



GHANA NATIONAL IMPLEMENTATION PLAN

FOR THE

CONVENTION ON THE PROTECTION AND USE OF TRANSBOUNDARY
WATERCOURSES AND INTERNATIONAL LAKES

(1992 WATER CONVENTION)

May 2021

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The Implementation Plan for the 1992 Water Convention has been prepared with the active involvement and contribution of a wide range of stakeholders the water and environment sectors. The Water Resources Commission, the National Focal Point, wishes to express its sincere gratitude for their contributions to the realization of this document.

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Foreword

This National Implementation Plan of the 1992 Water Convention is a manifestation of the Government of Ghana's pledge of ensuring pragmatic solutions to advance transboundary cooperation at the national, regional and global levels.

Ghana on 20th September, 2020, officially became a Party to the two existing international water conventions i.e. the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, serviced by the United Nations Economic Commission for Europe (1992 Water Convention); and the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (1977 Watercourses Convention).

The country considers these conventions as the key international legal arrangements necessary for cooperation towards the protection and use of Ghana's transboundary waters. However, being a Party to the Conventions is just one key step towards achieving the desired cooperation for the protection and sustainable use of our shared water resources.

Fortunately, Ghana as a Party has developed this Implementation Plan timeously as a requirement to the 1992 Water Convention. It will also serve as the blueprint to guide the country's drive and efforts to enhance transboundary cooperation.

The Implementation Plan provides a step by step process for executing the 1992 Water Convention considering the technical, economic, human and financial capacities of the country. It also considers the country's physical and water governance framework and the gaps therein with specific focus on transboundary management. It details the key strategic focus areas, practical actions and measures, and the steps for execution.

The Plan has been prepared through a consultative and participatory process involving all key stakeholders in the water and environment sectors including the Ministry of Sanitation and Water Resources, Water Resources Commission, Environmental Protection Agency, CSIR-Water Research Institute, Bui Power Authority, Volta River Authority, Ghana Irrigation Development Authority, Country Water Partnership–Global Water Partnership, Community Water and Sanitation Agency, National Development Planning Commission, and Hydrological Services Dept.

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EXECUTIVE SUMMARY

In 2003, the Conference of the parties to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992 Water Convention), serviced by the United Nations Economic Commission for Europe, amended the Convention to allow accession by all United Nations (UN) member states. The amendments became operational as of 2016. Ghana as a transboundary downstream state, took this opportunity to strengthen technical and institutional cooperation with its co-riparians to ensure a good basis for building national capacity for water governance by becoming a party to the Convention.

With Ghana becoming an official party to the 1992 UNECE Water Convention and the 1997 UN Watercourses Convention, the next stage was to ensure the successful implementation of the Water Convention through the drawing up of an Implementation Plan.

This Implementation Plan provides a step by step process for implementation considering the technical, economic, financial and other capacities of the country. It considered the physical and governance framework for water governance in Ghana with specific focus on transboundary management. After identifying gaps in the present national and transboundary waters governance framework, the Implementation Plan provides key strategic actions plans and measures for the implementation of obligations.

These actions/measures focus on:

- strengthening of the policy, regulatory and institutional frameworks for managing and protecting water resources;
- strengthening financing of water resources management to enhance transboundary cooperation.
- improving the knowledge base to facilitate water resources planning and decision making;
- enhancing participation of all stakeholders, public awareness and education in water resources management; and
- improving IWRM at the river basin level for water security and enhance resilience to climate change.

The application of the Implementation Plan will steer Ghana towards successfully implementing the 1992 Water Convention to promote transboundary water resources governance.

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List of Abbreviations

AMCOW	African Ministers Council of Water
CBOs	Community Based Organizations
DT	Dialogue Team
ECOWAS	Economic Community of West African States
EPA	Environmental Protection Agency
GMet	Ghana Metrological Agency
GWP/WAWP	Global Water Partnership/West African Water Partnership
HSD	Hydrological Services Department
IWRM	Integrated Water Resources Management
MMDAs	Metropolitan, Municipal and District Assemblies
MU	Management Unit
NADMO	National Disaster Management Organization
NGOs	Non-governmental Organizations
NFS	National Focal Structure
NWP	National Water Policy
PFCM	Permanent Framework for Coordination and Monitoring
RBB	River Basin Boards
RBZP	Riparian Buffer Zone Policy
SDGs	Sustainable Development Goals
SIS	Sector Information System
TSS	Total Suspended Solids
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNECE	United Nations Economic Commission for Europe
UNFCC	United Nations Framework Convention on Climate Change
VBA	Volta Basin Authority
VRA	Volta River Authority
WRCC	Water Resources Coordinating Centre
WRC	Water Resources Commission
WAWP	West Africa Water Policy
WSSDP	Water Sector Strategic Development Plan

1. INTRODUCTION

1.1. Background

The existence, management and use of the world's many shared water resources have been the trigger for riparian states finding means for transboundary cooperation. This movement saw the coming into existence of the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention), serviced by the United Nations Economic Commission for Europe (UNECE). This was a Pan-European originated convention that provided a good platform to foster transboundary water cooperation in the pan-European region.

In 2003, Parties to the 1992 Water Convention amended the Convention to allow accession by all United Nations (UN) member states. The amendments became operational as of 2016. This was to make available to more transboundary states, the opportunity to strengthen their cooperation on a technical and institutional level as well as provide a good basis for building national capacity for water governance and cooperation with riparian neighbours.

In response to the call for global accession, on the 20th September, 2020, Ghana officially became a Party to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes and additionally acceded to the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses. The country saw these conventions as the key international legal arrangements necessary for cooperation towards the protection and use of Ghana's transboundary waters.

Ghana had shown interested in the 1992 Convention which culminated into an accession to the Convention in 2020. After successfully completing the process of accession. the next stage was to ensure the successful implementation of the Conventions. In preparation for implementation, the development of an Implementation Plan which would be proportionate to the technical, economic, financial and other capacities of the country became an important consideration. The present Implementation Plan is organized into five parts. The first section focuses on the context for the implementation followed by a review of Ghana's geographic and socio-economic characterises and detailing the importance of the creation of a plan for the implementation of transboundary obligations. The next sections are a review of the transboundary water governance framework of Ghana followed by the proposed action plan for implementing the Water Convention and the steps to implementation.

