally, there was an increase in the number of permits for all the water uses, except power generation.

Figure 3 is a comparison of the different water use activities between 2013 and 2014.

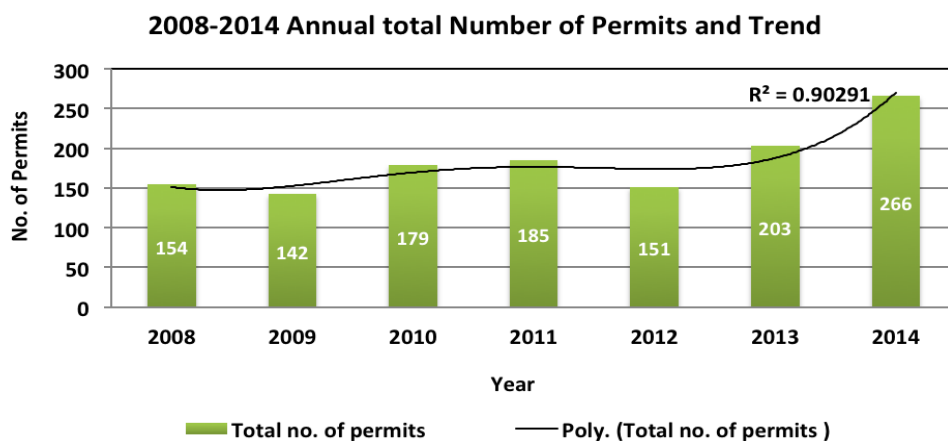


Figure 2: Total number of permits registered from 2008-2014

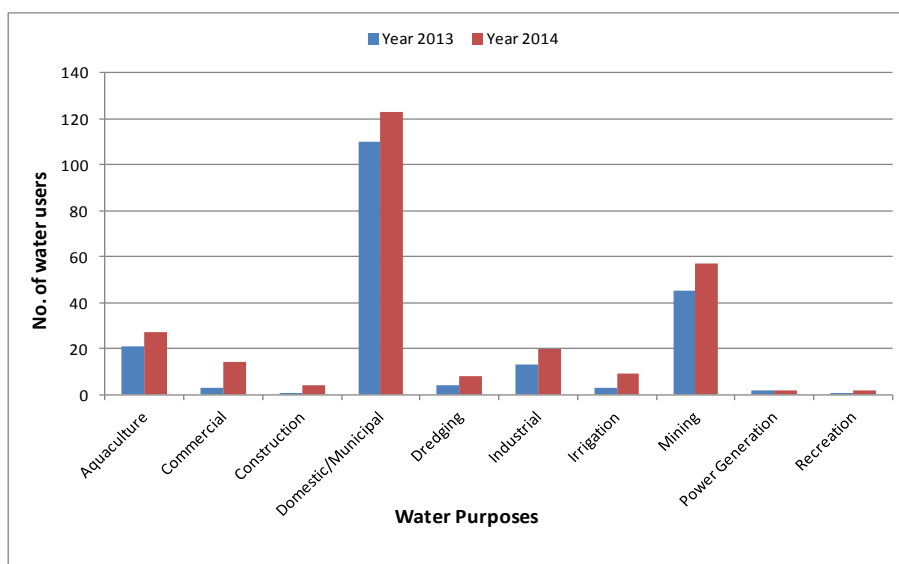


Figure 3: Comparison of water use activities between 2013 and 2014.

2.2 Water Users Compliance Monitoring

In the year 2014, the 16 companies listed in Table 3 submitted their monthly, quarterly and/or annual environmental reports. The data submitted include:

- Surface and borehole water quality;
- Effluent quality and discharge volumes into water bodies;
- Groundwater and surface water abstraction volumes;
- Groundwater levels;
- Rainfall measurements and rainwater harvesting volumes.

Table 3: List of compliant companies for 2014

No.	Complying Companies	Water Use Activity
1	Abosso Goldfields Ltd.	Mining
2	Adamus Resources Ltd.	Mining
3	Anglogold Ashanti Iduapriem Ltd.	Mining
4	Anglogold Ashanti Ghana Ltd.	Mining
5	Akosombo Textiles Ltd.	Industrial (Textiles manufacturing)
6	Benso Oil Palm Plantation Ltd.	Irrigation
7	Cargill Ghana Ltd.	Industrial (cocoa processing)
8	Chirano Gold Mines Ltd.	Mining
9	Ghana Oil Palm Company Ltd	Industrial (Palm nut processing)
10	Ghana Rubber Estates Ltd.	Irrigation
11	Gold Fields Ghana Ltd. -Tarkwa Gold Mine	Mining
12	Golden Star (Bogoso Prestea) Ltd.	Mining
13	Mensin Gold Bibiani Ltd.	Mining
14	Newmont Golden Ridge Ltd. – Akyem	Mining
15	Perseus Mining Ghana Limited - Edikan Gold Mine	Mining
16	Triton Aquaculture Ltd	Aquaculture

2.2.1 Environmental Issues

The two main issues identified during the analysis of 2014 environmental reports were illegal small-scale mining and unsafe waste management practices. Appendix 3 shows the compliance monitoring data on the Ankobra to exemplify the trends and effects of the two practices in 2014.

Illegal Small-Scale Mining

Analysis of the water quality data, especially from mining companies, and the WRC annual water quality monitoring shows that unregulated small-scale mining (galamsey) activities continue to degrade the raw water quality of water bodies. For example, Golden Star (Bogoso/Prestea) Limited (GSBPL) reported that galamsey activities in the upstream and downstream reaches of the Ankobra River at Prestea increased the concentration of suspended solids resulting in an elevation in turbidity.

According to the Ghana Raw Water Criteria and Guidelines (GRWCG), concentrations of Total Suspended Solids (TSS) above 100 mg/l cause turbid conditions, could result in a decrease in the availability of food for aquatic organisms higher up the food chain, and inhibit the feeding mechanisms of filter-feeding organisms. In extreme cases, sensitive freshwater species may be completely wiped out of the affected aquatic ecosystem if the source of the suspended solids is not eliminated. The Ankobra River at Prestea is not used for domestic, irrigation, or fishing purposes due to its polluted nature.

Figures 4 and 5 show the monthly mean concentrations of TSS and turbidity upstream and downstream of the Ankobra River respectively, from 2011 to 2014 (GSBPL, 2011-2014). Generally, in terms of the TSS and turbidity parameters, the quality of the river upstream and downstream was better in 2011 than it was in 2014.

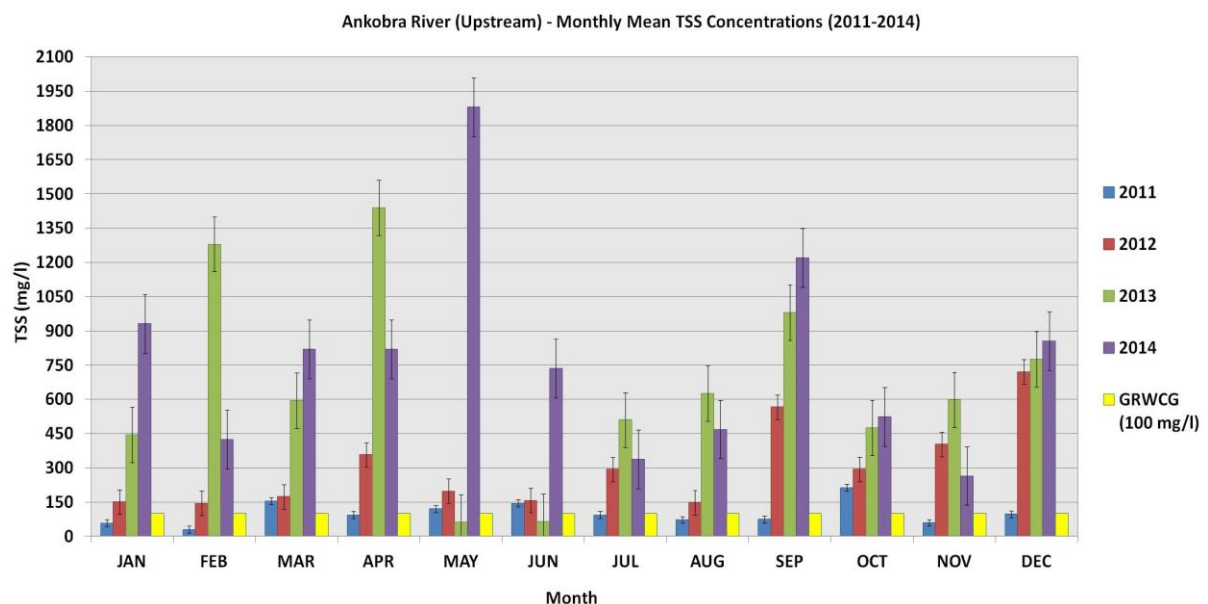


Figure 4: Monthly mean TSS concentration upstream of the Ankobra river from 2011-2014

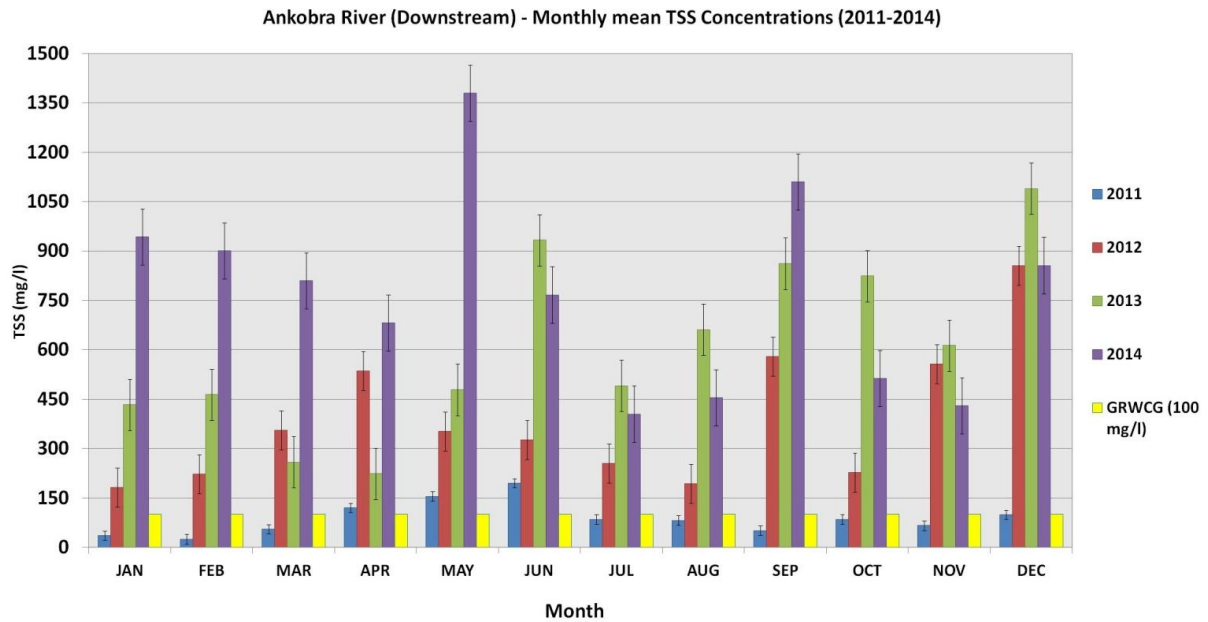


Figure 5: Monthly mean TSS concentration downstream of the Ankobra river from 2011-2014

Waste Management

The lack of appropriate household waste disposal facilities contributes to the degradation of the raw water quality of some water bodies. For example, GSBPL again reported that in Prestea, solid waste from households and domestic effluent continues to be dumped into the Nsuo Kofi stream, which flows into the Ankobra River. This has led to an increase in Total Dissolved Solids (TDS) concentrations far above the maximum threshold of 1000 mg/l for healthy freshwater ecosystems.

A trend analysis of TDS concentrations of the upstream, midstream and upstream reaches of the Nsuo Kofi Stream, from 2011 to 2014, showed a decreasing trend from 2011 to 2013 but a sharp increase from 2013 to 2014 as presented in Figure 6.

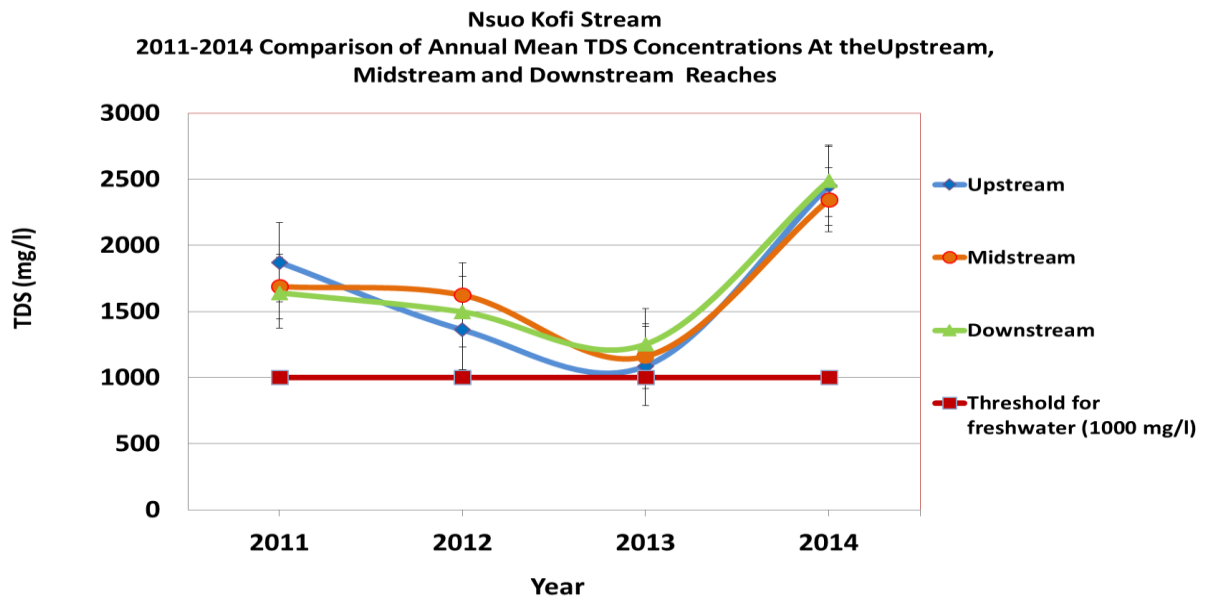


Figure 6: TDS concentration comparison of upstream, midstream and downstream reaches of the Nsuo Kofi Stream

2.2.2 Challenges of Compliance Monitoring

The challenges that were identified in the course of compliance monitoring included the following:

- Failure of permit holders to submit monitoring data due to:
 - High cost implications involved in engaging the services of water testing companies;
 - Inadequate punitive measures taken against non-compliant permit holders.
- Inadequate periodic water quality monitoring by the WRC of areas covered by water use permits; and
- Submission of inaccurate data.

2.3 Administration of Drillers Licence and Groundwater Development Regulations

A total of 17 drilling licences consisting of 13 new and 4 renewals were issued in 2014. The 17 licences issued in 2014 were one less than that of 2013. The licences issued were in the following categories:

Category B: Company with at least 2 water well drilling rigs - 2 licences; and

Category C: Company with leased or 1 water well drilling equipment- 15 licences.

The 6th Drilling Licence Register published at the end of 2014 and presented in Annex 4, showed a total of 108 registered drilling licences as against the 111 registered licence holders in 2013. The 2014 register indicates that 2% were category A drilling licence holders, while 21% and 77% holders had categories B and C licences respectively. Figure 7 presents the comparison of the licence category for 2013 and 2014.

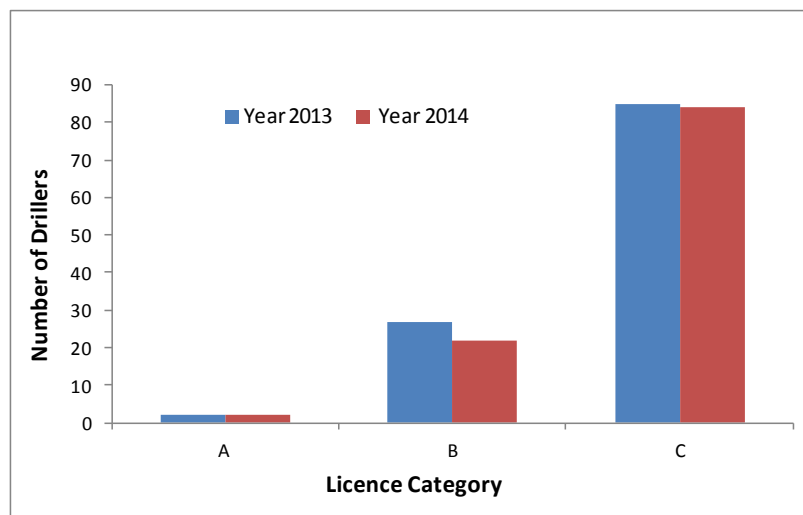


Figure 7: Comparison of licence category for the year 2013 and 2014

2.3.1 Challenges of Drilling Licences Renewal

Most of the drilling companies that applied to renew their drilling licences faced the following challenges:

- i. Failure to submit reports on previous work(s) carried out;

- ii. Companies that provided records on boreholes drilled did not have some vital information such as GPS readings, lithology, depth to water strike, estimated yields, pumping test, and water quality data of borehole.
- iii. Companies that executed jobs within mining areas failed to submit pumping test and water quality data of wells drilled. This was because pumping tests and water quality analyses were not included in their job assignments.

2.3.2 Site Verification and Monitoring Activities

Field visits were carried out in mid 2014 to monitor activities of drilling contractors as part of efforts towards compliance to the Drilling Licence Regulations (LI 1827). The field visits examined how well drilling and ancillary activities such as pumping and recovery test procedures, and collection of water samples to assess their quality were being undertaken on selected project sites. A community each was visited in all the 10 regions and the following observations were made:

- i. Some drillers drilled boreholes as 'open holes' instead of casing (plains and screens) to the final drilled depth contrary to agreement with the client.
- ii. Drilling of crooked boreholes affected installation of casing and screens culminating in improper well construction.
- iii. Some drilling companies poorly collected soil/rock samples and essential data like penetration rate log, leading to wrong lithological logging etc. This consequently led to poor design of wells.
- iv. Some companies used sub-standard casings and screens in an attempt to save cost. This resulted in incursion of soil/formation materials into wells that affect water quality problems such as turbidity and loss of production potential of the wells.
- v. Some companies used inappropriate gravel pack material, which led to loss of production potential of the well.
- vi. Inadequate and improper placement of sanitary seal/grout led to surface/head contamination of wells and subsequent problems with the quality of the water.
- vii. Inadequate well development as a result of which silt, clay, drill cuttings and other foreign materials rendered the quality of the water poor.
- viii. Improper conduct of pumping tests, and in some cases, forgery of pumping test data leading to the selection of inappropriate pumps.
- ix. Some drillers falsified the constructed depth of boreholes. For example, such drillers drilled a 40m-depth borehole but made claim for a 55m-depth borehole.
- x. Some used drilling fluids in proportions led to sealing of the discharge portion of the well.
- xi. Some drillers intentionally left dry boreholes overnight and blew out small quantities of water the next day to indicate they had successfully tapped water. Such boreholes when subjected to pumping run out of water within a few minutes.

CHAPTER 3 -MANAGEMENT OF PRIORITY RIVER BASINS

The focus was on the programmes and activities that were undertaken towards improving the status of water resources in the functional priority river basins of the Densu, White Volta, Ankobra, Pra (Offin), Tano and Dayi.

3.1 Densu Basin

3.1.1 Densu Basin Board

The Densu Basin Board held two meetings and two ecological monitoring exercises in 2014. The two meetings focused on the review of the Densu IWRM Plan.

3.1.2 Regulatory Activities

Regulatory activities carried out in the basin included:

- i. Identification of major water users including Special Ice Company Limited - Oyarifa, Major Jet Save Enterprise - Kwabenya, Sir Cool Mineral Water Company Limited – Suhum, and three groundwater tanker supply points at Pokuase.
- ii. Monitoring exercises to control indiscriminate dumping of solid and liquid waste, building in waterways, sand winning, and quarrying especially within the Weija Acquisition and Atewa reserve (See Figures 8 - 10).
- iii. Investigations on alleged illegal mining reports from communities at the source area of the basin. The communities were quite knowledgeable on the consequences of illegal mining and were determined to assist in discouraging the practice.

These regulatory activities were undertaken in collaboration and co-ordination with the local government assemblies within the basin, EPA, MC, National Security Council, NGOs and CBOs.

3.1.3 Awareness Creation, Education and Training

Communication and education activities were generally towards enhancing public knowledge and appreciation of IWRM-related issues within and around the basin.

- Three radio and one television programmes were undertaken in connection with the World Wetlands and the World Water Day celebrations.
- Participation in educational workshops organized by the MC at Kyebi and the EPA in Accra.
- Gave a lecture on the need to protect the Atewa Forest at a symposium organized by A Rocha Ghana at Bunso Cocoa College.
- Seized opportunities to educate stakeholders at workshops and meetings such as the monthly meetings of the National Security Council Committee on Lands and Natural Resources.
- Held public hearings at Muoso near Anyinam in the Eastern Region on gold mining by Extra Gold Resources Mining Company Limited.

3.1.4 Collaborative and Coordination Activities

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

- The 5-year Payment for Watershed Services Project initiated in 2012. Within the year, the Desired State and Critical Pathways studies were undertaken to determine the critical gaps and pathways for successful implementation of the project.
- Follow up on the Special Treat Project proposed to the Dutch Government funded Ghana WASH Window Initiative aimed at rebuilding a wastewater treatment plant at the Nsawam Medium Security Prison; and the Buffer Zone for Water and People Project to develop watershed green infrastructure and produce potable water in the Greater Accra, Eastern, Ashanti and Brong Ahafo Regions.
- A Rocha Ghana led Project that aims at turning the Atewa Forest Range into a National Park.

3.1.5 Review of the Densu Basin IWRM Plan

The Densu Basin IWRM Plan, which was developed in 2007, was scheduled for review after five (5) years. In this regard, a review process was initiated with three workshops, which brought together all board members and relevant stakeholders. The final workshop to complete the review process was organized on June 11, 2014.

3.2 White Volta Basin

3.2.1 White Volta Basin Board

The White Volta Basin Board was reconstituted during the year and held one meeting in August 2014.

3.2.2 Regulatory Activities

Highlights of the regulatory activities carried out within the White Volta Basin are as follows:

- Follow-up of identified water users in 2013 to regularize their operations. At least 5 of these companies picked application forms and applied for water use permit.
- Site visits to companies including Integrated Water Management & Agricultural Development Ghana Limited (IWAD), Canadian Ghana Hunger Foundation, Constructora Andrade Gutierrez, Bright Vision Investment Group, Shaanxi Mining Company Limited, and Queiroz Galvao Company Limited.
- Facilitated the processing and granting of new and renewal of drilling licenses to Waale Construction Limited, YADIS Company Limited, and Tech-2 Resources Limited.

3.2.3 Awareness Creation, Education and Training

The White Volta Basin Secretariat facilitated:

- The training of police prosecutors and media groups in the Upper East and Northern regions in August 2014.

- A radio educational programme, which was aired continuously for about three weeks, was held in the local language on Grune Style Radio. The programme focused on the need to observe vegetative buffers along rivers and watercourses.
- An assembly forum organized for the Bawku West District Assembly on the need for buffer zones to protect water bodies. About 65 participants were at the forum including the Member of Parliament for Bawku West Constituency, the District Chief Executive, Heads of Department and all the Assembly members. The activities of WRC were also aired on Quality FM and Radio Ghana through the forum.

3.2.4 Collaborative and Coordinative Activities

The collaborative and coordination activities included:

- WASCAL program on research and capacity building of stakeholders and the Basin Officers;
- CILSS Initiative on capacity building of communities focusing on ecosystem restoration;
- Engagement of MMDAs on the enforcement of community initiated by-laws on buffer zones and the mainstreaming of water resources issues in their development plans;
- Technical assistance to the EPA on the implementation of the Sustainable Land and Water Management and the Ghana Environmental Resource Management Projects;
- GWP–WACDEP to initiate and undertake a number of studies aimed at developing an implementation strategy for the WACDEP interventions; and
- Water Research Institute in carrying out two nationwide water quality monitoring.

Figures 11 and 12 show some of the collaborative efforts in the White Volta Basin.

3.2.5 Implementation Status of the Basin’s IWRM Plan

EPA supported the Secretariat with seedlings to undertake some riverbank rehabilitation and protection activities in Pwalugu, Weisi and Bachonsa. Some communities were also supported with water pumps to support dry season farming activities while taking care of the seedlings transplanted along the riverbanks.

3.3 Ankobra Basin

3.3.1 Ankobra Basin Board

The Ankobra Basin Board held two meetings in 2014. The first meeting was to reconstitute the Board, while the second meeting started the process of reviewing the IWRM Plan for the basin. The Secretariat did not undertake any ecological monitoring during the year.

3.3.2 Regulatory Activities

The main regulatory activity was the facilitation of processing applications for water use permits. The secretariat recommended the issuance of 5 new permits and the renewal of 10 permits.

3.3.3 Awareness Creation, Education and Training

The awareness creation and education activities included:

- Collaboration with the “Trading Ghana’s Waters for Gold” team in January 2014 to produce a documentary on how ‘galamsey’ is destroying the country’s waters. This documentary is being viewed nationwide.
- Facilitated the training of 34 media personnel in IWRM and water related reporting and 30 law enforcement officers in IWRM and water laws and regulations at Takoradi.
- Facilitated a workshop on capacity building in Water Quality Monitoring and Surveillance in Ghana at the Wassa East District Assembly.
- Contributed to radio discussions at Space 87.7 FM and Pure 95.3 FM in Tarkwa.
- Identified some Environmental Clubs at Fiaseman and Tarkwa Senior High Schools to produce trainers in peer education and public outreach programmes.

3.3.4 Collaborative and Coordination Activities

The secretariat participated in all the public hearing meetings organized by the EPA as part of the Environmental Impact Assessment processes in the basin. Figures 13-15 show aspects of the collaborative monitoring exercises and various pollution issues that were noted for the required interventions to address them.

3.3.5 Implementation of Basin IWRM Plan

Implementation of the Ankobra Basin IWRM Plan is an on-going exercise. However the process of reviewing the Plan was initiated during the year to take into consideration the level of degradation of the riparian vegetation due to extensive mining activities.

3.4 Pra Basin

3.4.1 Pra Basin Board

Only one (1) board meeting was organized for the Pra Basin Board in 2014. There was no committee meeting.

3.4.2 Ecological monitoring

The secretariat monitored some water bodies to observe the water quality trends in the Offin sub-basin and interacted with communities on water resources challenges to inform the choice of solutions. The tributaries and their locations monitored within the Offin sub-basin include:

- River Daban – Daban
- River Oda – Sokoban
- River Aboabo – Yenyawoso, Atimponya, Sawaba
- River Owabi – Atafoa
- River Abankro – Nsuotem
- River Offin – Barekuma
- River Twapae – Effiduase

- River Mankran – Mankranso
- River Sumanpaa – Mampong
- River Kyirimfa – Mampong
- River Owamyaa – Banko

With the exception of Rivers Aboabo, Daban and Oda at Sokoban, all the rivers monitored were in good condition.

3.4.3 Regulatory Activities

- Site visits were conducted for water use permits at Nsuta (Water Health Ghana), Konongo (Owere Mines) and Ejisu Krapa (Adomfie Farms).
- A special verification visit was undertaken with the Executive Secretary to verify reports of illegal mining in Yaase, Beposo, Atafam, Asiriwa and communities close to the Lake Bosomtwe.
- Visit to Offinso in collaboration with the EPA to ascertain the closeness of a proposed site to the Offin River for the Association of Garages.

3.4.4 Awareness Creation, Education and Training

The awareness creation, education and training activities in the basin were as follows:

- Visited Ultimate Radio as part of World Water Day celebrations;
- Participated on panel discussions on different occasions on Sunsum Radio and Solid FM to educate the public on water pollution;
- Granted telephone interviews to the Jem, Freedom, and Ashh FM stations;
- Facilitated the training of Police Investigators, media and water well drillers within the Basin.

3.4.5 Collaborative and Coordination Activities

The collaborative and coordinating activities were undertaken with the following:

- Nadwos Projects (an Environmental NGO) to organize a sensitization walk as part of the World Water Day celebrations;
- EPA to demarcate the buffer width at Kwakye Dida in the Sekyere Central District;
- GWCL and others on the EU sponsored project 'Capacity Building in Water Quality Monitoring and Surveillance in Ghana';
- GWP Ghana in the capacity building component of the Water, Climate and Development Programme; and
- EPA in the UNESCO sponsored project 'Sustainable Management of Lake Bosomtwe' as a member of the Project Steering and Man & Biosphere (MAB) Committees.

Figures 16 to 18 depict some of the co-operation efforts in the basin during the year.

3.4.6 Implementation status of Basin IWRM Plan

Implementation of the Pra Basin IWRM Plan was routinely carried out as part of the secretariat's activities. Furthermore, the Riparian Buffer Zone policy document was distributed to districts and other stakeholders in the basin. This was to assist the Assemblies and the stakeholders adopt the policy in their activities to protect riverbanks.

3.5 Tano Basin

3.5.1 Tano Basin Board

One sub-committee meeting was held to develop an action plan by the three committees to address challenges confronting the basin.

3.5.2 Ecological Monitoring

Ecological monitoring was conducted along the Tano River and some of its tributaries to ascertain the impacts of anthropogenic activities on the water resources. Some observations made and actions taken were:

- In collaboration with EPA stopped Sames Group Construction Limited from further clearing of areas within the buffers of a tributary along Tanoso – Sunyani road.
- Encroachment of the riparian buffer for construction, siting of fuel filling stations, and as dumping sites for industrial and household waste at Techiman.
- Similar encroachment and pollution activities at Pantoso, Sefwi Akura, Sefwi Wiaso, Dadieso and Samreboi.
- Discharge of water from the Water Storage Facility (WSF) of Newmont Ahafo Mine through the Awonsu stream into their Environmental Control Dam 2 (ECD 2) and finally into the Tano River.
- Compliance monitoring of Chirano Mines (Western region) and Savannah Diamond Company Limited in Buipe.

Figures 19 to 21 show some of the ecological monitoring activities.

3.5.3 Regulatory Activities

As part of the basin secretariat's role in administering the water use regulations an identification of water users was embarked upon. Water users identified include sachet water companies, timber companies, small-scale mining companies, and cashew processing companies who were served with notification letters.

3.5.4 Awareness Creation, Education and Training

Awareness creation, education and training activities carried out within the basin include:

- Radio programmes were aired on Radio BAR and Storm FM, all in Sunyani and Trikie FM in Enchi to sensitize stakeholders on laws regulating water use and the need to protect water resources;
- River identification in collaboration with the Akyerensua Traditional Council in commemoration of the 2014 Nkumpo festival. The tributaries identified are the Kwasu, Dennen, Krohinkwaa, Akyerensua and Konkontire rivers.

- A one-day seminar on water resources management for the Environmental and Social Department of the Newmont Ghana Gold Limited Ahafo North Project Team.
- Celebration of the World Water Day in collaboration with GWCL, CWSA, VRA and EPA.

3.6 Dayi Basin

3.6.1 Dayi Basin Board

The Dayi Basin Board became functional in 2014 and had 2 meetings. The Board also undertook one ecological monitoring in the year. The Board also established the Legal and Enforcement; Land Use and Climate Change; and the Public Awareness and Education sub-committees to assist the Board to perform its work.

3.6.2 Implementation of Basin IWRM Plan

The sub-committees of the Board initiated implementation of the Dayi Basin IWRM Plan through the development of action plans. The Riparian Buffer Zone policy document was distributed to districts and other stakeholders in the basin. This was to assist the Assemblies and the stakeholders adopt the policy in their activities to protect riverbanks.



Figure 8: DBB members on an Island on the Weija Lake



Figure 9: World Water Monitoring activity at Densuano in the Densu Basin



Figure 10: World Water Monitoring activity at the



Figure 11: Water Quality Monitoring on the White Volta River

Weija Dam



Figure 12: Transplanting of Seedlings at Pwalugu in the White Volta Basin



Figure 13: Section of the Ankobra River at Domenase



Figure 14: Compliance monitoring of water quality in the Ankobra Basin



Figure 15: Indiscriminate waste disposal at Esuoso in the Ankobra Basin



Figure 16: Relatively good water quality of the River Mankran at Mankranso in the Pra Basin



Figure 17: Police Investigators at the training workshop in the Pra Basin



Figure 18: EU sponsored Project Team Members at ecological and community engagement exercise in the Pra Basin



Figure 19: Water weeds and siltation of the Tano River



Figure 20: Illegal mining at the confluence of Tano and Disue Rivers at Pantoso



Figure 21: A Driller without drilling license in the Tano Basin

CHAPTER 4 - PUBLIC AWARENESS AND EDUCATION

The public awareness and education activities specific to each of the functional river basin offices and boards have been presented under their respective section in chapter 3 of this annual report. Hence, the activities and programmes presented in this chapter were undertaken mainly at the national level.

4.1 Implementation of the Communication Strategy

Implementation of the WRC Communication Strategy and Action Plan 2012-2016 was aimed at delivering structured and professional communication interventions to facilitate a wider reach to the intended targets.

4.2 Campaigns and Media events

During the year 2014, nationwide radio and television discussions were organized on the state of water resources in the country, particularly on the issue of 'galamsey' and its impact on water resources.

The National Buffer Zone Policy was launched in May 2014 and nationwide distribution of the policy document was also initiated.

4.3 Training in IWRM nationwide

Nationwide IWRM public awareness and training workshops were organised from June to August 2014 for about 220 media personnel in eight regions (except Central and Volta regions) and 215 police investigators in nine regions (except Volta region).

As part of the Government of Netherlands and UNICEF funded "Accelerating Sanitation and Water for all in Ghana Project", sensitization on water resource conservation and catchment protection for sustainable water supply was initiated in 18 selected districts in 5 regions. Sensitization workshops were held for Metropolitan, Municipal and District Assemblies (MMDAs) and School Health Clubs (SHCs). 5 initial workshops were held in the Central, Northern, Upper East, Upper West, and Volta regions in November 2014.

4.4 Educational Materials and Publications

About 5,000 copies each of flyers on the WRC and the Drilling License and Ground Water Development Regulations were printed for distribution to the general public.

Furthermore, two documentaries were produced on the Tano and Pra basins for screening on national television networks. The documentaries were also used during the training workshops for the police and the media personnel.

4.5 World Water Day Activities

The theme for the 2014 World Water Day (WWD) was "Water and Energy", which sought to draw international attention to the close linkage and interdependence between water and energy. The WRC continued with its role of hosting the National Planning Committee to organise the celebrations.

The activities included an essay writing competition for 12 selected basic schools and a debate for 8 selected Senior High Schools in the Sekondi-Takoradi Metropolis. The finals of the debate came off on 20 March 2014 at the Archbishop Porter Girls High School (See Figures 22-23).

Other activities included 15 radio and 5 television talk shows and interviews, a radio commentary, and feature articles in the Daily Graphic and The Ghanaian Times national daily newspapers (See Figures 24-25).

The celebration was climaxed with a durbar and flag-hoisting event on 22 March 2014, which was preceded by a street procession through the principal streets of Takoradi, the Western Regional capital. The Vice President of the Western Regional House of Chiefs chaired the function, and Hon. Sampson Ahi, a Deputy Minister for Water Resources, Works and Housing gave the keynote address. The forum was well attended by management and staff of water and water related institutions, the participating schools, the media and the general public.



Figure 22: Participants at the finals of the Senior High Schools debate



Figure 23: Sections of the participating schools at the debate



Figure 24: Panellists on radio talk show on BAR, Sunyani



Figure 25: Climax of the 2014 World Water Day at the Basin Level, Tano.

CHAPTER 5 - WATER GOVERNANCE ACTIVITIES

5.1 Policy Development and Implementation

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

The policy was formally launched in May 2014 and its implementation continued during the year with relevant sections stated as conditions in water use permits issued. Furthermore, pilot buffer zones were established to protect sections of water bodies in the White Volta and Dayi basins through donor-funded projects (refer to Section 3.2.5).

The next steps in the implementation of the policy are to continue with the awareness raising and to develop a legislative instrument to enforce relevant provisions of the policy.

5.2 Development of Legislative Instruments

The 3rd Regulations, which is on dam safety, aims at regulating all relevant activities related to dam design, construction, operations, maintenance, and decommissioning to ensure uniform and adequate level of safety for all dams in Ghana.

The Dam Safety Regulations was presented to the Parliamentary Sub-Committee on Subsidiary Legislation. Comments were incorporated and resubmitted to the Sub-Committee. The Regulations was finalised and submitted by the Attorney General to the Minister for Water Resources, Works and Housing to be laid in Parliament. It is anticipated that the document will be laid in Parliament in 2015.

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 Dam Safety Unit.

- (i) **National Dam Safety Unit:** A Dam Safety Officer has been contracted temporarily to continue the coordination and facilitate the set up of the Dam Safety Unit. The request for permission to recruit permanent staff will commence after the Regulations is passed by parliament.
- (ii) **Black Volta Basin Office:** The Upper West Regional Coordinating Council is assisting the WRC in the search for office space for the Black Volta basin office, which is to be located in Wa, the regional capital. It is envisaged that the process will be completed and an officer recruited by the end of 2015.
- (iii) **Birim Basin Office:** The Densu Basin office is temporarily pursuing activities in relation to the management and conservation of the Birim basin. In that respect, some activities were undertaken with respect to the establishment of the Birim Basin Office and Board. These included:
 - Awareness creation programs on Vision FM, Koforidua and Joy TV, Accra;
 - A presentation on the Birim at a workshop organised by the MC on illegal mining activities at Kyebi, Eastern Region;

- Briefing given to the National Security Council on illegal mining within the Birim;
and
- The preparation of project proposals to the Dutch Government through the WASH Programme for support to set up a management structure to oversee rehabilitation of the degraded areas of the Birim.