1.2 Context for the 1992 Water Convention Implementation Plan

The 1992 Water Convention covers international watercourses, and serve as a mechanism to strengthen international cooperation. The Convention embodies a number of principles and obligations. The principles of cooperation, equitable and reasonable use, the obligation not to cause significant harm, cooperation, regular exchange of data and information, prior notification and response on planned measures, protection and preservation of ecosystems and aquatic environment, prevention, reduction and control of pollution, introduction of alien and invasive species are foundational to the Convention.

Globally and regionally, Ghana's adherence to the principle of cooperation has made it important to consider international principles, standards and practices as an important consideration for the existence of a framework for the sound management of its international watercourses. In this sense, yielding to the call for the achievement of the Sustainable Development Goals (SDGs) by 2030; working towards the achievement of target 6.4 (substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals of water with environmental flow requirements duly considered) and target 6.5 (implement integrated water resources management (IWRM) at all levels, and where appropriate do so in the area of transboundary cooperation) has become very important to the country. This is essential for Ghana as a downstream state. In this context, the Water Convention provides an operational framework to implement IWRM in principle and in practice at both national and transboundary levels.

At the national level, the National Water Policy directs the entering into agreements and the establishment of joint bodies for Ghana's transboundary basins and their shared aquifers. Fortunately, the 1992 Water Convention provides the valuable framework and support for Ghana to establish the needed agreements and management bodies for these basins and implement them as well. Furthermore, except the data sharing arrangement between Ghana and Burkina Faso on water discharges from the Bagre Dam in Burkina Faso and on planned measures/developments in both countries, data exchange and information sharing remains formally unresolved among the six riparian states of the Volta Basin. An implementation plan will assist Ghana and the other riparian states to apply the provisions of the Water Convention to help resolve such an important issue.

There are significant socioeconomic interdependencies, extreme events and occurrences between Ghana and its riparian neighbours that call for urgent action to deepen existing cooperation through formalizing and implementing international agreements and protocols in the utilization, development and management of the shared water resources. For instance, Ghana's transboundary basins and shared groundwater aquifers provide substantial domestic water supply, hydropower, irrigation and industrial needs and link the populations of the other riparians. Ghana continues to raise concerns on the destructive but preventive flooding of parts of the Upper East, North East, Northern and Savannah regions caused partly by the spillage from the Bagre dam in Burkina Faso. On the other hand, Cote d'Ivoire raised concerns (through exchange of letters) in 2017 that the Bia river had been polluted by illegal mining activities in Ghana leading to the cessation of water production and supply to parts of its population.

The foregoing contextual matters are some important drivers triggering Ghana's move to put in place the requisite legal, economic, operational, administrative and technical measures to promote water cooperation after the accession to the 1992 Water Convention. Therefore, for Ghana as a party to the Water Convention, a well-articulated and efficiently executed Implementation Plan that will fulfil the country's key transboundary obligations and address its international and national concerns, is of essence and is vital.

1.3 Process of Developing the Implementation Plan

This Implementation Plan was developed through a participatory consultation process with the National Focal Point of the Water Convention in Ghana as the lead and in collaboration with the relevant stakeholders in the water and environment sectors. The process followed a three stage step-by-step approach considering the resources and capacity of Ghana as a party to the 1992 Water Convention.

A desktop review of the present transboundary water governance framework ascertained the legal, regulatory and institutional framework necessary for executing the plan. The second stage was a Focus Group Discussion meeting with the relevant staff of the national focal institution, i.e. the Water Resources Commission (WRC) using a self-administered questionnaire that was distributed to participants prior to the discussions. The third stage was the administration of a questionnaire to relevant stakeholders in the water and environment sectors. The questionnaire and list of respondents contacted are attached as Annex 1 and Annex 2. The data collected was analysed and coded. Thereafter codes and themes were drawn to develop a draft plan. The Plan was finalised after comments from the respondents on the draft were incorporated and validated.

At the end of the entire process, proposals were made to strengthen the governance framework for implementation, duly acknowledging the challenges posed by transboundary cooperation in Ghana. Thus, the necessary procedural, legal, administrative, technical and practical actions/measures required for appropriate implementation to operationalise the Water Convention have been duly outlined and presented.

2. SOCIO-ECONOMIC AND PHYSICAL PROFILE AND WATER RESOURCES SITUATION

2.1 Socio-economic

Ghana's population is estimated at 30 million with about 51% being urbanized and an annual growth rate of about 2.7 percent (Ghana Statistical Service, 2019). The rapid urbanization and high population growth imposes increased demand on water and other natural resources exploitation, such as for agricultural land, fuel-wood and land for development to an extent that threatens fragile ecosystems such as can be found in Ghana's transboundary basins.

2.2 Bio-physical

Ghana lies along the Gulf of Guinea in West Africa, within longitudes 30 5'W and 10 10'E and latitudes 40 35'N and 110N. It covers an area of about 238,540 km² and shares borders with Côte d'Ivoire to the west, Burkina Faso to the north, Togo to the east, and to the south is the Atlantic Ocean. There are six ecological zones defined on the basis of climate and reflected by the natural vegetation (Figure 1).

About two-thirds of the country is covered by savannah vegetation, of which two major types are predominant - the Guinea or tall-grass savannah and the Sudan or short-grass savannah. Along the eastern coast, a coastal savannah vegetation formation dominates and is usually referred to as the Accra-Winneba Plains.