CHAPTER 6 - WATER RESOURCES ASSESSMENT AND PLANNING

6.1 Water Quality Assessment

The Commission has been monitoring the quality of surface waters in Ghana since 2005 with the exception of 2009. The main objective of the water quality monitoring is to collect and analyze water quality data to determine the state of water quality, pollution, and trends, if any.

The monitoring program covers 41 monitoring stations including thirty-two (32) river stations and nine (9) reservoir/lakes stations. The breakdown of monitoring stations is 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 2014. Assessments were carried out on physico-chemical water quality parameters including Temperature, pH, Conductivity, Total Suspended Solids, Transparency, Nutrients, and Major Ions.

6.1.1 Water Quality Index

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. Tables 4-6 present the analyses of pollution trends of the major rivers from 2005 to 2014. Table 4 shows the general description of the classification system; Table 5 depicts the summary description of annual trend of water quality from 2005 to 2014, and Table 6 shows the WQI of major rivers in the country.

Table 4: 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

In 2014, majority of the sampling stations had water quality index below those of the previous years and thus a deterioration of water quality, generally across the country as depicted in Table 5.

Table 5: Trend of water quality from 2005 to 2014

Statistics/ year	2005	2006	2007	2008	2010	2011	2012	2013	2014
Minimum	32.5	43.6	43.6	42.3	53.9	48.5	27.0	32.3	30.0
Maximum	68.9	82.8	81.0	65.6	76.0	69.3	65.6	62.2	62.6
Average	58.7	59.4	60.4	54.9	62.4	58.6	49.6	44.1	46.2

A notable improvement in water quality was the Lake Bosomtwe, which increased its WQI from 32.3 in 2013 to 46.8 in 2014. This was due to the removal of a number of aquaculture cages within the lake. Other rivers that showed distinct improvement in quality included the Densu at Nsawam; Tano at Sefwi-Wiawso; and Volta at Aframso, Sabari, Nabogo and Kpong.

Table 6: Water Quality Index of Major Rivers in Ghana from 2005 to 2014

Sampling Site	2005	2006	2007	2008	2010	2011	2012	2013	2014
Weija Lake	59.3	64	57.8	55.7	61.5	53.2	49.0	58.2	44.7
Potroase- River Densu	68.9	82.8	81.0	63.9	76.0	62.2	50.4	51.2	51.7
Mangoase- River Densu	54.8	64.0	49.0	54.1	57.3	52.3	27.0	36.3	43.5
Nsawam- River Densu	32.5	45.0	43.6	42.3	53.9	52.4	47.6	37.5	52.1
Mankrong J – River Ayensu	60.8	51.8	57.8	48.0	58.9	59.5	50.4	51.4	51.6
Akim Oda-River Birim	57.8	54.8	59.3	52.3	58.3	53.5	44.9	38.4	40.0
Akim Brenase-River Pra	60.8	57.8	59.3	57.3	64.2	57.1	46.2	32.4	41.5
Daboase – River Pra	60.8	50.4	62.4	55.7	56.8	55.3	46.2	35.7	45.0
Dunkwa- River Offin	56.3	53.3	56.3	48.0	57.8	49.0	39.7	33.6	37.7
Lake Barekese –River Offin	62.4	74.0	70.6	65.6	59.6	57.1	60.8	49.8	37.8
Ekosi-River Ochi-Nakwa	59.3	57.8	56.3	46.5	59.0	57.3	39.7	46.0	46.8
Mankesim-River Ochi-Amisa	59.3	62.4	60.8	51.0	60.4	62.7	56.8	49.9	50.6
Lake Brimso-River Kakum	57.8	56.3	57.8	55.7	59.7	60.7	54.8	44.6	46.1
Ewusijo-River Butre	59.3	67.3	68.9	63.9	71.3	67.3	46.2	54.9	54.5
Dominase- River Ankobra	67.2	57.8	59.3	58.9	55.2	57.2	51.8	40.6	41.4
Prestea –River Ankobra	64.0	60.8	60.8	49.5	63.5	54.3	49.0	38.1	34.9
Elubo- River Tano	59.3	60.8	64.0	65.6	64.3	61.0	38.4	54.1	45.9
Sefwi-Wiawso – River Tano	57.8	64.0	57.8	57.3	59.2	59.5	54.8	41.6	52.3
Dadieso-River Bia	56.3	43.6	64.0	51.0	60.8	59.9	47.6	38.4	47.5
Osino- R. Birim					56.8	51.2	51.8	35.0	38.4
Twifo-Praso - R. Pra					58.9	49.4	49.0	37.0	41.9
Adiembra - R. Offin					61.4	55.3	46.2	35.0	32.8
Lake Bosomtwe					56.3	49.8	43.6	32.3	46.8
Baafrikrom Reservoir					71.2	67.8	56.3	42.1	38.2
Bonsaso - R. Bonsa					65.7	58.3	47.6	45.1	41.3
Ampansie R. Ankobra					59.6	48.5	40.9	42.8	30.0
Tanoso -R. Tano					63.4	61.0	51.9	45.1	52.5
Aframso - R. Afram					55.8	63.5	54.3	42.2	53.5
Hohoe - R. Dayi					74.0	57.3	62.4	49.0	51.1
Damanko – Oti					61.5	63.1	47.6	44.9	42.8
Sabari - R. Oti					65.7	61.9	42.3	36.0	55.8
Saboba -R. Oti					64.0	58.1	46.2	43.8	42.8
Pwalugu -White Volta					55.8	59.9	62.4	46.7	46.5
Nabogo - White Volta					61.9	60.4	39.7	41.9	52.7
Daboya - White Volta					61.5	61.8	44.9	40.6	45.0
Buipe - Black Volta					63.8	67.4	50.4	51.7	52.2
Bamboi - Black Volta					68.5	64.4	54.8	53.2	45.2
Ajena - Main Volta					73	69.3	65.6	62.2	57.3
Kpong - Main Volta					70.6	68.5	64.0	51.1	62.6

Sogakope - Lower Volta					67.8	55.8	60.8	50.7	55.6
Lawra - Black Volta	-	-	-	-	-	-	-	45.6	44.5

The continued and unregulated activities of small-scale miners (galamsey) were almost entirely responsible for the apparent deterioration of some water bodies such as the Tano, Birim, Offin and Ankobra. This is evidenced by the elevation of parameters such as Total Suspended Solids (TSS), in water bodies such as the Pra River. Details of the ecological hazards and implications of deteriorating water quality are presented in section 2.2.1 of this annual report.

6.2 Hydrogeological Assessment

Most of the hydrogeological activities were on improving the knowledge of the hydrogeological make-up of the three (3) regions in northern Ghana. The National Nuclear Research Institute (NNRI) on behalf of the WRC continued with the monitoring of the 35 monitoring wells located in the three (3) northern regions during the year.

Field data on static water Levels were collected to provide information about the fluctuations in groundwater levels. Also, field parameters such as temperature, pH and conductivity were measured in situ and hydro-chemical activities and analyses of stable isotope were on-going. The report on these activities for 2013 was submitted in the 1st quarter of 2014 while that for 2014 would be submitted during the 1st quarter of 2015.

6.3 River Basin IWRM Plans

River Basin IWRM Plans serve as a 'blue print' with prioritised list of actions and measures to address basin specific water management issues and to guide the utilisation and improvement of water resources. At the end of 2014, Terms of Reference was completed to engage a consultant to undertake baseline studies as a major input into the development of IWRM Plan for the Black Volta Basin.

The review of three existing IWRM Plans to incorporate changing trends in water management issues in the basins was initiated in the year 2014. The 3rd and final workshop on the review of the Densu basin IWRM plan was organised to complete the stakeholder engagement process for the outcomes to be incorporated into the Plan. Similarly, a 3-day workshop was organised to complete the stakeholder engagement aspect of the White Volta Basin IWRM plan review process. Finally, the review of the Ankobra IWRM Plan was initiated with the 1st stakeholder engagement workshop.

6.4 Flood Hazard Assessment

The 1st phase of the World Bank supported project on the Flood Hazard Assessment for the White Volta River ended in 2013. The project investigated the scale and severity of flood hazards, assessed the effectiveness of structural and non-structural measures to mitigate flood damages in the future, and developed a Flood Early Warning System (FEWS) for flood forecasting, flood warning, and flood crisis management.

Based on the outcomes of the 1st phase, the Global Facility for Disaster Reduction and Recovery (GFDRR), managed by the World Bank, responded positively to a Government of Ghana request for further assistance with a grant of US\$1.3 million to strengthen flood management through the Disaster Risk Management (DRM) country plan.

The main objective of the 2nd phase is to strengthen the institutional capacity of the agencies responsible for flood and disaster risk management in support of Ghana's efforts to achieve the Hyogo Framework for Action for disaster reduction. It is being implemented along two project components:

- a. Project Component 1 – Advocacy and capacity building for disaster risk reduction will be implemented by UNDP through a service agreement between the World Bank and UNDP.
- b. Project Component 2 - Strengthening flood management in the White Volta Basin will be implemented as a small recipient executed grant through the Water Resources Commission.

Activities under the 2nd phase that were completed in 2014:

- The Project Agreement was signed by both parties (World Bank and the Ministry of Finance) in August 2014;
- Procurement plan and notice for procurement were finalised and approved;
- Terms of References for procurement of goods and services were finalised; and
- Bid documents for the procurement of hydro meteorological equipment approved by the World Bank.

6.5 Climate Variability and Change Initiatives

The Water, Climate and Development Programme (WACDEP) was initiated by the Global Water Partnership to meet the demand of the African Ministers' Council on Water (AMCOW) for the implementation of the Declaration of the Summit of Heads of States in 2008.

WACDEP, a 5- year programme, which entered its 4th year in 2014 aims at integrating water security and climate resilience in the development planning processes, build climate resilience and support countries to adapt to a new climate regime through increased investments in water security. WACDEP is being implemented on a pilot basis in eight countries including Ghana and Burkina Faso, and four river basins including the Volta Basin. WRC is the host institution and the Country Water Partnership (CWP) is the implementer.

Some outcomes of the work packages undertaken in 2014 were:

- The National Development Planning Commission was successfully engaged in leading the nation-wide engagement with MMDAs while CWP/WRC provided technical backstopping for mainstreaming water security and climate resilience in their Medium Term Development Plans (2014-2017).
- The Reference Group to the WACDEP Technical Group paid a working visit, which provided insights into opportunities for the project to develop an Investment Plan. The way forward was defined and preliminary discussions held with the key stakeholders. A team of consultants was engaged.
- Project preparation and financing started with the completion of studies on the bottlenecks and constraints analyses
- The studies on the field demonstration project were carried out notably on the baseline survey, socio-economic, and environmental analysis

- Three workshops were organised under the Capacity Development component in Accra and Bolgatanga. It involved field trips to areas where issues related to water security and climate resilience had been demonstrated to give practical solutions and options for their implementation.

CHAPTER 7 - TRANSBOUNDARY WATER MANAGEMENT

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

7.1 The Volta Basin Authority

The Volta Basin Authority (VBA) was formally established in August 2009 to ensure international cooperation for the rational and sustainable management of the water resources of the Volta basin shared by six (6) countries: Burkina Faso (42.95%), Ghana (41.63%), Togo (6.41%), Benin (3.42%), Mali (3.12%), and Ivory Coast (2.48%).

During the year 2014, VBA undertook activities towards fulfilling its strategic objectives for 2010 -2014:

1. The 5th Meeting of the Council of Ministers of the VBA was held on 17 March 2014 in Lome, Togo. In preparation for this meeting, the 7th Experts Committee meeting was held from 12 to 15 March 2014 at the same venue.
2. A study on short and medium term autonomous and sustainable financing mechanisms of the VBA was completed. The study was to proceed to consider the medium term mechanisms into detail.
3. As part of the future plans and programs and external support for the VBA a study on the mid-term evaluation of the Strategic Plan 2010 - 2014 was carried out and the development of a new Strategic Plan 2015-2019 was initiated.
4. The Council of Ministers and the Ministers in charge of environment endorsed the Strategic Action Programme (SAP) of the Volta Basin. The SAP is the follow-up document from the Transboundary Diagnostics Analysis study of the Volta Basin, which identified water and environment issues that need to be addressed.

7.2 Ghana/Burkina Faso Joint-Technical Committee on IWRM

The Ghana-Burkina Faso Joint Technical Committee on IWRM (JTC-IWRM) was set up in 2005 to strengthen consultation for the joint management of the natural resources of the Volta Basin and to advise the Ministers in charge of water of the two countries. The WRC is the focal institution for Ghana while the DGRE acts for and on behalf of Burkina Faso.

No formal meeting or activity was held in the year. However, the exchange of hydrological information between the two countries continued especially with respect to the water levels of the Bagre and Kompienga Dams during the wet season.

7.3 ECOWAS Water Resources Coordination Centre

The ECOWAS Heads of State and Government created the Permanent Framework for Co-ordination and Monitoring (PFCM) of Integrated Water Resources Management (IWRM) in West Africa during its 25th Session held on 21 December 2001 in Dakar, Senegal.

The PFCM is basically to promote and co-ordinate the implementation of community integrated water resources management in West Africa, 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. The ECOWAS Water Resources Coordination Centre (WRCC) is one of the four organs of the PFCM of IWRM in West Africa.

When governments decide to invest in a large dam and irrigation scheme they do so on the basis of detailed economic analyses and predicted benefits for development. At a time when many more dams are being built, it is important to ask whether the economic assumptions that lie behind such important decisions have proved correct and what the consequences have been.

Consequently, in April 2014, the ECOWAS member states approved a draft Directive for the Development of Large-scale Water Infrastructure in the region, which would be binding when adopted. The guidelines for developing water infrastructure in West Africa state that large dams should be fully evaluated at least every 10 years. Such evaluations should assess their economic, social and environmental impact as well as inform decisions about future investments and policy-making for large dams.

CHAPTER 8 - ADMINISTRATIVE AND HUMAN RESOURCES

8.1 Training Courses

Targeted staff training programs were undertaken both at the national and international levels. The main focus was on competency-based training mainly in water resources management. Staff of the Commission benefited from the following training programmes and courses:

1. Water and wastewater treatment training programme in Istanbul – Turkish Water Institute from 26th April to 4th May 2014
2. Public Procurement forum, October 30, 2014
3. Capacity building in water quality monitoring and surveillance, August 16, 2014.
4. 11th European development fund programming on productive investment for agriculture, April 16, 2014.

8.2 Academic Courses

Four staff members, Florence Akpabli, Nicholas Owusu, Abigail Aziakpor and Grace Quicoe completed their BSc. Administration programs. One and two staff members are pursuing their Masters and PhD degree programs respectively:

1. Mawuli Lumor: PhD in Climate Change and Land Use, WASCAL
2. Mrs. Bernadette Araba Adjei, PhD in Development Studies, ISSER
3. Ronald Abrahams, MSc. Degree in Environmental Science

8.3 Workshops, Meetings and Conferences

During the course of 2014, WRC organized or was represented at several meetings, workshops, and conferences including the following:

1. Conrad Hilton Foundation Grantees Partners working group meeting, November 11, 2014.
2. Stakeholders consultation meeting with regards to RSPO certification of Ghana Palm Oil Development Company, September 24, 2014
3. Development of waste management facility at the Nsawam Prison, Sept. 23, 2014
4. Consultancy service for the establishment of database on the WASH sector for the sector information system, September 17, 2014
5. Focus group discussion with RCN group, September 10, 2014.
6. Sensitization workshop on the application of remote sensing technologies, September 2, 2014.
7. GEF national portfolio formulation, August 2014
8. Mid-year review of research activities, August 15, 2014
9. UN guiding principles on business and human right for the staff institutions, August 11, 2014.

10. Nuclear power sitting stakeholder forum, August 3, 2014.
11. User-producer workshop of census of agriculture, June 27, 2014.
12. Communication and dissemination workshop, June 24, 2014.
13. Special invitation to the National Colloquium on forest and wildlife resources management, April 28, 2014
14. Advisory board of the Institute of Statistical Social and Economic Research (ISSER), June 3, 2014.
15. "BRAVE" project dissemination meeting, June 3, 2014.
16. 11th European Development Fund (EDF) mission meeting, May 9, 2014
17. Implementation of the Medium-Term Agriculture Sector Investment Plan (METASIP), April 8, 2014
18. Data validation meeting on the 2013 national Annual Progress Report (ARP) on the implementation of the GSGDA
19. AERC/ISSER workshop, April 8, 2014.
20. Develop the final draft of the Ghana National Aquaculture guidelines and code of practice and terms of reference, March 23-26, 2014.
21. Country validation workshop on the agricultural statistics system in Ghana, March 3, 2014
22. Ghana land administrative project – development of a land bill and its legislative instruments, March 3, 2014.