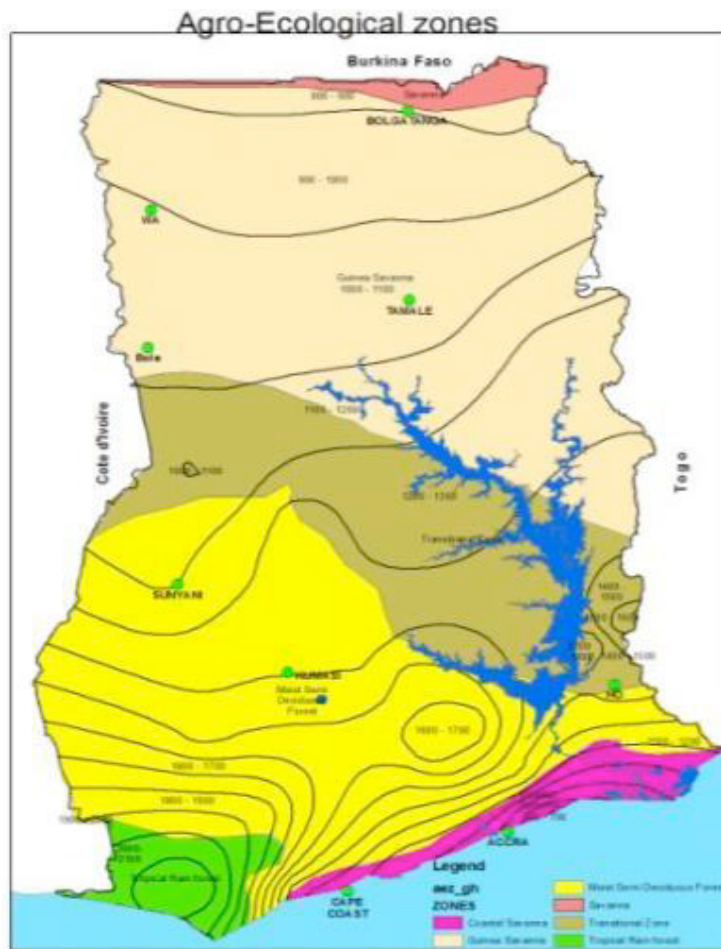


Figure 1: Ghana's Ecological Zones (WRC, 2012)

2.3 Water Resources Situation

Ghana is endowed with freshwater resources, particularly given the country's current demographic situation. However, the amount of water available change from season to season as well as from year to year. Additionally, distribution within the country is not uniform, with the south-western part (rain forest zone) being better watered than the coastal and northern regions (savannah zones).

Mean annual rainfall of the country is estimated at 283.1km³ (1200 mm). Annual potential open water evaporation has been estimated as ranging between 1,350 mm in the south to about 2,000 mm in the north. The mean annual runoff ranges from 51 to 93 m³/s, representing only about 69 % of rainfall. The total actual renewable freshwater resources are estimated to be 53.2 billion cubic m³/year, of which 30.3 billion m³/year are generated internally with the Volta, South-western and Coastal river systems draining 70%, 22% and 8%, respectively. The available internal renewable freshwater resources are enough to support most domestic, irrigation and industrial uses in the country if adequately developed and managed.

In addition to the surface water resources, Ghana is also endowed with groundwater resources even though this resource is not yet comprehensively studied. Occurrence of groundwater,

however, is controlled principally by the local geology and other factors, such as topography and climate. In northern Ghana, aquifers have been located at between 10 and 150 meters deep, while in southern Ghana boreholes depths range between 25 and 90 meters deep, with an average of 42 meters.

In the Volta basin, annual groundwater production through boreholes, hand dug wells, and piped systems has increased substantially, reaching an estimated 88 million m³/year, giving approximately 44% of the population improved access to potable water. Groundwater for irrigation purposes is generally limited to subsistence farming and minor commercial vegetable farming. However, there has been a proliferation of groundwater for small to large scale commercial bottled water industry in southern Ghana.

Despite its rapid development, groundwater production is still less than 5% of the average annual groundwater recharge in most of the basins. In effect, the present production should not be expected to have any significant impact on the groundwater resource potential. The assessment of groundwater recharge and development suggests that it would be sustainable from a geo-scientific point of view, at least in the foreseeable future (WRC, 2011). Hence, the consideration of Ghana's groundwater occurrence and its management in this implementation plan is of a necessity. This is especially so as the definition of an international water course considers both surface and ground water resources as a unitary whole (1997 Watercourses Convention).

In terms of quality, generally water ecosystems are not in a healthy state. Many of the rivers deteriorated in quality in 2013 and described as poor water quality. There was a slight improvement in all the rivers from 2014 to 2015. However, the situation remains dire since in 2015, of the 40 river systems that were monitored countrywide, 60% were of poor quality, with 15% being critical. The continued and unregulated activities of small-scale miners ('galamsey') were almost entirely responsible for the apparent deterioration in the quality 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 these water bodies (WRC Annual Plan 2016).

However, the quality of naturally occurring groundwater resources in Ghana is generally good for multipurpose use except for some cases of localized pollution and high levels of iron, fluoride and other minerals. Drilling records have revealed that on the average, about 20% of boreholes drilled for domestic water supplies have high concentrations of manganese, iron, or both metal compounds. A prominent water quality problem with groundwater supply in Ghana is excessive iron concentrations. High iron concentrations in the range 1-64mg/l have been observed in boreholes in all geological formations. High concentrations of fluoride in the range 1.5-5.0mg/l have been observed in the Upper East, Upper West and Northern regions, causing significant health effects (e.g. tooth decay) (WRC, 2012).

2.4 Transboundary Water Resources

Ghana's transboundary river basins are the Volta, Tano, Bia and Todzie-Aka, which together cover over 75% of the country's land surface. They generate around 80% of freshwater flow of which about 30% flows from outside of Ghana's borders - Burkina Faso, Côte d'Ivoire and

Togo. These transboundary basins and their shared groundwater aquifers also provide substantial domestic water supply, hydropower, irrigation and industrial needs; link the populations; and create socioeconomic interdependencies between the riparian countries.

The Volta River Basin is made up of the Oti, Daka, White and Black Volta, Lower Volta Rivers, Pru, Sene, and Afram rivers. The Volta is shared with Côte d'Ivoire, Burkina Faso, Togo, Benin and Mali. In Ghana, the downstream country, the Volta river has been impounded into dams and reservoirs for hydropower generation, water supply and irrigation making transboundary cooperation on these rivers of key importance. The Akosombo dam covers an area of about 8,500 km² and a water volume capacity of 148 km³. A smaller impoundment at Kpong (about 20 km downstream of Akosombo), is a multi-purpose dam for hydropower generation, water supply and irrigation. The Bui dam on the Black Volta has a generation capacity of 400 MW part of which could be exported to neighbouring countries. Ghana has plans of developing other single and joint trans-border water infrastructure such as the Sogakope-Lome Water Supply, the Pwalugu Multipurpose Dam, and the Water Transport Infrastructure projects in the Volta 2011 (WRC, 2012; Ampomah, 2016)

The Bia River takes its source in Ghana and flows southwest to Côte d'Ivoire, draining finally into the Aby lagoon. Its total area of 10,200 km² is split between Ghana (69%) and Côte d'Ivoire (31%). The Tano River also takes its source in Ghana and at the last 100 km of the downstream part serves as the border between Côte d'Ivoire and Ghana, before reaching the Aby-Tendo-Ehy lagoon system in Côte d'Ivoire. The total catchment area of around 15,000 km² is split between Côte d'Ivoire (7%) and Ghana (93%). The larger part of the two river basins (Bia and Tano) in Ghana drains a region of intensive gold mining activities (WRC, 2012).

In the area of water quality, Ghana as the upstream state to Côte d'Ivoire for the Tano and Bia rivers has posed water production and supply challenges from illegal mining pollution occurrences, which requires conscious efforts on pollution control as well as equitable and reasonable uses. However, the Bia and Tano transboundary waters do not have a joint cooperative nature and therefore poses challenges to efficient water governance.

Therefore, Ghana to a large extent depends on collaboration with its riparian neighbours on sharing its water resources potential. With such heavy dependence on transboundary waters it becomes very important that Ghana has in place an implementation plan to promote transboundary cooperation and realise its responsibilities based on internationally accepted standards, principles, rules, and procedures.

3. REVIEW OF TRANSBOUNDARY WATER GOVERNANCE IN GHANA

In becoming parties to the Volta Basin Convention (2007) and the 1992 UNECE Water Convention (2020) it is obvious that Ghana recognises transboundary cooperation with its riparian neighbours as essential for the sustainable development of shared basins. Further, international cooperation is seen as the means to ensure the reasonable and equitable benefit sharing of the water resources for the countries concerned. Transboundary water cooperation

in Ghana broadly covers the process by which the country's shared water resources are managed through the formulation and application of policy actions, laws and regulations, and institutional responsibilities. It also covers the relationships between actions and decision-making at different levels - local, basin, national, and transboundary.

This section of the Implementation Plan, therefore reviews existing policies, the regulatory and institutional frameworks at different levels to understand their conduciveness and effectiveness in supporting planned transboundary and national level programmes and projects.

3.1 Policies and Plans

The overall management of water resources in Ghana hinges on the National Water Policy (2007) (NWP), which is informed by the 1992 Constitution of the Republic of Ghana; the Ghana Water Vision 2025; the National Integrated Water Resources Management (IWRM) plan (2012); the Water Sector Strategic Development Plan (WSSDP); and the National Riparian Buffer Zone policy (2013).

The NWP, which is currently undergoing a review, provides direction for the water sector in Ghana covering water resources management, urban water supply, and rural water supply and sanitation services. The overall goal of the NWP is to “achieve sustainable development, management and use of Ghana's water resources to improve health and livelihoods, reduce vulnerability while assuring good governance for present and future generations” (NWP pg. 1). The NWP adopts an Integrated Water Resources Management (IWRM) approach for water resources management in Ghana and, therefore, also recognizes the various cross-sectorial issues related to water-use and the links to other relevant sectorial policies such as those on sanitation, agriculture, transport, energy among others.

The NWP deals with international water cooperation under Focus Area 10 of the water resources management component. It addresses the challenge of pursuing on-going consultations and newly established cooperation mechanisms governing the management of internationally shared water resources with the aim that the collaboration of the riparian countries ensures that the Volta river and other shared basins will be developed for the reasonable and equitable benefit of all the countries concerned.

The policy objectives are to (i) promote international cooperation in the management of shared water resources; and (ii) ensure efficient basin-wide planning and efficient use of water resources as well as promotion of mutually beneficial economic cooperation with riparian countries.

To achieve this, Ghana's aim is to work with its co-riparians to standardize data collection and exchange of data and information, and their use with respect to trans-boundary issues. This is informed by the long standing data sharing arrangement between Ghana and Burkina Faso. The standardization of the processes and systems for data exchange were meant to trigger discussions and arrangements for benefits sharing as these were seen as concrete processes of transboundary cooperation. The Volta Basin Water Charter (2019) is seen as a framework that can facilitate this venture. Another policy action under the NWP (2007) is the engagement and formation of transboundary cooperative arrangements through encouraging the Governments

of the riparian countries to ratify current and future international conventions on transboundary waters. This coincided with the entry into force of the Volta Basin Convention. After years of riparian cooperation with its co-riparians in the other shared basins, the government of Ghana in 2018 further acknowledged the broadening of international cooperation, especially beyond regional cooperation into international cooperative regimes and after renewed commitment has acceded to the 1992 Water Convention and the 1997 Watercourses Convention. These are to serve as basis to engage and encourage the other riparian States of the Volta Basin to also accede to the international water conventions to foster and secure improved international water cooperation.

The final policy action under the international cooperation section of the NWP (2007) is to encourage water resources planning and development with a shared vision, and the sharing of benefits of water resources of shared basins and aquifers, for example, by extending hydropower, potable water and water transport to the other co-riparian countries, where feasible. Currently, there is much consideration on either country-based or joint water infrastructure developments and projects are concretely being executed, which requires emphasis on processes for the notification of planned measures, creation of well-structured institutional systems or conflict resolution processes. It is therefore important that the implementation plan considers steps and processes for the creation of well-structured rules and procedures for benefits sharing, data exchange systems and conflict resolution.