8.4 Committees

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

1. Sub-committee on environmental protection standards – Effluent Quality
2. National steering committee meeting on Rain Water Harvesting
3. Select committee on environment science and technology
4. Advisory Council of ISSER
5. Experts Committee of the Volta Basin Authority
6. Inter Agency Committee on Natural Resources Management and Sensitization
7. National Consultative Committee (NCC) of the Ghana Dams Dialogue
8. National Security Committee on Land and Natural Resources, Accra
9. Natural Resources Technical Review Committee
10. Planning Committee of the World Water Day celebrations
11. Siting Committee for the development of Energy infrastructure, Energy Commission
12. Steering committee of the Implementation of the Environmental Management Plan (EMP) for Akosombo and Kpong Hydroelectric Plants, Volta River Authority

13. Steering Committee of the Pwalugu Multipurpose Dam project, Volta River Authority
14. Technical Expert Committee of the Permanent Framework for Coordination and Monitoring of IWRM In West Africa, ECOWAS

8.5 Human Resources

The Commission had 37 staff members (24 male and 13 female) at post. The number of senior staff was 27 with the remaining 10 as junior staff. The staff members at post as at the end of the year were:

Non-Contract Appointments

- | | | |
|-----|-------------------------------|--|
| 1. | Mr. Ben Y. Ampomah | Executive Secretary |
| 2. | Ms. Adwoa D. Paintsil | Chief Water Quality Specialist |
| 3. | Mr. Enoch B. Asare | Chief Engineer – Ground Water |
| 4. | Mrs. Bernadette Adjei | Principal Legal Advisor |
| 5. | Ms. Linda G. Ennison | Principal Admin. Officer |
| 6. | Mr. Ronald Abrahams | Principal Basin Officer, Densu Basin, Koforidua |
| 7. | Dr. Bob Alfa | Principal Engineer – Surface Water |
| 8. | Mr. Aaron Aduna | Principal Basin Officer, White Volta Basin, Bolga |
| 9. | Mrs. Adwoa Dako | Senior Public Relations Officer |
| 10. | Mr. Steven Acheampong-Boateng | Senior Accountant |
| 11. | Mr. Mawuli Lumor | Senior Basin Officer, Ankobra Basin, Tarkwa |
| 12. | Ms. Esi Biney | Senior Ecologist |
| 13. | Mr. George Baah | Senior Information Tech. Specialist |
| 14. | Mrs. Dufie Abena Bremang | Basin Officer, Pra Basin, Kumasi |
| 15. | Mr. Solomon Danso-Ankamah | Basin Officer, Tano Basin, Sunyani |
| 16. | Mr. Eric Muala | Monitoring Officer |
| 17. | Mr. Edwin Afosah-Anim | Engineer – Surface Water |
| 18. | Mr. Joachim Ayiwe Abungba | Assistant Basin Officer, White Volta Basin, Bolga. |
| 19. | Mr. Enest Okwei | Internal Auditor |
| 20. | Mr. Fred Wiredu Bremang | Assistant Information Tech. Specialist |
| 21. | Ms. Afran Anti Adwoa Fosua | Assistant Officer, Legal & Monitoring |
| 22. | Mr. Kwadwo Twum Karikari | Assistant Officer, Head office, Accounts |
| 23. | Mr. Francis Acquah-Swanzy | Assistant Officer, Ankobra Basin, Tarkwa |

24. Mr. Yaw Boateng Opoku	Assistant Officer, Pra Basin, Kumasi
25. Ms. Berlinda Prah	Assistant Officer, Tano Basin, Sunyani
26. Ms. Dorcas Abban	Senior Administrative Assistant, Densu Basin,
27. Ms. Grace Quaiocoe	Administrative Assistant, Ankobra Basin, Tarkwa
28. Mr. Emmanuel M. Mensah	Administrative Assistant, Head Office
29. Mrs. Florence M. Dagbanu	Senior Stenographer, Head Office, Accra
30. Mr. Edward Gyasi-Agyemang	Chief Accounts Clerk, Head Office, Accra
31. Mr. Nicholas Owusu Sakyi	Chief Accounts Clerk, Head Office, Accra
32. Ms. Abigail Adziakpor	Stenographer, Head Office, Accra
33. Ms. Liaza Sulley	Stenographer, White Volta Basin, Bolgatanga
34. Mr. Edward K. Toah	Chief Driver, Head Office, Accra
35. Mr. Samuel Quaye	Chief Driver, Head Office, Accra
36. Mr. Daniel Botchway	Senior Driver, Head Office, Accra
37. Mr. Papa Salifu	Labourer, Head Office, Accra

Contract Appointments

1. Mr. Alhassan Abdul-Latif	Assistant Officer
2. Ms. Aminatu Mohamed	Assistant Officer
3. Mr. Yaw Appiah-Adjei	Library Assistant
4. Ms. Raissa Manomba-Asamoah	Assistant Officer (Densu)
5. Mr. Solomon Ofori Sarkodie	Water Resource Engineer
6. Mr. Opoku Nana Oku-Afari	Assistant Officer
7. Miss Nina Antwi-Yeboah	Assistant Officer (Pra)
8. Mr. Yaw Konadu Yiadom	Assistant Officer (Tano)
9. Mrs. Zenabu Gyamfi	Secretary (Accra)
10. Ms. Stella Awusi	Tano (Cleaner)
11. Mrs. Joyce Annor	Annexe (Cleaner)
12. Ms. Elizabeth Quaiocoe	Ankobra (Cleaner)
13. Ms. Pascalina Nsoh	WVB (Cleaner)
14. Mr. Baba Salifu Kantinka	Tarkwa (Security)
15. Mr. Joseph Baba Abongo	WVB – Driver

8.6 Library

The library in the year 2014, continued to collect/receive materials/information both in soft copies (CDs, diskettes, flash disks, emails, etc.) and hard copies (printed paper documents). A total number of 43 books, newsletters, journals and compact disks were received and logged into the library database, which brought all items in the library to a total of 1,184.

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 Community Water and Sanitation Agency (CWSA), Institute of Statistical, Social and Economic Research (ISSER), and the United Nation Environment Programme (UNEP).

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, lecturers, consultants, and researchers. 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 - TECHNICAL ASSISTANCE

9.1 Norwegian Agency for Development Cooperation

The Norwegian Agency for Development Cooperation (NORAD) provided a 3-year assistance for the establishment of a National Dam Safety Unit and the development of Dam Safety Regulations (Refer to sections 5.2 and 5.3 for details).

9.2 Africa Water Facility

WRC is the executing agency for two (2) projects supported by the African Development Bank through the Africa Water Facility (AWF):

Re-optimization of Operations of Akosombo and Kpong Dams on the Volta River Project: seeks to explore how the two dams could be reoperated to achieve the simultaneous outcomes of restoring downstream ecosystems and human livelihoods; increasing the total electric power output; increasing the reliability of water supply for hydropower generation; and reducing the incidence of water borne disease vectors.

It is being implemented with other local and external partners (VRA, WRI, Institute of Environment and Sanitation Studies, Centre for African Wetlands, International Water Management Institute (IWMI), and National Heritage Institute of California).

At the end of 2014:

- Mid-term review was completed in February 2014 and new activities to improve livelihoods downstream (public health, agriculture, water supply) were introduced.
- Partner agreements were revised for the new activities to be undertaken

Design For Reuse – Harvesting the Value of Effluent and Nutrients for Sustaining the Operation of Sanitation Facilities Project: aims at improving the public health and environmental integrity in urban and peri-urban Ghana through the provision of reliable and complete sanitation by increasing the reuse of treated effluent and nutrients. IWMI is the main implementing partner.

At the end of 2014:

- Monitoring progressed on the reuse of the rehabilitated pilot wastewater treatment plant for irrigation in Presec, Legon, Accra
- Pilot value chain was constructed for wastewater treatment plants and the effluent used for aquaculture in Kumasi
- Training manuals were developed for the training of potential beneficiaries.

9.3 World Bank

The Global Facility for Disaster Reduction and Recovery (GFDRR), managed by the World Bank, has allocated a grant of US\$ 1.3 million to further strengthen flood management through the Disaster Risk Management (DRM) country plan.

The main objective is to strengthen the institutional capacity of the agencies responsible for flood and disaster risk management in support of Ghana's efforts to achieve the Hyogo Framework for Action for disaster reduction.

The project is being implemented along two project components:

- a. Project Component 1 - Advocacy and capacity building for disaster risk reduction will be implemented by UNDP through a service agreement between the World Bank and UNDP.
- b. Project Component 2 - Strengthening flood management in the White Volta Basin will be implemented as a small recipient executed grant through the Water Resources Commission.

The Project Component 1 document was signed in August 2014 between the World Bank (Donor) and Ghana (Recipient) represented by the Country Director for Ghana and the Hon. Minister of Finance respectively. The WRC is the executing agency with respect to the project's coordination and implementation.

Project management arrangements (including initiation of procurement processes, development of Terms of References, bid documents, and financial arrangements) were completed at the end of the year for implementation to start in January 2015.

9.4 UNICEF

The Government of Netherlands and UNICEF are in partnership to execute the 'Accelerating Sanitation and Water for all in Ghana' project. It is to enable 500,000 under-served people to have access to safe drinking water, thus accelerating the attainment of the MDGs in Ghana, inclusive of communities and schools. The project is being implemented in collaboration with the Ghana Government, NGOs and the private sector.

UNICEF WASH has recognised the importance of sustaining and protecting water sources, and, as part of the programme, tasked the WRC to build the capacity of selected MMDAs and School Health Clubs (SHCs) to mainstream water resources management into their core functions, particularly within the context of climate change adaptation and mitigation, to ensure sustainable water supply.

WRC initiated the following tasks during the 4th quarter of 2014:

- Assessing the known and practiced water resources management systems in the selected MMDAs;
- Developing training modules on water resources management, with a focus on water conservation and catchment protection, for inclusion in the training manual of WSMTs and SHCs; and
- Assisting to carry out training of trainers on water sources and catchment protection (refer to section 4.3).

9.5 International Water Association/EU

The International Water Association (IWA) through the support of EU has been funding the 'Capacity Building in Water Quality Monitoring and Surveillance in Ghana' project since 2012. It is to give a significant impulse to the health situation in Ghana by improving the

control on the quality of drinking water. The main participating organisations are the GWCL, WRC, PURC, ProNet, and the Ministry of Water Resources, Works and Housing.

The main task assigned to WRC is to raise awareness on the importance of water quality within the Ghanaian society with the main objective of reducing pollution of water bodies.

The main activities that were undertaken and completed in 2014 include the following:

- The target groups within the MDAs and MMDAs were identified for awareness raising in the three project areas, which are the Barekese, Weija and Daboase catchments. Some key institutions identified include EPA, MC, FC, RCC, WASH Journalist network, MLGRD, NGOs, etc.;
- Effective strategies were developed to reach different target groups within the communities in the three catchments to reduce pollution; and
- Awareness raising was carried out in all the project areas as follows:
 - Barekese Catchment on 29 May 2014 in Kumasi (65 participants)
 - Weija Catchment on 2 July 2014 in Accra (70 participants)
 - Daboase Catchment on 2 October 2014 at the Wassa East District Assembly, Daboase (77 participants)

CHAPTER 10 - FINANCIAL STATUS

10.1 Audited Financial Statements

The audited financial statements indicate that total income for 2014 was GH¢4,508,383. On the other hand, details of expenditure show that general administrative expenditure for the period amounted to GH¢3,776,578 a decrease by 6.85% from the GH¢4,054,412 recorded in 2013. This resulted in a net gain of GH¢731,805 but a decrease of 60.4% compared to that of 2013 which was GH¢1,848,057. The accumulated balance as at 1 January 2014 was GH¢4,438,008 and the recorded accumulated balance as at 31 December 2014 was GH¢5,169,813

The detailed Audited Financial Statements for the year ended 31 December 2014 is presented in Annex 5.

Appendix 1 - Members of the Water Resources Commission

1. Agyewodin Adu Gyamfi Ampem - Chairman
2. Dr. Joseph Ampofo - CSIR Water Research Institute
3. Mr. Clement Bugase - Community Water & Sanitation Agency
4. Mr. Raphael Yeboah - Forestry Commission
5. Mr. Carl Fiati - Environmental Protection Agency
6. Mr. Godwin K. Dovlo - Ghana Water Company Ltd.
7. Mr. Simon Apio - Ghana Irrigation Development Authority
8. Mr. Yaw Owusu-Sekyere - NGOs Representative
9. Alhaji Alhassan Bene - Government Appointee
10. Mr. Ben Ampomah - Executive Secretary, WRC
11. Mr. Hubert Wusuansah - Hydrological Services Department
12. Mr. Ada Asomontsi - Volta River Authority
13. Mad. Bernice Sam - Women's Representative
14. Mr. Peter N. Hodgson - Minerals Commission
15. Mrs. Aisha Sahia - Government Appointee

Appendix 2: Water Use Register - 2014

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
1	A & O Scale Limited	Dangme East	Volivo	Groundwater	Abstraction	Dredging	31-Dec-16
2	A & O Way Limited	Shama	Atwereboanda	Groundwater	Abstraction	Dredging	26-Nov-16
3	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Tamang Dam	Abstraction	Mining	31-Dec-15
4	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Groundwater	Abstraction	Mining	31-Dec-15
5	Abosso Goldfields Limited	Prestea Huni Valley	Damang	Groundwater	Abstraction	Mining	31-Dec-15
6	Adamus Resources Limited	Ellembelle	Salman	Bangara stream	Spillage	Mining	31-Mar-16
7	Adamus Resources Limited	Ellembelle	Salman	Groundwater	Abstraction	Mining	31-Mar-16
8	Adamus Resources Limited	Ellembelle	Salman	Groundwater	Abstraction	Mining	28-Feb-14
9	Adansi Gold Company (Gh) Limited	Amansie West	Manso Nkran	Groundwater	Abstraction	Mining	31-Oct-16
10	ADM Cocoa Ghana Limited	Kumasi Metropolitan	Kaase	Groundwater	Abstraction	Industrial	01-Jan-15
11	African Plantation for Sustainable Development	Sene	Bantama-Lailai	Groundwater	Abstraction	Irrigation/Domestic	31-Dec-15
12	Akoduro Company Limited	North Tongu	Aveyime	Groundwater	Abstraction	Dredging	31-Dec-16
13	Akosombo Textiles Limited	Asuogyaman	Akosombo	Groundwater	Abstraction	Industrial	31-Dec-15
14	AngloGold Ashanti	Obuasi Municipality	Akrofuom	Jimi River	Abstraction	Mining	01-Jan-14
15	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem		Groundwater	Abstraction	Domestic/Municipal	31-Dec-15
16	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Angonabeng	Groundwater	Abstraction	Mining	31-Dec-15
17	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Angonabeng	Groundwater	Dewatering	Mining	31-Dec-15
18	AngloGold Ashanti (Iduapriem)	Tarkwa Nsuaem	Abumpuni	Groundwater	Abstraction	Mining	31-Dec-15
19	Benso Oil Palm Plantation Limited	Mpohor East	Benso	Groundwater	Abstraction	Industrial	31-Dec-15
20	Boskudos International Limited	Tarkwa Nsuaem	Iduapreim	Groundwater	Abstraction	Mining	31-Dec-15
21	Cargill Ghana Limited	Tema Municipal	Industrial	Groundwater	Abstraction	Industrial	01-Jan-14
22	COB-A Industries Limited	Shama	SupomaDunkwa	Groundwater	Abstraction	Commercial	31-Dec-15

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
23	Fayce Limited	South Tongu	Sokpe	Volta River	Fish cage	Aquaculture	31-Jan-16
24	Fayce Limited	South Tongu	Sokpe	Volta River	Abstraction	Aquaculture	31-Jan-16
25	Ghana Gas Company Limited	Ellembelle	Atuabo	Groundwater	Abstraction	Industrial	31-Jan-16
26	Ghana National Gas Company Ltd	Ellembelle	Atuabo	Groundwater	Abstraction	Industrial	31-Dec-15
27	Ghana Oil Palm Development Co. Ltd.	Kwaebibirem	Kwae-kade	Groundwater	Abstraction	Industrial/Irrigation	17-Jan-16
28	Ghana Water Company Ltd	Asuogyaman	Kpong New	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
29	Ghana Water Company Ltd	Asuogyaman	Kpong Old	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
30	Ghana Water Company Ltd	Ga South	Weija -Adam Clark	Densu	Abstraction	Domestic/Municipal	31-Jan-17
31	Ghana Water Company Ltd	Ga South	Weija Candy	Densu	Abstraction	Domestic/Municipal	31-Jan-17
32	Ghana Water Company Ltd	Ga South	Weija –Bamag	Densu	Abstraction	Domestic/Municipal	31-Jan-17
33	Ghana Water Company Ltd	Dangme East	Keseve/Adafoah	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
34	Ghana Water Company Ltd	Atwima Nwabiagya	Barekese	River Offin	Abstraction	Domestic/Municipal	31-Jan-17
35	Ghana Water Company Ltd	Atwima Nwabiagya	Owabi	Owabi	Abstraction	Domestic/Municipal	31-Jan-17
36	Ghana Water Company Ltd	Sekyere West	Mampong	Kyeremea	Abstraction	Domestic/Municipal	31-Jan-17
37	Ghana Water Company Ltd	Ashanti-Akim North	Konongo	Anunu	Abstraction	Domestic/Municipal	31-Jan-17
38	Ghana Water Company Ltd	Sekyere East	Effiduase / Asokore	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
39	Ghana Water Company Ltd	Obuasi Municipality	Odaso / Obuasi	Odaso	Abstraction	Domestic/Municipal	31-Jan-17
40	Ghana Water Company Ltd	Adansi	New Edubiase	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
41	Ghana Water Company Ltd	Ahafo Ano North	Tepa	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
42	Ghana Water Company Ltd	Agona West	Agona	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
43	Ghana Water Company Ltd	Mpohor Wassa East	Daboase	Pra	Abstraction	Domestic/Municipal	31-Jan-17
44	Ghana Water Company Ltd	Shama Ahanta East	Inchaban	Anakwari	Abstraction	Domestic/Municipal	31-Jan-17

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
45	Ghana Water Company Ltd	Tarkwa Nsuaem	Bonsa / Tarkwa	Bonsa	Abstraction	Domestic/Municipal	31-Jan-17
46	Ghana Water Company Ltd	Wassa West	Prestea	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
47	Ghana Water Company Ltd	Wassa West	Bogoso	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
48	Ghana Water Company Ltd	Wassa West	Aboso	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
49	Ghana Water Company Ltd	Nzema East	Axim	Denkyemnsule	Abstraction	Domestic/Municipal	31-Jan-17
50	Ghana Water Company Ltd	Nzema East	Axim	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
51	Ghana Water Company Ltd	Jomoro	Elubo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
52	Ghana Water Company Ltd	Cape Coast Municipality	Brimsu	River Kakum	Abstraction	Domestic/Municipal	31-Jan-17
53	Ghana Water Company Ltd	Twifo Hemang Lower Denkyira	Twifo Praso	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
54	Ghana Water Company Ltd	Mfantseman	Baifikrom	Ochi Amissa	Abstraction	Domestic/Municipal	31-Jan-17
55	Ghana Water Company Ltd	Awutu Effutu Senya	Winneba	Ayensu	Abstraction	Domestic/Municipal	31-Jan-17
56	Ghana Water Company Ltd	Agona	Kwayanku	Ayensu	Abstraction	Domestic/Municipal	31-Jan-17
57	Ghana Water Company Ltd	Asikum-Odoben-Brakwa	Breman - Asikuma	Ochi Nacho	Abstraction	Domestic/Municipal	31-Jan-17
58	Ghana Water Company Ltd	Upper Denkyira East	Dunkwa-Offin	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
59	Ghana Water Company Ltd	Shama	Sekyere - Heman	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
60	Ghana Water Company Ltd	West Akyem	Akim Aboabo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
61	Ghana Water Company Ltd	Birim South	Akim Oda	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
62	Ghana Water Company Ltd	Birim South	Akim Asene	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
63	Ghana Water Company Ltd	Birim South	Akim Swedru	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
64	Ghana Water Company Ltd	Kwaebibirim	Asuom	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
65	Ghana Water Company Ltd	Kwaebibirim	Kade	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
66	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Ayensu	Abstraction	Domestic/Municipal	31-Jan-17
67	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
68	Ghana Water Company Ltd	New Juaben Municipality	Koforidua	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
69	Ghana Water Company Ltd	New Juaben Municipality	Suhyen	Groundwater	Abstraction	Domestic/Municipal	31-Jan-17
70	Ghana Water Company Ltd	Asuogyaman	Anum Boso	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
71	Ghana Water Company Ltd	Kwahu South	Kotoso	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
72	Ghana Water Company Ltd	Kwahu West	Nkawkaw	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
73	Ghana Water Company Ltd	West Akim	Asamankese	Abuchem	Abstraction	Domestic/Municipal	31-Jan-17
74	Ghana Water Company Ltd	Akwapim South	Nsawam	Densu	Abstraction	Domestic/Municipal	31-Jan-17
75	Ghana Water Company Ltd	East Akim	Apedwa – Asafo	Densu	Abstraction	Domestic/Municipal	31-Jan-17
76	Ghana Water Company Ltd	East Akim	Kibi	Birim	Abstraction	Domestic/Municipal	31-Jan-17
77	Ghana Water Company Ltd	East Akim	Kibi	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
78	Ghana Water Company Ltd	Suhum Kraboa-Coaltar	Suhum	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
79	Ghana Water Company Ltd	Atiwa	Anyinam	Birim	Abstraction	Domestic/Municipal	31-Jan-17
80	Ghana Water Company Ltd	Fanteakwa	Begoro	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
81	Ghana Water Company Ltd	East Akim	Bunso	Birim	Abstraction	Domestic/Municipal	31-Jan-17
82	Ghana Water Company Ltd	Atiwa	Kwabeng	Awusu	Abstraction	Domestic/Municipal	31-Jan-17
83	Ghana Water Company Ltd	East Akim	New Tafo	River Bayira	Abstraction	Domestic/Municipal	31-Jan-17
84	Ghana Water Company Ltd	Fanteakwa	Osino	Birim	Abstraction	Domestic/Municipal	31-Jan-17
85	Ghana Water Company Ltd	Tamale Metro.	Dalun / Nawuni	White Volta	Abstraction	Domestic/Municipal	31-Jan-17
86	Ghana Water Company Ltd	Yendi	Yendi	Daka	Abstraction	Domestic/Municipal	31-Jan-17
87	Ghana Water Company Ltd	South Dayi	Kpeve	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
88	Ghana Water Company Ltd	Ho Municipality	Tsito	Wuve	Abstraction	Domestic/Municipal	31-Jan-17
89	Ghana Water Company Ltd	Keta	Kpando & Keta	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
90	Ghana Water Company Ltd	Kpandu	Sovie	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
91	Ghana Water Company Ltd	Kpandu	Anfoega	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
92	Ghana Water Company Ltd	Kpandu	Nkonya -	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
			Ahenkro				
93	Ghana Water Company Ltd	Hohoe	Hohoe	Dayi	Abstraction	Domestic/Municipal	31-Jan-17
94	Ghana Water Company Ltd	Ketu	Agordome / Sega	Volta Lake	Abstraction	Domestic/Municipal	31-Jan-17
95	Ghana Water Company Ltd	Ketu	Aflao	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
96	Ghana Water Company Ltd	Ketu	Denu	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
97	Ghana Water Company Ltd	Ketu	Agbozume	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
98	Ghana Water Company Ltd	Akatsi	Abor	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
99	Ghana Water Company Ltd	Keta	Avenopeme/ Anyako	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
100	Ghana Water Company Ltd	Jasikan	Jasikan	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
101	Ghana Water Company Ltd	Jasikan	Worawora	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
102	Ghana Water Company Ltd	Kadjebi	Kadjebi / Juapong	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
103	Ghana Water Company Ltd	Sunyani Municipality	Abesim	Tano	Abstraction	Domestic/Municipal	31-Jan-17
104	Ghana Water Company Ltd	Berekum	Berekum	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
105	Ghana Water Company Ltd	Asutifi	Biaso	Biaso	Abstraction	Domestic/Municipal	31-Jan-17
106	Ghana Water Company Ltd	Tano North	Dwomo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
107	Ghana Water Company Ltd	Asutifi	Acherensua	Tano	Abstraction	Domestic/Municipal	31-Jan-17
108	Ghana Water Company Ltd	Techiman Municipal	Techiman / Tonoso	Tano	Abstraction	Domestic/Municipal	31-Jan-17
109	Ghana Water Company Ltd	Techiman Municipal	Techiman Boreholes	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
110	Ghana Water Company Ltd	Bolgatanga Municipality	Bolgatanga	Veia Dam	Abstraction	Domestic/Municipal	31-Jan-17
111	Ghana Water Company Ltd	Bawku-East Municipality	Bawku	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
112	Ghana Water Company Ltd	Kasena-Nankana	Navrongo	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
113	Ghana Water Company Ltd	Bolgatanga Municipality	Zuarungu	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
114	Ghana Water Company Ltd	Wa Municipality	Wa	Ground Water	Abstraction	Domestic/Municipal	31-Jan-17
115	Juaben Oils Mills Limited	Ejisu Juaben	Juaben	Groundwater	Abstraction	Industrial	31-Dec-15
116	Kibi Goldfields Limited	Fanteakwa	Saamang	Anoma River	Abstraction	Mining	01-Jan-14
117	Kibi Goldfields Limited	Fanteakwa	Saamang	Groundwater	Abstraction	Domestic/Municipal	01-Jan-14
118	Kibi Goldfields Limited	Fanteakwa	Saamang	Groundwater	Abstraction	Mining	01-Jan-14
119	Kingsmat Dan Fish Farm	Asuogyaman	Oframase-Gyakiti	Volta Lake	Fish Cage	Aquaculture	01-Dec-14
120	L & X Scale Limited	Central Gonja	Yapei	Groundwater	Abstraction	Dredging	31-Dec-16
121	Laveroff Farms Limited	Asuogyaman	Apaatifi	Volta Lake	Fish Cage	Aquaculture	01-Jan-15
122	Laveroff Farms Limited	Asuogyaman	Apaatifi	Volta Lake	Abstraction	Aquaculture	01-Jan-15
123	Lee W Farms Limited	Asuogyaman	Omankeleke	Groundwater	Abstraction	Aquaculture	31-Dec-15
124	Maleka Farms Limited	Dangbe West	Akuse	Lake Volta and Groundwater	Abstraction	Aquaculture	01-Jan-17
125	Newmont Ghana Gold Limited	Asutufi	Kenyasi II	Groundwater	Abstraction	Mining	31-Dec-15
126	Newmont Ghana Gold Ltd	Asutufi	Kenyasi II	Groundwater	Abstraction	Mining	01-Jan-15
127	Newmont Ghana Gold Ltd	Abirem North	New Abirem	Groundwater	Abstraction	Mining	01-Jan-14
128	Newmont Ghana Gold Ltd	Birim North	Hweakwae	Groundwater	Abstraction	Mining	01-Jan-14
129	Newmont Ghana Gold Ltd	Asutufi	Kenyasi	Groundwater	Abstraction	Mining	31-Jan-16
130	Newmont Golden Ridge Limited	Birim North	New Abirem	Groundwater	Abstraction	Mining	31-Dec-16
131	Newmont Golden Ridge Limited	Birim North	Abirem	Rainwater	Harvest rainfall/runoff	Mining	31-Mar-16
132	Newmont Golden Ridge Ltd	Birim North	Hweakwae	Pra River	Abstraction	Mining	31-Dec-14
133	Noble Gold Bibiani Limited	Bibiani/Anhwia/Bekwai	Bebiani	Groundwater	Abstraction	Mining	31-Mar-16
134	Noble Gold Bibiani Limited	Bibiani/Anhwia/Bekwai	Bibiani	Groundwater	Abstraction	Mining	31-Mar-16
135	Norpalm Ghana Ltd	Ahanta West	Ewusiejoe	Groundwater	Abstraction	Industrial/Domestic	31-Dec-17
136	Owere Mines Limited	Asante Akyem	Obenmabe	Groundwater	Abstraction	Mining	01-Jan-14

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
137	Perseus Mining (Gh) Limited	Upper Denkyira	Ayamfuri	Asuafo Stream	Damming	Mining	31-Dec-14
138	Perseus Mining (Gh) Limited	Upper Denkyira West	Ayamfuri	Groundwater	Abstraction	Mining	31-Dec-15
139	Perseus Mining (Gh) Limited	Upper Denkyira West	Ayamfuri	Groundwater	Abstraction	Mining	31-Dec-16
140	Reeba Farms Limited	Asuogyaman	Old Dodi Asantefrom	Groundwater	Fish cage	Aquaculture	31-Dec-15
141	Rehobothgoshen Fisheries Ltd	Asuogyaman	Apaatifi	Groundwater	Abstraction	Aquaculture	31-Dec-15
142	Romex Mining Ghana Limited	Upper West Denkyira	Mpeasem	Offin stream	Abstraction	Domestic/Municipal	26-Nov-15
143	Romex Mining Ghana Limited	Upper West Denkyira		Ahensu stream	Diversion	Mining	-
144	Safeway Estates Limited	South Dayi	Tongo Bor	Volta Lake and groundwater	Abstraction	Aquaculture	01-Jan-17
145	Samuel Opoku & Sons Limited	Gomoa	Adjumako	Rain water	Abstraction	Industrial/Mining	31-Dec-17
146	Savanna Diamond Company Ltd	Central Gonja	Buipe	Groundwater	Abstraction	Industrial	01-Oct-15
147	Sun Woo Culturing System Ltd.	Asuogyaman	Akosombo	Volta Lake	Fish Cage	Aquaculture	01-Mar-14
148	The Pure Company Limited	Kintampo North	Benkrom	Groundwater	Abstraction	Commercial	31-Dec-16
149	The Royal Senchi Limited	Asuogyaman	Senchi	Volta Lake	Abstraction	Recreation	30-Apr-15
150	Triton Aquaculture Africa Limited	Asuogyaman	Dodi Asantekrom	Volta Lake	Fish Cage	Aquaculture	01-Jun-14
151	Triton Aquaculture Africa Limited	Asuogyaman	Dodi Asantekrom	Volta Lake	Fish Pond	Aquaculture	01-Jan-15
152	Tropo Farms Limited	Dangme West	Asutsure	Groundwater	Fish cage	Aquaculture	31-Dec-16
153	Tropo Farms Limited	Asuogyaman	Mpakadan	Groundwater	Fish cage	Aquaculture	31-Dec-16
154	Tropo Farms Limited	Asuogyaman	Mpakadan	Groundwater	Fish cage	Aquaculture	31-Dec-16
155	US Group of Companies Limited	Asuogyaman	Serdom	Volta Lake	Fish cage	Aquaculture	31-Dec-16
156	US Group of Companies Limited	Asuogyaman	Serdom	Volta Lake	Fish pond/cage	Aquaculture	31-Dec-16
157	Vegpro Ghana Limited	North Tongu	Torgome	Kpong Reservoir	Abstraction	Irrigation	01-Jan-15
158	Vision 2000 Farms Company Ltd.	Asuogyaman	Domeabra	Groundwater	Fish cage	Aquaculture	31-Dec-14

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
159	Voltic (Gh) Limited	Bosomtwe	Nyameani	Groundwater	Abstraction	Commercial	31-Dec-15
160	WaterHealth Ghana Limited	Ga West	Manhean	River Densu	Abstraction	Domestic/Municipal	01-Jan-14
161	WaterHealth Ghana Limited	Ga West	Afuaman	River Densu	Abstraction	Domestic/Municipal	01-Jan-14
162	WaterHealth Ghana Limited	West Akim	Adeiso	River Ntiribo	Abstraction	Domestic/Municipal	01-Jan-14
163	WaterHealth Ghana Limited	Ga West	Nsakina	River Nsaki	Abstraction	Domestic/Municipal	01-Jan-14
164	WaterHealth Ghana Limited	Akwapim South	Pakro	River Densu	Abstraction	Domestic/Municipal	01-Jan-14
165	Waterhealth Ghana Limited	Ashaiman	Michel Camp	Groundwater	Abstraction	Domestic/Municipal	30-Nov-16
166	Waterhealth Ghana Limited	North Tongu	Napkoe	Volta Lake	Abstraction	Domestic/Municipal	30-Jun-16
167	Waterhealth Ghana Limited	Ga West	Amasaman	Groundwater	Abstraction	Domestic/Municipal	31-Mar-16
168	Waterhealth Ghana Limited	Krachi East	Asukawkaw	Groundwater	Abstraction	Domestic/Municipal	30-Apr-16
169	Waterhealth Ghana Limited	Krachi East	Dambai	Groundwater	Abstraction	Domestic/Municipal	30-May-16
170	Waterhealth Ghana Limited	South Dayi	Dzemeni	Volta Lake	Abstraction	Domestic/Municipal	30-Jun-16
171	Waterhealth Ghana Limited	Biakoye	Tapa Abotoase	Volta Lake	Abstraction	Domestic/Municipal	30-Apr-16
172	Waterhealth Ghana Limited	North Tongu	Volo	Groundwater	Abstraction	Domestic/Municipal	30-Dec-16
173	Waterhealth Ghana Limited	Adaklu-Anyigbe	Ziope	Tsiave River	Abstraction	Domestic/Municipal	30-Jun-16
174	Waterhealth Ghana Limited	Akwapim North	Amonokrom	Groundwater	Abstraction	Domestic/Municipal	30-Jun-16
175	Waterhealth Ghana Limited	Akwapim North	Akropong	Groundwater	Abstraction	Domestic/Municipal	31-Oct-16
176	Waterhealth Ghana Limited	Ga West	Oduman	Groundwater	Abstraction	Domestic/Municipal	31-Jul-16
177	Waterhealth Ghana Limited	Ga West	Pokoase	Groundwater	Abstraction	Domestic/Municipal	31-Oct-16
178	Waterhealth Ghana Limited	Ga West	Obeyeyie	Groundwater	Abstraction	Domestic/Municipal	31-Mar-16
179	WBHO Ghana Limited	Ga South	New Bortianor	Groundwater	Abstraction	Construction	31-Mar-15
180	West African Fish Limited	Asuogyaman	Domiabra	Volta Lake	Fish Cage	Aquaculture	01-Jun-15
181	Tokorozawa Enterprise	Asuogyaman	Sedorm	Volta Lake	Fish Cage	Aquaculture	31-Dec-16
182	AngloGold Ashanti (OBUASI MINE)	Adansi East	Obuasi	Jimi River	Abstraction	Mining	31-Dec-16
183	AngloGold Ashanti (OBUASI MINE)	Obuasi	Obuasi	Nyankumasu	Abstraction	Mining	31-Dec-16

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
184	M-Plaza Hotel	Accra Metropolitan	Roman Ridge	Groundwater	Abstraction	Recreation	31-Jan-17
185	Adom Biofuel Limited	Gomoa East	Gomoa-Osamkrom	Groundwater	Abstraction	Irrigation	30-Apr-16
186	Encol Limited	Tema Metropolitan	Ashale-Botwe	Groundwater	Abstraction	Domestic	31-Jul-16
187	Concord Landscaping & Construction Limited (Battor)	North Tongu	Battor	Lower Volta River	Abstraction/Dredging	Dredging	31-Aug-16
188	Concord Landscaping & Construction Limited	Central Tongu	Mafi-Devime	Lower Volta River	Abstraction/Dredging	Dredging	31-Aug-16
189	SG Sustainable Oils Ghana Limited	Nkwanta South	Brewaniase	Groundwater	Abstraction	Irrigation	31-Dec-16
190	Adansi Gold Company (Gh) Limited	Amansie West	Manso Nkran	Groundwater	Dewatering	Mining	16-Feb-15
191	Goldfields Ghana Limited (Tarkwa Gold Mines)	Tarkwa Nsuaem Municipal	Tarkwa	Groundwater	Abstraction	Domestic	31-Dec-16
192	Goldfields Ghana Limited (Tarkwa Gold Mines)	Tarkwa Nsuaem Municipal	Tarkwa	Groundwater	Dewatering	Mining	31-Dec-16
193	Newmont Ghana Gold Limited	Asutifi North	Kenyasi II	Subri Stream	Abstraction	Mining	31-Dec-16
194	Newmont Ghana Gold Ltd	Asutifi North	Kenyasi II	Groundwater	Dewatering	Mining	31-Dec-16
195	Paul De Saint Enterprise	Techiman Municipal	Techiman	Groundwater	Abstraction	Commercial	30-Nov-16
196	Keegan Resources Ghana Limited	Amansie West	Esaase-Mpatoam	Groundwater	Abstraction	Mining	24-Mar-17
197	Keegan Resources Ghana Limited	Amansie West	Esaase-Mpatoam	Groundwater	Abstraction	Domestic	31-Dec-16
198	Keegan Resources Ghana Limited	Amansie West	Esaase-Mpatoam	Tunsu/Bosomkwa Streams	Diversion	Mining	24-Aug-14
199	AngloGold Ashanti (OBUASI MINE)	Obuasi	Obuasi	Groundwater	Dewatering	Mining	31-Dec-14
200	AngloGold Ashanti (OBUASI MINE)	Obuasi	Obuasi	Pompo stream	Construction	Mining	31-Dec-14
201	Global Agri-Development Company (Ghana) Limited	South Tongu	Fieve	Volta River	Abstraction	Irrigation	31-Dec-16
202	Regional Building & Contracting Company Ltd	Dangme West	Asutuare	Lower Volta River	Abstraction/Dredging	Dredging	30-Jun-16

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
203	Golden Star (Bogoso/Prestea)	Pretea Huni-Valley	Bogoso	Groundwater	Abstraction	Domestic	31-Dec-16
204	Golden Star (Bogoso/Prestea)	Pretea Huni-Valley	Bogoso	Groundwater	Dewatering	Mining	31-Dec-16
205	Golden Star (Bogoso/Prestea)	Pretea Huni-Valley	Bogoso	Groundwater	Dewatering	Mining	31-Dec-16
206	Pillbrook Aquatics Volta Fish Farms Ltd.	Asuogyaman	Oframasi	Volta Lake	Fish Cage	Aquaculture	30-Sep-16
207	Cargill Ghana Limited	Tema Metropolitan	Tema	Groundwater	Abstraction	Industrial	31-Dec-16
208	Jej River Farms Limited	Ewutu-Senya	Ofaakor	Jej River	Abstraction	Irrigation	31-Dec-16
209	Offshore Water Services Limited	Nzema East	Axim	Groundwater	Abstraction	Industrial	31-May-17
210	Ghana Managanese Company Limited	Tarkwa Nsuaem Municipal	Nsuta	Groundwater	Abstraction	Domestic	31-Dec-16
211	Ghana Managanese Company Limited	Tarkwa Nsuaem Municipal	Nsuta	Groundwater	Dewatering	Mining	31-Dec-16
212	Ghana Managanese Company Limited	Tarkwa Nsuaem Municipal	Nsuta	Kawere Stream	Abstraction	Mining	31-Dec-16
213	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Groundwater	Abstraction	Domestic	31-Dec-16
214	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Huni stream	Abstraction	Irrigation	31-Dec-16
215	Ghana Rubber Estate Limited	Ahanta West	Apimanim	Suoni Stream	Abstraction	Industrial	31-Dec-16
216	Dagan Farms (Ghana) Limited	Asuogyaman	Kudikope	Volta Lake	Fish Cage	Aquaculture	31-May-17
217	Nicol Miro Forestry Company Limited	Asante Akim North	Agogo	Groundwater	Abstraction	Irrigation	31-Oct-16
218	SBO Farms and Manufacturing Company Limited	Shai-Osudoku	Asutuare	Volta River	Abstraction/Dredging	Dredging	31-May-17
219	Blue Skies Products Ghana Limited	Nsawam Adoagyiri	Dobro	Groundwater	Abstraction	Industrial	31-Dec-16
220	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Groundwater	Abstraction	Domestic	31-Dec-16
221	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Suraw River/ Groundwater	Abstraction	Mining	31-Dec-16
222	Chirano Gold Mines Limited	Bibiani-Anwhiaso Bekwai	Chirano	Groundwater	Dewatering	Mining	31-Dec-16
223	Patasi Spring Water Limited	Amansie Central	Patasi	Groundwater	Abstraction	Commercial	30-Sep-17