Under the NWP (2007), Focus Area 6 (Climate Variability and Change) of the Water Resources Management component prescribes the establishment and enforcement of appropriate buffer zones along river banks including measures to compensate for loss of lands as a resource-directed measure for the protection of water resources. As a first step, a Riparian Buffer Zone Policy (RBZP) of 2013, has been designed as a harmonized document of all the dormant and fragmented regulations in the country concerning buffers bordering water bodies or river systems. The RBZP (2013) also provides comprehensive measures and actions that should guide the coordinated creation of vegetative buffers for the preservation and functioning of water bodies and vital ecosystems to enable socio-economic growth and development. The next step is to develop the legislative instrument necessary to support the enforcement of sensitive provisions of the policy.

The NWP (2007) affirms transboundary cooperation and IWRM at the basin level as one of the principal drivers to boost poverty reduction and accelerate development in the country. Indeed, Ghana, like many Africa and West Africa economies, is extremely vulnerable to hydrological variability; therefore, sustained water availability and use through water infrastructural development and an enabling environment (legal and institutional structures, and information and knowledge base) is critical.

3.2 Legal and Regulatory Framework

As mentioned earlier, the NWP (2007) defines the management and development of water resources in Ghana. Water resources management is governed by a statutory law (Water Resources Commission Act 522 of 1996) that is derived from the 1992 Constitution and which places the ownership, control and regulation of water resources in the hands of the State.

However, customary water rights in the traditional economy still exist and operate parallel to the statutory law at the rural level.

Three (3) regulations are in place to give meaning to the statutory law on water management:

- The Water Use Regulations, 2001 (LI 1692), sets out regulations for the granting of water rights for specified water uses, provisions on exemptions, and provisions for monitoring and compliance.
- The Drillers' License and Groundwater Development Regulations, 2006 (LI 1827), is to license water well drilling companies to ensure the safe and optimum development of groundwater resources and the to develop a database on these resources.
- The Dam Safety Regulations, 2016 (LI 2236), is to regulate all relevant activities related to dam design, construction, operations, maintenance, and decommissioning to ensure uniform and adequate safety for all dams in Ghana.

Legislation for water quality has been limited to quality standards for drinking water and provisions for the development of regulations for effluent discharges. The required water quality regulations remain undeveloped and key provisions of the existing regulations remain largely unenforced.

With respect to water development, specific statutes were enacted for specific state organisations that have been set up for the development and provision of single/multipurpose water use services such as domestic/municipal water supply, irrigation, and hydropower generation. Thus, the Ghana Water Company Limited, Ghana Irrigation Development Authority, Bui Power Authority, and the Volta River Authority are governed by their respective specific legislation geared towards the development and technical management of water infrastructure. These organizations have an opportunity for coordinated action under the Water Resources Commission albeit with some challenges especially on coordinated implementation action.

Ghana is a signatory to a number of international laws, protocols, agreements and declarations that place obligations on the government in the management of water resources and the environment. Some of the agreements relating to water resources are the United Nations Convention on the Law of the Sea, (UNCLOS) 1983, and the Convention on Wetlands of International Importance Especially as Waterfowl Habitats: Ramsar Convention, 1971. As noted earlier, more recently Ghana acceded to the two international water conventions, the 1992 Helsinki Watercourses Convention and the 1997 UN Convention on the Non-navigational Uses of International Watercourses.

At the transboundary level, the 2007 Convention on the Status of the Volta River and Establishment of the Volta Basin Authority (VBA) is the legal agreement among the six riparian countries (Burkina Faso, Benin, Cote d'Ivoire, Ghana, Mali, and Togo) for managing and developing the water resources of the Volta Basin. The Convention mandates the VBA to among others promote the implementation of integrated water resources management and the equitable distribution of the benefits; authorize the development of infrastructure and projects that could have substantial impact on the water resources of the basin; and develop joint

projects and works. An important operational framework to enable the effective implementation of the VBA Convention is the Volta Basin Water Charter (2019), which is aimed at setting out the principles, procedures, rules and modalities for an equitable usage and sharing of the resources of the Volta Basin. By this Charter, the co-riparian states shall cooperate on issues of shared projects, environmental flows, and preservation of the ecological sanctity of the basin.

Ghana is a member of the West African Water Partnership of the Global Water Partnership (GWP/WAWP); the African Ministers' Council on Water (AMCOW) and the Permanent Framework for Coordination and Monitoring (PFCM) of IWRM under the Economic Community of West African States (ECOWAS). ECOWAS through its Water Resources Coordinating Centre (WRCC) has developed the West Africa Water Policy (WAWP) and has provided support towards the establishment of transboundary river basin agreements with Côte d'Ivoire on the shared Tano/Bia catchments, which is underway, and with Togo on the Todzie catchment, which is yet to start. The success of these engagements will depend on the existence of plans for effective implementation of obligations.

It is instructive for the country to place premium on reviewing existing laws and policies on water resources management and development to take account of recent international and regional agreements and protocols as well as contemporary global and regional considerations that are appropriate for the Ghanaian context.

3.3 Institutional Framework

The management and development of water resources in Ghana for transboundary cooperation is quite well structured, and undertaken by many institutions which operate at three functional levels, namely policy, organisational and operational.

At the policy/strategic level, three core ministries (Ministry of Sanitation and Water Resources, Ministry of Local Government and Rural Development) provide policy direction and collaborate to ensure the delivery of water and sanitation services. The Ministry of Sanitation and Water Resources through its Water Directorate provides overall leadership for sector activities in policy development, implementation, coordination, monitoring and evaluation. The Water Directorate also facilitates the linkages with the other sector ministries, and coordinates funding from government and Development Partners. However, the sector is hampered by the lack of a sector-wide coordination framework that pulls together the different sub sectors. There is room to improve on the existing intra and inter sector-wide collaboration and coordination to pull together the different sub-sectors and related sectors.

At the organisational level, three distinct organisations perform different but complementary functions, namely: - Ghana Water Company Ltd. (for urban water supply), Community Water and Sanitation Agency (for rural water supply and related sanitation provision), and the WRC (for water resources management).