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
224	Bassy Farms Limited	Asuogyaman	Sedorm	Volta Lake	Fish Cage	Aquaculture	30-Jun-17
225	Newmont Golden Ridge Limited	Birim North	Hweakwae	Groundwater	Abstraction	Domestic	31-Dec-16
226	Newmont Golden Ridge Limited	Birim North	Hweakwae	Groundwater	Abstraction	Mining	31-Dec-16
227	Hambroque Limited	Central Tongu	Mede-Husikope	Volta River	Fish Cage	Aquaculture	30-May-17
228	Harvest Commodities Limited	North Tongu	Aveyime-Battor	Volta River	Abstraction	Irrigation	31-Jul-17
229	Harvest Commodities Limited	North Tongu	Aveyime-Battor	Volta River	Abstraction	Aquaculture	31-Jul-17
230	Harvest Commodities Limited	North Tongu	Aveyime-Battor	Groundwater	Abstraction	Domestic	31-Jul-17
231	Engineers and Planners Company Limited	Mpohor	Wassa	Onua River	Abstraction	Mining	31-Jul-17
232	High Brains Limited	Ga South Municipal	Dunkonah	Groundwater	Abstraction	Construction	31-Dec-14
233	Goldfields Ghana Limited (Tarkwa Gold Mines)	Tarkwa Nsuaem Municipal	Tarkwa	Pepe Stream	Diversion	Mining	31-Mar-15
234	Adamus Resources Limited	Ellembelle	Salman	Groundwater	Dewatering/Discharge	Mining	31-Aug-17
235	Adamus Resources Limited	Ellembelle	Salman	Groundwater	Dewatering/Discharge	Mining	30-Aug-17
236	Adamus Resources Limited	Ellembelle	Salman	Groundwater	Abstraction	Domestic	31-Dec-16
237	Adamus Resources Limited	Ellembelle	Salman	Surfacewater	Discharge	Mining	30-Sep-17
238	Akoko Goldfield Company Limited	East Akyem	Potroase	Densu River	Abstraction	Mining	1-Dec-15
239	Golden Star (Wassa) Limited	Mpohor Wassa East	Benso	Groundwater	Abstraction	Domestic	31-Dec-16
240	Golden Star (Wassa) Limited	Mpohor Wassa East	Mpohor	Groundwater	Abstraction	Domestic	31-Dec-16
241	Golden Star (Wassa) Limited	Mpohor Wassa East	Akyempim	Groundwater	Abstraction	Domestic	31-Dec-16
242	Golden Star (Wassa) Limited	Mpohor Wassa East	Akyempim	Groundwater	Dewatering	Mining	31-Dec-16
243	Golden Star (Wassa) Limited	Mpohor Wassa East	Akyempim	Groundwater	Dewatering	Mining	31-Dec-16
244	Adomso Business Complex	Sunyani Municipal	Sunyani	Groundwater	Abstraction	Commercial	31-Dec-16
245	Twum Antwi Trading Enterprise	Techiman Municipal	Techiman	Groundwater	Abstraction	Commercial	31-Dec-16
246	Kwayaco Enterprise	Techiman Municipal	Techiman	Groundwater	Abstraction	Commercial	31-Dec-16

No	User Name	District/Municipal	Point of Use	Type of Source	Water Use Activity	Primary Purpose	Expiry date
247	Akodeb Limited	Techiman Municipal	Techiman	Groundwater	Abstraction	Commercial	31-Dec-16
248	Kwamag Car Wash and Water Supply	Sunyani West	Sunyani	Groundwater	Abstraction	Commercial	31-Dec-16
249	Blanks Car Washing Bay and Cleaning Services	Sunyani West	Sunyani	Groundwater	Abstraction	Commercial	31-Dec-16
250	Abuja Washing Bay	Sunyani West	Sunyani	Groundwater	Abstraction	Commercial	31-Dec-16
251	Kensington Industries Limited	Ketu South	Adina	Groundwater	Abstraction	Industrial	31-Mar-17
252	Rajkumar Impex Ghana Limited	Techiman Municipal	Techiman	Groundwater	Abstraction	Industrial	31-Mar-17
253	Perseus Mining (Gh) Limited	Upper Denkyira West	Ayamfuri	Asuafo Stream	Diversion	Mining	4-May-15
254	Anglogold Ashanti (Obuasi Mine)	Obuasi Municipal	Obuasi	Kwafo stream	Construction	Mining	31-Oct-15
255	Genser Energy Ghana Limited	Sefwi-Wiawso	Chirano	Surfacewater	Abstraction	Power Generation	31-Aug-17
256	Genser Energy Ghana Limited	Sefwi-Wiawso	Chirano	Groundwater	Abstraction	Power Generation	31-Aug-17
257	Benso Oil Palm Plantation	Mpohor East	Benso	Groundwater	Abstraction	Industrial/Irrigation	31-Dec-15
258	L & X Scale Limited	Central Gonja	Yapei	White Volta River	Abstraction/Dredging	Commercial	31-Dec-16
259	Twifo Oil Palm Plantation Limited	Lower Denkyira	Twifo Heman	Groundwater	Abstraction	Domestic	31-Dec-16
260	Twifo Oil Palm Plantation Limited	Lower Denkyira	Twifo Heman	River Obuo	Abstraction	Industrial	31-Dec-16
261	COB-A Industries Limited	South Tongu	Tadame	Volta Lake	Construction	Construction	31-Jan-15
262	COB-A Industries Limited	South Tongu	Tadame	Volta Lake	Abstraction	Commercial	31-Dec-17
263	Everyday Tissue Manufacturing Ghana Limited	Awutu Senya	Kwame Whettey	Groundwater	Abstraction	Construction	31-Mar-15
264	Everyday Tissue Manufacturing Ghana Limited	Awutu Senya	Kwame Whettey	Groundwater	Abstraction	Industrial	31-Dec-17
265	Adansi Gold Company (Gh) Limited	Amansie West	Manso Nkran	Groundwater	Dewatering	Mining	16-Feb-16
266	Sweetwater Fishing Enterprise	North Tongu	Fodzoku	Volta Lake	Fish Cage	Aquaculture	14-Dec-17

Appendix 3: Compliance Environmental Monitoring Data – 2014

TSS (mg/l) - Ankobra River (Upstream)				
Month	Year			
	2011	2012	2013	2014
January	58	151	444	931
February	30	144	1280	424
March	155	174	595	819
April	94	357	1440	819
May	120	198	63	1880
June	145	157	66	736
July	94	294	510	337
August	73	148	626	469
September	74	567	980	1220
October	214	294	475	524
November	60	403	597	265
December	97	721	776	855
Average	101	301	654	773
Minimum	30	144	63	265
Maximum	214	721	1440	1880
Standard Error	15	54	121	129

TSS (mg/l) - Ankobra River (Downstream)				
Month	Year			
	2011	2012	2013	2014
January	36	182	433	943
February	25	223	464	901
March	55	355	259	810
April	120	535	224	682
May	155	352	479	1380
June	195	327	933	767
July	85	255	491	405
August	82	193	661	455
September	51	580	862	1110
October	85	227	824	513
November	66	557	613	430
December	99	856	1090	856
Average	88	387	611	771
Minimum	25	182	224	405
Maximum	195	856	1090	1380
Standard Error	14	59	78	86

Turbidity (mg/l) - Ankobra River (Upstream)				
Month	Year			
	2011	2012	2013	2014
January	53	262	719	1320
February	56	283	1860	1160
March	135	228	987	1320
April	175	574	1810	1050
May	225	256	706	2070
June	220	226	1170	1070
July	145	315	733	496
August	100	288	993	479
September	126	707	1480	1540
October	179	459	1250	861
November	97	556	830	555
December	198	788	984	1470
Average	142	412	1127	1116
Minimum	53	226	706	479
Maximum	225	788	1860	2070
Standard Error	17	57	116	137

Turbidity (mg/l) - Ankobra River (Downstream)				
Month	Year			
	2011	2012	2013	2014
January	46	248	784	1370
February	42	393	1250	1090
March	91	501	317	1120
April	200	1020	2130	1050
May	225	418	597	1960
June	190	397	1410	1160
July	125	292	821	561
August	100	307	1030	649
September	111	743	1390	1470
October	119	329	1180	930
November	95	651	865	705
December	190	906	1390	2120
Average	128	517	1097	1182
Minimum	42	248	317	561
Maximum	225	1020	2130	2120
Standard Error	17	74	136	140

TDS (mg/l) - Nsuo Kofi (Upstream)				
Month	Year			
	2011	2012	2013	2014
January	2210	2820	1130	2790
February	2205	1940	1260	3100
March	2030	772	994	2700
April	1560	842	1160	4300
May	1460	1880	824	1640
June	1330	1400	976	1490
July	2010	1680	1130	848
August	2360	1500	1500	1640
September	2150	1040	1260	824
October	1320	920	880	608
November	1700	719	686	3230
December	2120	810	1240	6230
Average	1871	1360	1087	2450
Minimum	1320	719	686	608
Maximum	2360	2820	1500	6230
Standard Error	108	184	65	475

TDS (mg/l) - Nsuo Kofi (Downstream)				
Month	Year			
	2011	2012	2013	2014
January	2400	3060	1120	2620
February	1800	2840	1180	3270
March	1840	1870	1330	2360
April	2160	1650	1520	4440
May	1590	1600	1260	1920
June	1790	1000	1400	1080
July	1650	1240	1080	536
August	1120	1210	1260	2010
September	1740	1270	1250	1400
October	934	764	940	1550
November	1560	648	1600	3140
December	1100	810	1080	5530
Average	1640	1497	1252	2488
Minimum	934	648	940	536
Maximum	2400	3060	1600	5530
Standard Error	124	224	55	413

TDS (mg/l) - Nsuo Kofi (Midstream)				
Month	Year			
	2011	2012	2013	2014
January	2040	3320	1150	2940
February	1570	3020	1210	2770
March	2010	1700	1340	1790
April	2100	1280	1620	4560
May	1570	1420	1240	1680
June	2000	1600	1090	1140
July	1430	1830	968	1130
August	1420	1570	1360	1700
September	1830	1380	1110	908
October	1380	778	900	646
November	1680	758	668	3310
December	1220	820	1260	5560
Average	1688	1623	1160	2345
Minimum	1220	758	668	646
Maximum	2100	3320	1620	5560
Standard Error	87	234	71	442

Appendix 4: Water Well Drilling Licence Register - 2014

No	Licence Holder	Address	Company Registration No.	Licence No.	Category	Expiry Date
1	7 A's Christian Construction and Dev't Consul Ltd	P. O. Box AN 5038, Accra-North	CA-74,771	WRC/WDL/081/11	C	26-Jun-14
2	Abotwa and Sons Company Ltd.	P. O. Box 38, Tamale	CA-81,758	WRC/WDL/109/11	C	24-Jun-15
3	Africa Drilling and Exploration Ghana Limited	P. O. Box AN 10673, Accra-North	CS212722013	WRC/WDL/159/14	B	17-Sep-17
4	Afrihope Missions	P. O. Box 529, Berekum-Bia, Ghana	G-20,731	WRC/WDL/093/11	C	10-Oct-15
5	Aglawu Company Limited	P. O. Box SK 332, Tema	CA-56,869	WRC/WDL/094/11	C	12-Oct-14
6	Akira Limited	P. O. Box GT 6346, Accra-North	CA-57,608	WRC/WDL/106/12	C	22-May-15
7	Alhaji Iddi Akugri Drilling & Const. Works	P. O. Box 132, Kumasi, Ashanti Region	BN-22,330 E	WRC/WDL/137/13	C	21-Mar-16
8	Amazing Tramensco Limited	P. O. Box 8, Assin-Foso	CA-70,483	WRC/WDL/120/12	C	22-Oct-15
9	Andeg Limited	P. O. Box LG 893, Legon, Accra	CA-23,481	WRC/WDL/104/12	C	18-Mar-15
10	Aqua Saline Company Limited	P. O. Box 95,639, Tema	CA-95,639	WRC/WDL/124/13	C	09-Jan-16
11	Aquamasters Company Ltd.	P. O. Box CO 1123, Tema	CA-81,820	WRC/WDL/100/12	A	22-Jan-15
12	Bauer Resources Ghana Limited	P. O. Box MB 615, Teshie - Nungua, Accra	CA - 72,956	WRC/WDL/050/13	B	19-Aug-16
13	Benta Enterprise Limited	P. O. Box 120, Bolgatanga, Upper East Region	CA-94,971	WRC/WDL/130/13	C	04-Mar-16
14	BlessedField Limited	P. O. Box AD 52, Adabraka, Accra	C-63,579	WRC/WDL/111/12	C	22-Aug-15
15	Bonfirm Company Limited	P. O. Box UP 55, KNUST-Kumasi	CA-74,253	WRC/WDL/123/13	C	09-Jan-16
16	Bremsbouna Company Limited	P. O. Box DS 653, Dansoman Estate	C-82,397	WRC/WDL/024/13	C	03-Sep-16
17	Brushwell Associates Limited	P. O. Box DC 439, Dansoman	CA-28,586	WRC/WDL/073/11	B	25-Apr-14
18	Byron Company Limited	P. O. Box MP 2437, Mamprobi, Accra	95,097	WRC/WDL/156/14	C	10-Sep-17
19	Cephavick Limited	P.O. Box MB 359, Mamprobi-Accra	CA-17,548	WRC/WDL/08/005	C	24-Jun-14
20	Champion Man Company Limited	P. O. Box KW 302, Kwadaso - Kumasi	CA-60,706	WRC/WDL/052/13	C	10-Oct-16
21	China Henan Geo-Construction Company Limited	P.O. Box KS 12198, Kumasi	C-89,839	WRC/WDL/08/003	B	18-May-14
22	China Zhong Hao (Gh) Limited	P. O. Box 649 OF, Accra	CA-4,096	WRC/WDL/08/002	B	08-Jun-14
23	Chucatel Ghana Limited	P. O. Box TN 962, Teshie Nungua, Accra	CA-79,368	WRC/WDL/074/11	B	25-Apr-14
24	Church of Christ (Rural Water Dev. Programme)	P. O. Box AN 6017, Accra-North	G.3.785,D.S.W/59	WRC/WDL/08/001	B	08-Jun-14

No	Licence Holder	Address	Company Registration No.	Licence No.	Category	Expiry Date
25	Cognizant Business Solutions Limited	P. O. Box 2067, Fiapre-Sunyani, Brong Ahafo Region	CA-62,459	WRC/WDL/139/13	C	16-May-16
26	Construction Expert Services Limited	P. O. Box TU 148, T.U.C.- Accra	CA-25,629	WRC/WDL/158/14	C	10-Sep-17
27	Dadick Limited	P. O. Box DS 2044, Dansonman-Accra	88,007	WRC/WDL/112/12	C	22-Jul-15
28	Darkata Engineering Services Limited	P. O. Box 62, Trade Fair, Accra	71,666	WRC/WDL/097/11	C	03-Nov-14
29	Deeprook (Gh) Limited	P. O. Box LG 944, Legon, Accra	CS232242013	WRC/WDL/152/14	C	15-May-17
30	Dextin Company Limited	P. O. Box CT 4329, Cantonments, Accra	CA-51,527	WRC/WDL/086/11	C	19-Jul-14
31	E E & E Company	P.O. Box AE 1163,Accra	CA-18,392	WRC/WDL/014/12	B	06-Oct-15
32	Ebeka Limited	P. O. Box SE 1188, Suame -Kumasi	CA-41,887	WRC/WDL/068/11	C	07-Feb-14
33	Edkas Trust Company Limited	P. O. Box CT 3505, Cantonment, Accra	CA-53,820	WRC/WDL/157/14	C	10-Sep-17
34	Elektro Aquah Services	P. O. Box 518, Fante New Town-Kumasi	C-73,552	WRC/WDL/064/11	C	18-Jan-14
35	Elex Investments Ghana Limited	P. O. Box TL. 2299, Tamale	CA-70,832	WRC/WDL/066/11	C	18-Jan-14
36	Elinapoa Investment Limited	P. O. Box LT 624, Laterbiokoshie, Accra	CS033632012	WRC/WDL/128/13	C	27-Jan-16
37	Enacent Agency Limited	P. O. Box MD 438, Madina-Accra	75,913	WRC/WDL/054/13	C	10-Oct-16
38	Ersfa Limited	P. O. Box AN 10032, Accra-North	C-75,078	WRC/WDL/110/12	C	25-Jun-15
39	GC Bescom Limited	P. O. Box SK 444, Sakumono - Tema	CA-89,283	WRC/WDL/118/12	C	22-Oct-15
40	Gemrock Drills Ghana Limited	P. O. Box KS16456	CS032732012	WRC/WDL/121/12	B	31-Oct-15
41	Georgeland Ventures	P. O. Box CT 5655, Cantonment	C-63,089	WRC/WDL/149/13	C	19-Dec-16
42	Geosource Drilling Technologies Limited	P. O. Box AT 2264, Achimota	CA-22,285	WRC/WDL/096/11	C	01-Nov-14
43	Geosystems Consulting Limited	P. O. Box 28 Abuakwa-Kumasi	CA-40,567	WRC/WDL/069/11	C	07-Feb-14
44	Global Synergy Limited	P. O. Box CT 5690, Cantonments, Accra	CS424152014	WRC/WDL/161/14	C	24-Sep-17
45	GM Projekts	P. O. Box 16157,Accra	CA-7,340	WRC/WDL/085/11	C	18-Jul-14
46	G-Mark Environmental Engineering Company Ltd	C/O Trustees Services Ltd, Box GP 1632, Accra	CA-91,243	WRC/WDL/095/11	C	01-Nov-14
47	Good Father & Mother Enterprise	P. O. Box 100 Wa	BN - 68,044B	WRC/WDL/077a/11	C	09-Jun-14
48	Haiva Company Limited	P. O. Box CS 8741, Tema	CA-29,838	WRC/WDL/126/13	C	09-Jan-16
49	Heisa Engineering Company Ltd.	P. O. Box JT 223, James Town, Accra	65,305	WRC/WDL/105/12	C	16-May-15
50	Henmaken Company Limited	P. O. Box GP 17804, Accra - Central	CA-31,369	WRC/WDL/155/14	C	10-Sep-17
51	Hitesh Impex Limited	P. O. Box 4610-CT, Cantonment Accra, Ghana	CA-88,981	WRC/WDL/022/13	B	08-Apr-16
52	Hu Bei Geology & Engineering Company Ltd.	P. O. Box 282 Education Ridge, Tamale.	C-78,734	WRC/WDL/048/13	B	14-Jul-16
53	Hydronomics Limited	P. O. Box LG 924, Legon, Accra	CA-10,929	WRC/WDL/114/12	B	22-Jun-15
54	IB-Max Company Ltd.	P. O. Box CT 426, Cantonments, Accra	CA-60,844	WRC/WDL/115/12	C	16-Aug-15