At the operational (or decentralised administration) level, Metropolitan Municipal and District Assemblies (MMDAs), River Basin Boards (RBBs), Non-governmental Organizations/Community Based Organizations (NGOs/CBOs) and other civil society groupings work

together within a river basin focused framework, to take charge and coordinate water resources management activities at the lowest level. The key tool for the RBBs is the IWRM Plan developed for each of the basins, which serves as “blue print” with prioritised actions and measures towards local initiatives to address the prioritised problems specific to each of the basins.

The WRC, which was established by an Act of Parliament (Act 522 of 1996), is responsible for all water resource-related development and management matters in the country. It is the inter-agency Commission that regulates water use through water allocation, and resolves issues and conflicts in water resources management and development. It is only the national focal institution responsible for coordinating international and transboundary cooperation and initiatives to improve water governance.

The composition of the WRC serves as a forum for integration and balancing of different interests to ensure the effective execution of its mandate at all levels including transboundary. There are the major water-related regulators (Environmental Protection Agency, Forestry Commission and Minerals Commission), data management institutions (Hydrological Services Department, Water Research Institute and Ghana Meteorological Agency - GMet) and the major water users engaged mainly in the development and use of the water resources (Ghana Irrigation Development Authority, Ghana Water Company, Community Water and Sanitation Authority, and Volta River Authority). This forum becomes richer with the presence of other interest groups including NGOs, traditional authorities, and women representatives who carry out the role of civil society and community interests and also play advocacy roles. This stakeholder structure and composition is replicated at the basin level, where the RBBs serve as the main administrative and governance institution. However, the composition of the RBBs is also based on the particular needs of the basin. For instance, the key local authorities – Regional Coordinating Councils and MMDAs - are represented.

3.4 Issues Stemming from Review of Transboundary Water Governance

Generally, the existing policies, the regulatory and institutional frameworks at all the different levels are largely appropriate for supporting planned water resources management and development programmes and projects and for promoting international and transboundary cooperation. However, a number of issues emerge from the review of the transboundary governance and the water resources situation that define the strategic programme areas and corresponding actions/measures under the plan. The issues, which are elaborated below are not limited to the following:

1. The legal regime in Ghana requires negotiations and entering international agreements and the creation of institutional frameworks to promote these processes. Article 269 of the 1992 Constitution places national water governance under state control, and while the Constitution directs the Executive to enter into international agreements for the promotion of development, this seems geared towards the economic sectors. Furthermore, under the Constitution additional parliamentary ratification is required to domesticate ratified natural resources agreements but not much emphasis has been placed on this obligation.

2. Ghana's accession to the convention portrays a preparedness to comply with and implement the Convention. The process of compliance means a fulfilment of the obligations under the Convention and implementation at the national and international levels of all relevant laws, regulations, agreements, policies and other measures and initiatives. This process of compliance must follow due diligence and should align with the provisions of the Convention.
3. There is also opportunity to improve on the existing intra and inter sector-wide collaboration and coordination to pull together the different water sub-sectors and related sectors for implementation. The appropriate institutional setup for this assignment has been considered and presented in this plan under the section on Steps to Implementation.
4. The guide to implementation of the 1992 Water Convention proposes that to properly implement the Convention, state parties must ensure sufficient awareness of the Convention's obligations, political commitment to implementation coordination among relevant implementing authorities. Therefore, underpinning transboundary governance are the considerations of institutional and human capacities, public participation through public awareness and education.
5. There is not enough in-depth information to support governance structures at all levels in making critical decisions. For instance, at the transboundary level, formal arrangements for the exchange of vital data and information such as water and wastewater discharges, environmental conditions, and planned measures/developments is recognised but remains grey. This is because there is no clearly set out and accepted procedures for such data sharing arrangements.
6. Water resources management is practically implemented at the basin level based on designed river basin IWRM plans. These plans with actions and measures address prioritised problems including climate change, water availability both quantity and quality, and extreme events that are specific to each of the basins. However, priority needs to be given to the transboundary actions/measures defined in the IWRM plans particularly for the Volta, Tano, Bia and Todzie/Aka transboundary basins.
7. As indicated earlier, the WRC has over the years served as focal point in transboundary governance, but lacks the requisite budgetary allocation to effectively promote transboundary cooperation and carry out obligations especially as regards implementation. Thus, upon ratification of the 1992 Water Convention adequate financial and technical capacity of the key implementing agencies are needed for effective implementation of planned actions/measures at the local, national and transboundary levels.

4.0 ACTION PLAN FOR IMPLEMENTING THE WATER CONVENTION

This section presents the action plan of programme areas and supporting actions/measures relevant and consistent for implementing the 1992 Water Convention in Ghana. The key

programme areas and the supporting actions/measures are based largely on the issues that emerged from the review of the transboundary governance and the water resources situation.

4.1 Overall Goal and Guiding Principles

The overall goal of the action plan for implementing the 1992 Water Convention is to promote international cooperation in the management of shared water resources. This is to be done through efficient basin-wide planning and efficient use of water resources while ensuring good governance at all levels. This will inure to the benefit of party states and its co-riparian.

The Implementation Plan is guided by the following fundamental principles:

- a. **The principle of good governance:** all the stakeholders must be involved, aware and feel accountable in the process of developing and implementing action to ensure the balanced management of shared water resources;
- b. **The principle of cooperation:** it is necessary to develop relations with other riparian countries and sub-regional organisations for the integrated, peaceful management of the shared water resources and environment through joint planning and data and information sharing;
- c. **The principle of management by river basin or aquifer system:** the principle of management using the river basin or aquifer system is the appropriate unit and framework for planning;
- d. **The principle of partnership:** it is appropriate to seek complementarity and synergy with intergovernmental bodies, NGOs and associations involved in shared water resources management;
- e. **The principle of participation:** the responsible involvement of all stakeholders in the design, development and implementation of all water resources management activities;
- f. **The principle of equitable and reasonable utilisation of shared water resources:** the country has the right to equitable and reasonable share of water for maximum benefit while preventing, controlling and reducing transboundary impacts;
- g. **The principle of no-damage to other countries:** the country has a duty to ensure that no activities within or under its control cause pollution and damage to the water resources or environment in riparian states;
- h. **The principle of solidarity:** considering common interests, the country undertakes to manage shared water resources sustainably and to promote peace and development at the national and transboundary levels.

4.2 Programme Areas

Five overarching programme areas have been identified for the action plan:

1. Strengthen the policy, regulatory and institutional frameworks for managing and protecting water resources.

2. Improve knowledge base to facilitate water resources planning and decision making at all levels
3. Improve IWRM at the river basin level for water security and enhance resilience to climate change
4. Enhance participation of all stakeholders, public awareness and education in water resources management
5. Strengthen financing of water resources management to enhance transboundary cooperation

4.3 Strategic Actions/Measures

The five programme areas set out above can be attained with clearly articulated actions/measures that are consistent with the guiding principles and conform to the 1992 Water Convention. The plan actions/measures supporting the programme areas are introduced below whilst the detailed programme areas, actions/measures and the responsible implementing institutions are prioritised and set out in Table 1. The prioritization of the actions/measures considered timely delivery of action, availability of financial, and the human capacity to achieve implementation of obligations.

Strengthen the policy, regulatory and institutional frameworks for managing and protecting water resources

Strengthening water governance at the national and international levels can be achieved with the existence of a strong and robust regulatory, institutional and policy framework. The start point is the ongoing review of the national water policy, review of existing legislation and development new regulations such as the effluent discharge and pollution legislative instrument to address transboundary obligations. Water-related policy and institutional frameworks for climate change and biodiversity need to be linked to transboundary water governance for a holistic effort. The 1992 Water Convention (Articles 2:6, 9) calls for the establishment of institutions and arrangements to strengthen cooperation with co-riparians. Strengthening policy and regulatory frameworks at the international and national level will help Ghana fulfil this obligation.

At the national level, the mandate of the national focal structures needs to be restructured to align with the obligations on transboundary water governance. Additionally, the state requires to strengthen institutional framework at the international level through supporting the creation of a joint body for the management of the Tano-Bia and Comoe Basins. The national focal point would continue the assigned task of coordinating the reporting on SDGs targets 6.5.1 and 6.5.2.

Improve knowledge base to facilitate water resources planning and decision making at all levels

Improving knowledge base for planning and decision making at the national level and for transboundary cooperation is key. Action is required on establishing formal collaboration

between the data management and user institutions to guarantee sustainability of data generation and exchange. A systematic and periodic data collection programme in Ghana and with its riparian neighbours is to be worked on. The 1992 Water Convention (Article 5) for instance, provides that support should be given to the development of Protocols and Annexes on determination of allowable minimum flows for the Volta Basin Water Charter and for the country. Furthermore, data sharing frameworks must be negotiated with the transboundary countries and put in place this will help in fulfilling obligations under Article 6 of the 1992 Water Convention. A Sector Information System (SIS) to serve as a central database clearing system is being developed which should include relevant transboundary data and information. The effective operation of this information sharing system therefore will aid in the fulfilment of obligations under Article 13 of the 1992 Water Convention. It is acknowledged that Ghana is endowed with groundwater resources but this resource is not yet comprehensively studied. The proposed action is to promote further hydrogeological investigations nationwide.

Monitoring is also a key measure for improving the knowledge base. For instance, the national water quality programme is to be expanded and to include joint monitoring exercises with Burkina Faso and Cote d'Ivoire in particular at the transboundary level. This will aid in the fulfilment of obligations under Article 11 of the 1992 Water Convention,

Improve IWRM at the river basin level for water security and enhance resilience to climate change

Implementation of the Water Convention is also considered at the basin level, especially in the shared river basins and aquifers. The basin level actions target management instruments as well as climate change and disaster management including pollution control; creation and maintenance of buffers zone for protection and restoration of degraded riverbanks; adaptation and building resilience to climate change; and strengthening existing and/or developing flood and drought early warning systems especially for the shared basins.

These actions are designed based on the River Basin IWRM plans and in compliance with the National Climate Change Policy directives, and obligations and protocols under the 1992 UN Framework Convention on Climate Change (UNFCCC) and the Paris agreement. In addition to this, considering climate change adaptation action will help Ghana align with the quest for the 1992 Water Convention member states to integrate the adaptation to climate change as a key obligation as adopted under the Guidance on Water and Adaptation to Climate Change at the Fifth Meeting of the Parties in 2009.

Enhance participation of all stakeholders, public awareness and education in water resources management

A key feature of transboundary cooperation is the engagement of citizens to access information, in decision making and access to justice. This is a principle well enunciated in Article 16 of the 1992 Water Convention. To achieve the optimum goals of transboundary water management citizens must be made aware of the obligations of the state and their own duties and responsibilities. Access to information starts with awareness creation, education and communication. The general public, decision makers, and water practitioners need to be aware of and educated on the 1992 Water Convention. Actions are on education and capacity building

programmes that target groups, creation of a portal for information sharing, and creation of platform(s) such as public hearings as an avenue for citizens to participate in decision making. An important consideration for strengthening participation is to create measures for alternative conflict resolution on non-compliance and enforcement concerns rather than total reliance on the prevailing conflict resolution processes that culminate in litigation and court action.

In addition, the involvement of private sector is key in water resources management and development. Hence, action to promote the private sector through project and programme support and involvement in decision making is detailed.

Strengthen financing of water resources management to enhance transboundary cooperation

Innovative financing actions are required for effective transboundary water management. Such innovative financing actions include expansion of water user base, ensuring compliance, and creating internal revenue sources and arrangements for transboundary financial obligations to joint bodies. Other actions include developing an incentive-based strategy to attract the private sector to participate and support, especially in the area of water infrastructure development.