No	Licence Holder	Address	Company Registration No.	Licence No.	Category	Expiry Date
55	Indo-Ghana Borehole Services Ltd.	P. O. Box GP 4711, Accra-Ghana	CA-1,830	WRC/WDL/016/12	B	18-Oct-15
56	J. Adom Limited	P. O. Box KD 429, Kanda, Accra	C-8,766	WRC/WDL/061/14	C	14-Oct-16
57	Jaka Sewerage & Construction Services Limited	P. O. Box DS 1459, Dansoman-Accra, Ghana	CA-6,546	WRC/WDL/127/13	C	21-Jan-16
58	Jamesbury Trading and Construction Ltd.	P. O. Box GP 1632, Accra 6397, Accra-North	CA-10,562	WRC/WDL.076/11	C	15-May-14
59	JCR Drilling Ghana Limited	P. O. Box KB 792, Korle-Bu, Accra	CA-50,988	WRC/WDL/063/11	C	18-Jan-14
60	Joanasco Company Limited	P. O. Box 407, Madina, Accra	CA-38,367	WRC/WDL/107/12	C	23-May-15
61	Joissam Construction Limited	P. O. Box AD 1188, Adabraka-Accra	CA-16,243	WRC/WDL/049/14	B	15-Aug-16
62	K.S.K. Builders Network Limited	P. O. Box KD 1198, Kanda-Accra	CS200142013	WRC/WDL/141/13	C	14-Jul-16
63	Keldem Engineering Company Limited	P. O. Box AF 1815, Adenta-Accra	CS1622642013	WRC/WDL/135/13	C	21-Mar-16
64	Kenz Logistics Limited	P. O. Box 30594, KIA-Accra	CS197872013	WRC/WDL/160/14	C	24-Sep-17
65	Kingaka Construction Ltd.	P. O. Box TN 385, Accra	61,309	WRC/WDL/058/13	B	19-Sep-16
66	Kinkubi Solutions	P. O. Box SN 366, Santasi-Kumasi	BN-29,924D	WRC/WDL/088/11	C	16-Aug-14
67	Kuadeck Limited	P. O. Box GP 20187, Accra	CA-48,534	WRC/WDL/133/13	C	18-Mar-16
68	Kutia Limited	P. O. Box 9987, Airport- Accra	CA-2,398	WRC/WDL/144/13	C	19-Aug-16
69	Leka Interactive Company Ltd	P. O. Box 474, Teshie-Nungua	CA-83,361	WWRC/WDL/083/11	C	03-Jul-14
70	Marknoc Enterprise	P. O. Box Tkw 413, Tarkwa, W/R	BN-50,730C	WRC/WDL/099/11	C	13-Nov-14
71	Mega Drilling Ghana Limited	P. O. Box WY 834, Kwabenya	CS047192012	WRC/WDL/143/13	B	30-Jul-16
72	Meridian Water Well Drilling Ltd	P. O. Box CT 5632, Accra	CA-74,412	WRC/WDL/072/11	B	04-Apr-14
73	Mikanbros Company Ltd	P. O. Box MB 687, Ministries-Accra	CA-77,893	WRC/WDL/080/11	C	26-Jun-14
74	Mowakari Trading and Construction Ltd	P. O. Box 468, Obuasi	CA-78,411	WRC/WDL/078/11	C	09-Jun-14
75	MTL Boreholes Limited	P. O. Box 2264, Opp. ABC, Achimota	CA-51,269	WRC/WDL/103/12	B	22-Feb-15
76	Multi-Hydro Technique Limited	P. O. Box TA 312, Taifa, Accra	95,844	WRC/WDL/108/12	C	17-Jun-15
77	Pamicor Limited	DTD P11 Coastal Estates, Off Spintex Rd, Baatsona	CA-30,525	WRC/WDL/098/11	C	07-Nov-14
78	Pekwapong Company Ltd	P. O. Box P531, Kumasi	CA-69,855	WRC/WDL/071/11	B	17-Mar-14
79	Plumbline Global Service Ltd.	P. O. Box LG 1069, Legon, Accra	CA-62,100	WRC/WDL/090/11	C	21-Sep-14
80	PRD Rigs Ghana Ltd	P. O. Box CT 5285, Cantonments-Accra	CA-46,471	WRC/WRL/084/11	C	05-Jul-14
81	Prefan Investments Company Ltd	P. O. Box 1694, Kumasi	CA-81,470	WRC/WDL/082/11	C	26-Jun-14
82	Ramdison Enterprise	C/O P. O. Box 566, Wa, Upper West Region	BN-51,516D	WRC/WDL/140/13	C	11-Jul-16
83	Sabailo Ltd	P. O. Box 93, Bolgatanga	CA-21,576	WRCL/WDL/072/11	C	10-Apr-14
84	Sabfex Enterprise	P. O. Box 77, Wassa Nsuta Tarkwa	TIN-1240023975	WRC/WDL/099-a/11	C	08-Dec-14

No	Licence Holder	Address	Company Registration No.	Licence No.	Category	Expiry Date
85	Sages Consult (Ghana) Ltd.	P. O. Box 1231, Sunyani -Brong Ahafo	CA-52,314	WRC/WDL/092/11	c	09-Oct-14
86	Samjust Engineering Co. Ltd.	P. O. Box 837, Kenten, Techiman-B/A	CA-8,158	WRC/WDL/087/11	C	01-Aug-14
87	Sanafat Limited	P. O. Box 12694, Accra-North	CA-26,130	WRC/WDL/153/14	C	23-May-17
88	Sandimax Company Ltd	P. O. Box NG 59, Nungua-Accra	CA-18,692	WRC/WRL/079/11	C	23-Jun-14
89	Sem Equipment Limited	P. O. Box 15447, Accra-North	CA-84,237	WRC/WDL/101/12	C	22-Feb-15
90	Springer Ghana Limited	P. O. Box 2439, Tamale	CB-696	WRC/WDL/116/12	C	16-Aug-15
91	Stardust Construction Limited	P. O. Box 560, Odorkor, Accra	C-75,226	WRC/WDL/148/13	C	21-Nov-16
92	TBL Resources Limited	P. O. Box CT 6109, Cantonments-Accra	CA-9,686	WRC/WDL/09/012	B	23-Mar-15
93	Tech-2 Resources Limited	P. O. Box 882, Tamale	CA-39,729	WRC/WDL/075/11	C	02-May-14
94	Tedson Drilling & Construction Limited	P. O. Box HP 582, Ho, Volta Region	C-90,609	WRC/WDL/018/13	B	14-May-16
95	Time Heals Enterprise Limited	P. O. Box 261, Bawku	CA-7008	WRC/WDL/065/11	C	18-Jan-14
96	Time Heals Enterprise Limited	P. O. Box 319, Bolgatanga	CA-7,008	WRC/WDL/065/14	C	19-Nov-17
97	Trecor Company Limited	P. O. Box 994, Teshie-Nungua Estates	CA-90,994	WRC/WDL/131/13	C	04-Mar-16
98	Trust Water Works Limited	P. O. Box 0S 1852, Osu-Accra	CA-12,033	WRC/WDL/011/11	C	18-Jan-14
99	Unipumps Nigeria Limited	P. O. Box 5732 Accra, North	EXT. 1,510	WRC/WDL/122/12	B	12-Nov-15
100	Vent-3 Limited	P. O. Box CT 3759, Cantonments, Accra	C-73,219	WRC/WDL/132/13	C	18-Mar-16
101	Viekele Enterprise	C/O P. O. Box 15, Tendamba, JHS, Wa	BN-86,764D	WRC/WDL/138/13	C	08-Apr-16
102	Waterfirst Springs Limited	P. O. Box CT 5436, Accra	CA-56,992	WRC/WDL/134/13	C	21-Mar-16
103	Watersan Engineers Limited	P. O. Box TA 88, Taifa-Accra	CA-72,975	WRC/WDL/129/13	C	04-Feb-16
104	Waterside Ghana Limited	P. O. Box 1099 Madina-Accra	CA-61,583	WRC/WDL/021/13	C	19-Sep-16
105	Weddi Africa Limited	P. O. Box CT 6401, Cantonment-Accra	C-17,581	WRC/WDL/037/13	C	01-Dec-15
106	Wenenco Limited	P. O. Box 1424, Sunyani	CA-98,769	WRC/WDL/142/13	A	29-Jul-16
107	Willifaat Limited	P. O. Box 487, Wa	CA-49,371	WRC/WDL/146/13	C	03-Sep-16

Appendix 5 – Audited Financial Statement for 2014

WATER RESOURCES COMMISSION

FINANCIAL STATEMENTS

FOR THE YEAR ENDED 31ST DECEMBER 2014

**Morrison & Associates
Chartered Accountants, Tax &
Management Consultants
2nd Floor Trinity House
Ring Road East
P.O.Box CT 2890
Cantonments-Accra**

WATER RESOURCES COMMISSION

BOARD OF COMMISSIONERS, OFFICIALS AND REGISTERED OFFICE

BOARD OF COMMISSIONERS

Agyewodin Prof.A.Gyamfi Ampem
[Chairman]
Mr. Ben.Y. Ampomah (Executive Secretary)
Mr. Clement Bugase
Mr. Raphel Yeboah
Mr. Simon Abagna Aplo
Ing. Ada E. Asomantsi
Mr. Carl KojoFiati
Dr. Joseph AddoAmpofo
Mr. Peter N. Hodgson
Mr. Kwaku D. Dovlo
Mr. Huber Osei-Wusuansa
Mr. Osei Y. Owusu-Sekyere
Mr.Alhaji Alhassan Bene
Ms. Bernice Sam
Mrs. Aisha Sahia

REGISTERED OFFICE

No. E.4 Leshie Crescent
Labone Estate
Accra

AUDITORS

Morrison & Associates
Chartered Accountants, Tax &
Management Consultants
2nd Floor, Trinity House
Ring Road East
P. O. Box CT 2890
Cantonments-Accra

BANKERS

Ecobank Ghana Limited
Bank of Ghana



(Chartered Accountants, Tax & Management Consultants)

2nd Floor, Trin

Ring R

P. O. Box

Cantonments - Accr

Tel: (+233-302

(+233-302

Fax: (+233-302

E-mail: info@morrisonassociates.com

Website: www.morrisonassociates.com

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

Report on the Financial Statements

We have audited the accompanying financial statements of Water Resources Commission, which comprise the statement of financial position as at 31st December 2014, the statement of financial performance, the statement of cashflows, and statement of changes in net assets /equity for the year then ended, and a summary of significant accounting policies and other explanatory notes.

Commissioners Responsibility for the Financial Statements

The Board of Commissioners is responsible for the preparation and fair presentation of these financial statements in accordance with International Public Sector Accounting Standards (IPSAS). This responsibility includes: designing, implementing and maintaining internal controls relevant to the preparation and fair presentation of financial statements that are free of material misstatement, whether due to fraud or error, and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express our independent opinion on these financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal controls relevant to the entity's preparation and fair presentation of the financial statements 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 entity's internal control.

An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the Commissioners, as well as evaluating the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of Water Resources Commission as of 31st December 2014, and of its financial performance and its cash flows for the year then ended in accordance with International Public Sector Accounting Standards (IPSAS).

Furthermore, we confirm that:

- a. We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purposes of our audit;
- b. Proper books of account have been kept by the Commission, so far as appears from our examination of these books; and
- c. The statement of financial position, statement of financial performance and statement of changes in net assets /equity of the Commission are in agreement with the books of account.

Mansu & Associates

.....
CHARTERED ACCOUNTANTS (ICAG/F/2015/097)

ACCRA, GHANA

2nd September
...../2015

PARTICULARS OF PARTNER SIGNING:

NAME: SAMUEL WILFRED YAW INKOOM

PRACTISING CERTIFICATE NUMBER: ICAG/P/1118

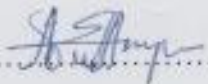
NATURE OF BUSINESS

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

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

AUDITORS

The Auditors, Morrison & Associates, 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).

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) COMMISSIONERS

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ACCRA

..... 17-08-2015

WATER RESOURCES COMMISSION
STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 31ST DECEMBER 20

		2014	2013
	NOTE	GH¢	GH¢
Revenue	5	2,018,204	1,661,470
Other Revenue	6	<u>2,490,179</u>	<u>4,240,999</u>
Total Revenue		4,508,383	5,902,469
General administration expenses	7	(3,776,578)	(4,054,412)
Surplus for the year		<u>731,805</u>	<u>1,848,057</u>

WATER RESOURCES COMMISSION
STATEMENT OF CHANGES IN NET ASSETS/EQUITY
FOR THE YEAR ENDED 31ST DECEMBER 2014


Changes in equity for 2013	Development Fund	Accumulated Fund	Total
	GH¢	GH¢	GH¢
Balance at 1st January 2013	59,845	2,573,684	2,633,529
Surplus for the year	-	1,848,057	1,848,057
Prior year adjustment 3	-	20,250	20,250
Prior year adjustment 2	-	(3,983)	(3,983)
Balance at 31st December 2013	<u>59,845</u>	<u>4,438,008</u>	<u>4,497,853</u>
Changes in equity for 2014			
Balance at 1st January 2014	59,845	4,438,008	4,497,853
Surplus for the year	-	731,805	731,805
Balance at 31st December 2014	<u>59,845</u>	<u>5,169,813</u>	<u>5,229,658</u>

WATER RESOURCES COMMISSION
STATEMENT OF FINANCIAL POSITION AS AT 31ST DECEMBER 2014

ASSETS	NOTE	2014 GH¢	2013 GH¢
Current Assets			
Cash & Cash Equivalents	8	3,590,387	2,962,685
Account Receivables	9	1,256,875	923,820
Prepayment for Residence		60,000	60,000
		<u>4,907,263</u>	<u>3,946,505</u>
Non- Current Assets			
Pra Capital Expenditure	10	19,584	23,151
White Volta Capital Expenditure	10	8,411	12,897
Tano Capital Expenditure	10	48,334	56,389
Property, plant & equipment	11	474,664	484,294
Intangible Assets	12	19,965	8,930
		<u>570,958</u>	<u>585,661</u>
Total Assets		5,478,221	4,532,166
Current Liabilities			
Account Payable	13	(248,563)	(34,313)
Net Assets		<u>5,229,658</u>	<u>4,497,853</u>
REPRESENTING:			
Net Assets/Equity			
Accumulated Fund		5,169,813	4,438,008
Development Fund	14	59,845	59,845
Total Net Assets/ Equity		<u>5,229,658</u>	<u>4,497,853</u>



 (CHAIRMAN)



 (EXECUTIVE SECRETARY)

ACCRA

17-08-2015

Notes 1-14 form an integral part of these financial statements and should therefore be read in conjunction therewith.

**WATER RESOURCES COMMISSION
STATEMENT OF CASHFLOWS
FOR THE YEAR ENDED 31ST DECEMBER 2014**

	2014 GH¢	2013 GH¢
<u>Cash flows from operating activities</u>		
Surplus for the Year	731,805	1,848,057
Non-cash movements		
Depreciation	160,464	164,068
Amortisation	12,215	4,465
Profit on disposal of non- current assets	-	(7,986)
White Volta Capital expenditure written off	4,486	4,486
Pra Capital expenditure written off	3,567	3,567
Tano Capital expenditure written off	8,055	8,055
Deferred expenditure written off	-	2,880
Increase in account receivables	(333,055)	(506,197)
Increase in prepayments for residence	-	(55,170)
Increase /(decrease) in account payables	214,250	(34,292)
Net cash flow from operating activities	801,788	1,431,934
<u>Cash flows from investing activities</u>		
Purchase of property, plant and equipment	(150,834)	(47,665)
Purchase of intangible assets	(23,250)	(13,395)
Receipt from the sale of property, plant and equipment	-	34,865
Net cash flows from investing activities	(174,084)	(26,195)
Net increase in cash & cash equivalents	627,704	1,405,739
Cash & cash equivalents at 1st January(Note 1)	2,962,684	1,556,944
Cash & cash equivalents at 31st December (Note 1)	3,590,387	2,962,684

Note 1

Notes to the cash flow statements

Analysis of cash and cash equivalents as shown in the statement of financial position.

	2014 GH¢	2013 GH¢	Change in year
Cash on hand	811	3,161	(2,350)
Cash at bank	3,589,576	2,959,524	630,052
Total	3,590,387	2,962,684	627,702

**NOTES FORMING PART OF THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31ST DECEMBER, 2014**

1.0 CORPORATE INFORMATION

1.1 Nature of Company and Domicile.

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

The Commission is domiciled in Ghana with its registered office at No. E.4 Leshie Crescent, Labone Estate, Accra.

1.2 Compliance with International Public Sector Accounting Standards (IPSASs).

The financial statements of the Commission for the year ended 31st December 2014 have been prepared in accordance with International Public Sector Accounting Standards (IPSASs). The accounting policies have been applied consistently throughout the period.

2.0 ACCOUNTING POLICIES.

The significant accounting policies adopted by the Commission and which have been applied in preparing these financial statements are stated below:

2.1 Basis of Accounting.

The financial statements have been prepared under the historical cost convention.

2.2 Functional and Presentation Currency.

The financial statements are presented in Ghana Cedi (GHS) which is the functional and presentation currency of the Commission.

2.3 Recognition of revenue, transactions and other events.

2.3.1 Revenue

Revenue is recognised to the extent that the economic benefits or service potential will flow to the Commission and the revenue can be reliably measured.

2.3.2 Transactions and other events.

The financial statements have been prepared on the accrual basis therefore transactions and other events are recognised in the financial statements of the periods to which they relate or when they occur (and not only when cash or its equivalent is received or paid). The elements recognised under accrual accounting are assets, liabilities, net assets/equity, revenue, and expenses.

2.4 Financial Instruments: Initial Recognition and Subsequent Measurement.

2.4.1 Initial Recognition of financial instruments.

The Commission initially recognises a financial asset or a financial liability in its statement of financial position when, it becomes a party to the contractual provisions of the instrument.

The Commission derecognises a financial asset when:

- (a) The contractual rights to the cash flows from the financial asset expire or are waived; or
- (b) It transfers the contractual rights to receive the cash flows of the financial asset.

A financial liability (or a part of a financial liability) is removed from the Commission's statement of financial position when, it is extinguished - i.e., when the obligation specified in the contract is discharged, waived, cancelled or expires.

2.4.2 Subsequent Measurement.

For the purpose of measuring a financial asset after initial recognition the Commission classifies financial assets into the following four categories:

- (a) Financial assets at fair value through surplus or deficit;
- (b) Held-to-maturity investments;
- (c) Loans and receivables; and
- (d) Available-for-sale financial assets

After initial recognition, the Commission measures financial assets at their fair values, without any deduction for transaction costs it may incur on sale or other disposal, except loans and receivables and held to maturity investments which are measured at amortised cost using the effective interest method.

2.4.2.1 A financial asset or financial liability at fair value through surplus or deficit.

A financial asset or financial liability at fair value through surplus or deficit is a financial asset or financial liability that meets either of the following conditions.

- (a) It is classified as held for trading. A financial asset or financial liability is classified as held for trading if:
 - (i) It is acquired or incurred principally for the purpose of selling or repurchasing it in the near term;
 - (ii) On initial recognition it is part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit-taking; or
 - (iii) It is a derivative (except for a derivative that is a financial guarantee contract or a designated and effective hedging instrument).
- (b) Upon initial recognition it is designated by the entity as at fair value through surplus or deficit.

2.4.2.2 Held-to-maturity investments.

Held-to-maturity investments are non-derivative financial assets with fixed or determinable payments and fixed maturity that an entity has the positive intention and ability to hold to maturity other than:

- (a) Those that the entity upon initial recognition designates as at fair value through surplus or deficit;
- (b) Those that the entity designates as available for sale; and
- (c) Those that meet the definition of loans and receivables.

2.4.2.3 Loans and receivables

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market other than:

- (a) Those that the entity intends to sell immediately or in the near term, which shall be classified as held for trading, and those that the entity upon initial recognition designates as at fair value through surplus or deficit;
- (b) Those that the entity upon initial recognition designates as available for sale; or
- (c) Those for which the holder may not recover substantially all of its initial investment, other than because of credit deterioration, which shall be classified as available for sale.

An interest acquired in a pool of assets that are not loans or receivables (e.g., an interest in a mutual fund or a similar fund) is not a loan or receivable.

2.4.2.4 Available-for-sale.

Available-for-sale financial assets are those non-derivative financial assets that are designated as available for sale or are not classified as

- (a) Loans and receivables,
- (b) Held-to-maturity investments or
- (c) Financial assets at fair value through surplus or deficit.

2.4.2.5 Gains and Losses.

A gain or loss arising from a change in the fair value of a financial asset or financial liability that is not part of a hedging relationship is recognised, as follows:

- (a) A gain or loss on a financial asset or financial liability classified as at fair value through surplus or deficit is recognised in surplus or deficit.
- (b) A gain or loss on an available-for-sale financial asset is recognised directly in net assets/equity through the statement of changes in net assets/equity.

The commission's principal financial assets are accounts receivable and cash and cash equivalents. The Commission has no financial liabilities.

2.4.3 The amortised cost of a financial asset or financial liability.

The amortised cost of a financial asset or financial liability is the amount at which the financial asset or financial liability is measured at initial recognition minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or uncollectibility.

2.4.4 The effective interest method.

The effective interest rate method is a method of calculating the amortised cost of a financial asset or a financial liability (or group of financial assets or financial liabilities) and of allocating the interest revenue or interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, cash flow estimates are made considering all contractual terms of the financial instrument (e.g., prepayment, call and similar options) but without consideration for future credit losses. The amortised cost of short term receivables with no interest rate approximates book value. Such short term receivables are therefore measured as such subsequent to initial recognition.

2.4.5 Fair Value.

The amount for which an asset could be exchanged or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

2.4.5.1 Availability of active market.

The fair value of a financial instrument traded in active markets such as the Ghana Stock Exchange (GSE) at the reporting date is based on its quoted market price without any deduction of transaction costs.

2.4.5.2 Non-availability of active market.

Equity investments and other investments that do not have quoted market price in an active market are measured professionally through the use of valuation techniques.

2.5 Property, plant and equipment (PPE)

The Commission recognises an item of property, plant and equipment as an asset when it is probable that future economic benefits or service potential associated with the item will flow to it and the cost or fair value of the item can be measured reliably.

The Commission initially measures its property, plant, and equipment at cost. Where an asset is acquired through a non-exchange transaction, its cost is measured at its fair value as at the date of acquisition.

After initial recognition as an asset, an item of property, plant, and equipment is carried at its cost, less any accumulated depreciation and any accumulated impairment losses.

The depreciation charge for each period is recognised in surplus or deficit, unless it is included in the carrying amount of another asset.

The depreciable amount related to each asset is determined as the difference between the cost and the residual value of the asset. The residual value is the estimated amount, net of disposal costs that the Commission would currently obtain from the disposal of an asset in similar age and condition as expected at the end of the useful life of the asset. The current annual depreciation rates for property, plant and equipment are as follows:

Building	3%
Office equipment/Furniture & fittings	15%
Computers and accessories/ Intangible-software	33.33%
Motor vehicles	20%

A full year's depreciation is charged in the year of acquisition but none in the year of disposal. Costs associated with routine servicing and maintenance of assets is expensed as incurred. Subsequent expenditure is only capitalised if it is probable that future economic benefits associated with the item will flow to the Commission.

The Commission derecognises the carrying amount of an item of property, plant and equipment:

(a) On disposal; or

15

(b) When no future economic benefits or service potential is expected from its use or disposal.

The gain or loss arising from the derecognition of an item of property, plant, and equipment is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

The carrying values of property, plant and equipment are reviewed for indications of impairment when events or changes in circumstances indicate the carrying value may not be recoverable. If an item of property, plant, and equipment is revalued, the entire class of property, plant, and equipment to which that asset belongs is revalued.

If the carrying amount of a class of assets is increased as a result of a revaluation, the increase is credited directly to revaluation surplus. However, the increase is recognised in surplus or deficit to the extent that it reverses a revaluation decrease of the same class of assets previously recognised in surplus or deficit.

On the other hand if the carrying amount of a class of assets is decreased as a result of a revaluation, the decrease is recognised in surplus or deficit. However, the decrease shall be debited directly to revaluation surplus to the extent of any credit balance existing in the revaluation surplus in respect of that class of assets.

Revaluation increases and decreases relating to individual assets within a class of property, plant, and equipment is offset against one another within that class but is not offset in respect of assets in different classes.

There is no existence of restrictions on title, and no property, plant, and equipment of the Commission is pledged as a security for a liability.

2.5.1 Intangible Assets- Computer Software

An intangible asset is an identifiable non-monetary asset without physical substance. The Commission recognises an intangible asset when the expected future economic benefits or service potential that are attributable to the asset will flow to it; and the cost or fair value of the asset can be measured reliably.

Cost incurred to acquire and bring to use specific computer software licenses are capitalised and amortised on the basis of the expected useful lives using the straight-line method. Maximum useful live ranges between 4 and 5 years.

2.6 Provisions

The Commission recognises provisions when it has a present obligation (legal or constructive) as a result of past events and it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

Where the Commission expects some or all of a provision to be reimbursed by another party the reimbursement is recognised as a separate asset but only when the reimbursement is virtually certain. The expense relating to any provision is presented in the statement of financial performance net of any amount recognised for a reimbursement.

If the effect of the time value of money is material, provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and, where appropriate, the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage of time is recognised as a borrowing cost.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimate. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation the provision is reversed.

2.7 Employee Benefits

Social Security and National Insurance Trust (SSNIT)

Under a National Defined Contribution Pension Scheme, the Commission contributes 13% of employees' basic salary to SSNIT for employee pensions. The Commission's obligation is limited to the relevant contributions, which are settled on due dates. The pension liabilities and obligations, however, rest with SSNIT/other pension fund managers.

Wages and salaries payable to employees are recognised as an expense in the statement of financial performance at gross amount. The Commission's contribution to social security fund is also charged as an expense.

3.0 SIGNIFICANT ACCOUNTING ESTIMATES, ASSUMPTIONS & JUDGMENTS

In preparation of the financial statements, the Commission makes estimations and applies judgment that could affect the reported amount of assets and liabilities. Key areas in which judgment is applied include:

3.0.1 Impairment of Financial Assets

The Commission makes an allowance for unrecoverable financial assets when there is objective evidence that the carrying amount may not be recoverable. Significant management judgment is required to determine when objective evidence of impairment exists, and also in estimating future cash flows from the assets.

3.0.2 Impairment of Non-Financial Assets(including Property Plant & Equipment)

The Commission assesses at least at each financial year end whether there is any evidence that non-financial assets (including PPE) may be impaired. Where indicators of impairment exist, an impairment test is performed. This requires an estimation of the 'value in use' of the asset or the cash-generating units to which the asset belongs. Estimating the value in use amount requires management to make an estimate of the expected future cash flows from the asset or the cash generating unit and also to select a suitable discount rate in order to calculate the present value of those cash flows.

3.1 Foreign Currency

Transactions denominated in foreign currency are translated into Cedis at the rates of exchange ruling on the dates of the transactions. Assets and liabilities denominated in foreign currencies are translated into Cedis at exchange rates ruling at the reporting date.

Any gains or losses resulting from foreign currency translation or exchange are dealt with through the statement of financial performance.

3.2 Cash & Cash Equivalents

Cash comprises cash on hand and demand deposits. For the purposes of the cash flow statement cash and cash equivalents include cash and balances with banks.

3.3 Events after the Reporting Period

Events that provide evidence of conditions that existed at the reporting date (adjusting events after the reporting date) are reflected in the financial statements while those that are indicative of conditions that arose after the reporting date (non-adjusting events after the reporting date) are not reflected. However, the nature and an estimate of the financial effect of a material non adjusting event is disclosed.

3.4 Net Assets/Equity

Net assets/equity refers to the residual measure in the statement of financial position (assets less liabilities).

3.5 Authorisation date

The Financial statements were approved by the Board of Commissioners on 17/08/2015 and signed on its behalf by the Chairman and Executive Secretary.

3.6 Prior period errors

These are omissions from, and misstatements in, the entity's financial statements for one or more prior periods arising from a failure to use, or a misuse of, reliable information that:

- (a) was available when financial statements for those periods were authorised for issue; and
- (b) could reasonably be expected to have been obtained and taken into account in the preparation and presentation of those financial statements.

Prior period errors are corrected by adjusting the balance brought forward of the affected item.

3.7 Capital commitments

There were no capital commitments.

3.8 Contingent liabilities

A possible obligation that arises from past events, and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity.

There were no contingent liabilities.

3.9 Categories of financial assets

The accounting policies for financial assets have been applied to the following line items.

2014 Description	Category		Total GH¢
	Loans & Receivables GH¢	Fair Value *TSD GH¢	
Cash & Bank balances		3,590,387	3,590,387
Staff loans/advances	10,212	-	10,212
Trade & Sundry receivables	<u>1,246,663</u>	<u>-</u>	<u>1,246,663</u>
	<u>1,256,875</u>	<u>3,590,387</u>	<u>4,847,262</u>

2013

Description	Category		Total
	Loans & Receivables GH¢	Fair Value *TSD GH¢	
Cash & Bank balances	-	2,962,685	2,962,685
Staff loans/advances	15,152	-	15,152
Trade & Sundry receivables	<u>908,668</u>	<u>-</u>	<u>908,668</u>
	<u>923,820</u>	<u>2,962,685</u>	<u>3,886,505</u>

*NB: TSD=Through Surplus or Deficit.

3.10 Comparative information

The comparative data covered the year ended 31 December 2013.

3.11 Level of precision

The figures in the financial statements have been rounded up to the nearest integer and may not add up.

3.12 Grants and subventions

The Commission is a Government of Ghana (GoG) subvented institution and receives revenue subventions from the Government of Ghana. Subventions received from GoG are reported through the statement of financial performance. It also receives grants from international organisations to carry out specific projects. Revenue grants are reported through the statement of financial performance. Capital grants are amortised in tandem with the depreciation of the related assets. Annual amortisations are treated in the statement of financial performance whilst the unamortized portion of Capital grants is reported through the statement of financial position.

4.0 RISK MANAGEMENT

The risk emanating from financial instruments to which the Commission is exposed is credit risk.

4.1 Credit Risk

Credit risk arises from the potential that a counter-party is either unwilling to perform an obligation or its ability to do so is impaired, resulting in economic loss to the commission.

The main sources of credit risk inherent in the Commission's operations are from deposits with banks and trade and other receivables. Thus far the commission has managed this risk by restricting placements to only reputable financial institutions and the provision of services to only reputable organisation.

The maximum amount of credit risk by class of financial asset as at 31st December 2014 was as follows.

Loans and Receivables

	2014 GH¢	2013 GH¢
Staff loans/advances	10,212	15,152
Trade & Sundry Receivables	<u>1,246,663</u>	<u>908,668</u>
	<u>1,256,875</u>	<u>923,820</u>

Financial Assets at Fair Value TSD

Bank balances	<u>3,589,576</u>	<u>2,959,524</u>
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WATER RESOURCES COMMISSION
NOTES AND SCHEDULES FORMING PART OF THE FINANCIAL
STATEMENTS FOR THE YEAR ENDED 31ST DECEMBER 2014

5 Revenue	2014	2013
	GH¢	GH¢
Abstraction Fees	1,814,658	1,443,065
Non- Abstraction fees	81,253	68,388
Administration Fees	109,393	122,447
Application Fees	2,700	3,270
Drilling Licence fees	10,200	24,300
	<u>2,018,204</u>	<u>1,661,470</u>
6. Other Revenue	2014	2013
	GH¢	GH¢
GoG subventions	587,307	504,849
Danida grants	-	-
UN Habitat (WAC II)	-	-
Income/Other fees	948,872	399,020
World Water Day donations	24,000	64,180
African Development Bank	-	3,272,950
World Bank	930,000	-
	<u>2,490,179</u>	<u>4,240,999</u>

WATER RESOURCES COMMISSION
NOTES AND SCHEDULES FORMING PART OF THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31ST DECEMBER 2014

7. General Administration Expenses

	2014	2013
	GH¢	GH¢
Salaries	764,990	639,543
Social security fund	75,379	51,392
Electricity & water	35,618	22,932
Post & telecommunications	21,548	17,557
Sanitation charges	13,110	15,828
Armed guard & security	21,634	19,503
Contract for printing	77,204	68,517
Advertisements/publicity	141,232	139,333
Travelling & transport expenses	310,654	334,898
Motor vehicles running cost	222,946	183,246
Repairs & maintenance	73,247	80,768
Insurance & compensation	16,685	17,799
Bank charges	4,090	1,268
Contributions/donations	10,395	46,600
Medical expenses	9,513	16,199
Audit & accountancy	23,500	15,000
Community support	148,126	359,542
Commissioners' allowance	127,677	88,286
Staff training & prizes	1,877	6,523
Workshop/seminar	180,074	129,584
Consultancy service fees	1,246,720	1,523,960
Exchange loss	4,427	-
Amortised	12,215	4,465
Depreciation	160,464	164,068
White volta Capital expenditure written off	4,486	4,486
Deferred expenditure written off	-	2,880
Pra capital expenditure written off	3,567	3,567
Tano Capital expenditure written off	8,055	8,055
Office material& consumables	3,286	4,334
Rent	-	4,829
Staff welfare	53,859	79,449
	<u>3,776,578</u>	<u>4,054,412</u>

WATER RESOURCES COMMISSION
NOTES AND SCHEDULES FORMING PART OF THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31ST DECEMBER 2014

	2014 GH¢	2013 GH¢
8. Cash and cash equivalents		
Cash on hand	811	3,161
Cash at bank	3,589,576	2,959,524
	<u>3,590,387</u>	<u>2,962,685</u>

	2014 GH¢	2013 GH¢
9. Accounts receivable		
Staff loans/advances	10,212	15,152
Trade & sundry receivables	1,246,958	908,963
Bad debt provision	(295)	(295)
	<u>1,256,875</u>	<u>923,820</u>

10. Capital Expenditure

	White Volta Basin 10%	Pra Basin 10%	Tano Basin 10%	To
	GH¢	GH¢	GH¢	
Balance at 1 January 2014	12,897	23,151	56,389	
Write-off	(4,486)	(3,567)	(8,055)	
Balance at 31 December 2014	<u>8,411</u>	<u>19,584</u>	<u>48,334</u>	

WATER RESOURCES COMMISSION
SCHEDULE OF PROPERTY , PLANT & EQUIPMENT
AS AT 31ST DECEMBER, 2014

11a.	2014			2013		
	Gross Carrying Amount	Accumulated Depreciation	Net Carrying Value	Gross Carrying Amount	Accumulated Depreciation	Net Carrying Value
	GHC	GHC	GHC	GHC	GHC	GHC
Land&Building	298,194	(60,325)	237,869	298,194	(51,379)	246,815
Plant &Equipment	146,863	(81,361)	65,502	107,647	(59,842)	47,805
Computer &Accessories	204,185	(168,368)	35,817	177,070	(131,544)	45,526
Furniture &Fittings	113,660	(72,358)	41,302	113,660	(56,441)	57,219
Motor Vehicles	587,466	(493,292)	94,174	502,963	(416,034)	86,929
	<u>1,350,368</u>	<u>(875,704)</u>	<u>474,664</u>	<u>1,199,534</u>	<u>(715,240)</u>	<u>484,294</u>

11b. Reconciliation of opening Carrying Value with Closing Carrying Value

2014	Opening Balance	Addition	Prior year adjustment	Disposal	Depreciation	Closing Balance
	GHC	GHC	GHC		GHC	GHC
Land&Building	246,815	-	-	-	(8,946)	237,869
Plant &Equipment	47,805	39,216	-	-	(21,519)	65,502
Computer &Accessories	45,526	27,115	-	-	(36,824)	35,817
Furniture &Fittings	57,219	-	-	-	(15,917)	41,302
Motor Vehicles	86,929	84,503	-	-	(77,258)	94,174
	<u>484,294</u>	<u>150,834</u>	<u>-</u>	<u>-</u>	<u>(160,464)</u>	<u>474,664</u>
2013						
Land&Building	255,761	-	-	-	(8,946)	246,815
Plant &Equipment	56,654	7,055	-	-	(15,904)	47,805
Computer &Accessories	30,654	40,610	16,267	-	(42,003)	45,526
Furniture &Fittings	73,516	-	-	-	(16,297)	57,219
Motor Vehicles	194,726	-	-	(26,879)	(80,918)	86,929
	<u>611,311</u>	<u>47,665</u>	<u>16,267</u>	<u>(26,879)</u>	<u>(164,068)</u>	<u>484,294</u>

WATER RESOURCES COMMISSION
NOTES AND SCHEDULES FORMING PART OF THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED 31ST DECEMBER 2014

12a. INTANGIBLE ASSETS	2014		Net	2013		N
	Goss	Amortisation	Carrying	Goss	Amortisation	Carri
	Carrying		Value	Carrying		Va
	Amount		GH¢	Amount		G
	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢
Navision Software	36,645	(16,680)	19,965	13,395	(4,465)	

12b. Reconciliation of opening Carrying Value with Closing Carrying Value

2014	Opening	Addition	Amortisation	Closing
	Balance			Balance
	GH¢	GH¢	GH¢	GH¢
Navision Software	8,930	23,250	(12,215)	19,965

2013	Opening	Addition	Amortisation	Closing
	Balance			Balance
	GH¢	GH¢	GH¢	GH¢
Navision Software	-	13,395	(4,465)	8,930

13. Accounts payable

Sundry payables	225,063	12,719
IRS-Paye	-	6,594
Audit fees	23,500	15,000
	<u>248,563</u>	<u>34,313</u>

14. Development fund

This represents GoG grant in kind.	<u>59,845</u>	<u>59,845</u>
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