Table 1: Planned Actions and Measures

Implementation Plan, Actions and Measures	Details/Descriptions	Institutional Responsibility	Key Actions/Measures	Indicators/Means of Verification	Timelines	Budget USD
1. Strengthen the policy, regulatory and institutional frameworks for managing and protecting water resources	Ensuring that policies and regulations are adequate and enforced to strengthen national and transboundary water governance. Support is required for the creation of institutional structures such as joint bodies at the international level to manage basins with no transboundary management bodies.	WRC (NFS), EPA, Ministries of Sanitation & Water Res., Environment, and Foreign Affairs and Regional Integration.	- Support the review of National Water Policy with attention on transboundary water management and initiate implementation	Meetings & workshops /reviewed NWP	2021-2022	5,000
			- Develop and implement regulations on riparian buffer zone protection and effluent discharge/pollution control.	Adopted RBZ /Effluent Discharge L.Is	2021-2025	20,000
			- Strengthen inter-institutional collaboration to ensure compliance and enforcement	Meetings & workshops/ Established Committees & Network	2021-2023	20,000
			- Support efforts to complete the creation of joint body for the Tano, Bia and Comoe Basins	Signed & ratified Convention	2021-2025	10,000
			- Undertake the reporting on SDGs targets 6.5.1 and 6.5.2.	Meetings & workshops /Country Reports	2023	5,000
2. Strengthen financing of water resources management to enhance transboundary cooperation	At this stage, innovative financing has become necessary for implementing the Water Convention and promoting transboundary cooperation. Budgeting specially for transboundary actions, expanding the revenue sources, and dedicating funds for meeting transboundary obligations are financing innovations considered.	WRC, Ministry of Finance, Ministry of Sanitation and Water Resources, Major water users, Private sector	- Make budgetary provisions and ensure fund releases for transboundary actions/measures	Meetings & consultations reports	2021-2025	10,000
			- Implement revenue generation strategies including expansion of water user base, ensuring compliance, and improved private sector involvement in IWRM activities.	Meetings, consultations & site visits /increased registered water users	2021-2025	10,000
			- Facilitate internal disbursement arrangements for timely payment of transboundary contributions/obligations.	Meetings & consultations & administrative costs/reports	2021-2025	5,000
			- Develop and implement an incentive-based strategy to attract the private sector to participate and support WRM activities especially for productive water infrastructure.	Meetings & consultations administrative costs/ strategy document, report	2022-2025	5,000
3. Improve knowledge base to facilitate	Actions address the knowledge base for planning and decision	WRC – NFS Data generation/ management institutions –	- Design and undertake periodic data collection programme including enhancing existing programmes nationally and internationally.	Training of personnel in software/GIS Software	2022-2025	20,000
				Meetings & Consultant/GIS Software	2022-2024	10,00

water resources planning and decision making at all levels	making at the national and transboundary levels. Specific actions deal with collaboration, sustained data collection both on water and water related sectors, database sharing and clearing system, joint monitoring, and technical support to guarantee the sustainability of data generation and exchange.	HSD, WRI and GMet Academic Institutions	- Support the development and functionality of the Sector Information System (SIS)	Meetings/training programmes/GIS Software	2021-2025	10,000
			- Strengthen the collaboration between the data generation/management and user institutions for sustained of data generation and exchange	Set up of Technical Committee/Protocols & Annexe	2021-2023	10,000
			- Support the development of protocols and Annexes on determination of allowable minimum flows for the Volta Basin Water Charter and specific for the country.	Meetings & consultations /Data sharing software	2022-2025	20,000
			- Negotiate the establishment mechanisms for data sharing including joint monitoring programs with riparian countries - Promote further hydrogeological investigations nationwide	Meetings & workshops/ established database	2022-2025	10,000
4, Enhance participation of all stakeholders, public awareness and education in water resources management	Stakeholder participation including the vulnerable and private sector at all levels is pertinent in promoting transboundary cooperation. This could be achieved through the engagement of citizens to access all information including obligations, involvement in decision making, and access to justice.	WRC, EPA, Universities, Ministry of Education, Ministry of Information , Ministry of Justice, Media	- Review the Communication Strategy to include the dissemination and education of the Water Convention and promotion of transboundary cooperation	Workshops & media events/communication materials	2021-2023	10,000
			- Design and undertake training of targeted groups on IWRM and transboundary water management	Workshops & training events/evaluation reports	2022-2024	20,000
			- Develop functional online portal for the participation and decision making of all relevant stakeholders	Engage consultant obtain IT equipment/functioning online portal	2021-2022	5,000
			- Establish functional inter-sectoral administrative platform for conflict resolution on non-compliance and enforcement concerns.	Meetings & workshops, established administrative fines framework/Conflict resolution committee	2022-2023	5,000
			- Engage the private sector actors in IWRM activities through project and programme support and their involvement in decision making processes.	Meetings & workshops/ reports, plans and projects	2022-2025	10,000
5, Improve IWRM at the river basin level for water	The effective promotion of transboundary water resources management centres also on the execution of planned IWRM	WRC, HSD, GMet, MMDAs NADMO, Major Water	- Support creation and maintain riparian buffers zone for protection and restoration in river basins, especially transboundary basin	Engaged skilled and unskilled staff/ established buffer zones	2022-2025	50,000

security and enhance resilience to climate change	actions that target water security and promote adaptation and the resilience to climate change at the river basin level.	Users, Forestry Commission, EPA,	- Support the functionality of the flood forecasting and warning systems (FEWS) for the White Volta and Oti basins and initiate action for new FEWS for the Black Volta and drought early warning system for the Volta basin.	Workshops & consultations/ functional and new FEWS	2021-2025	10,000
			- Initiate climate change adaptation and resilience measures detailed in river basin IWRM plans	Engagement of adaptation institutions/ reports & reviewed IWRM Plans	2022-2025	20,000
			- Undertake basin level pollution control measures including compliance and ecological monitoring.	Purchase monitoring equipment, field water quality & ecological monitoring/ analysed data & reports	2021-2025	170,000

5. STEPS TO IMPLEMENTATION OF PLANNED ACTIONS/MEASURES

Effective implementation of the planned actions/measures will be carried out through sufficient administrative measures by supporting the national focal structure and provision of adequate human, financial and technical resources.

5.1 Institutional Arrangements

The institutional arrangements for implementation of the country obligations under the 1992 Water Convention adopts and improves upon existing structures for implementing already existing transboundary arrangements for Ghana. A networked institutional frame composed of a National Focal Structure (NFS), a Dialogue Team and a Management Unit is prescribed as the workable module for implementation obligations for transboundary water governance.

5.1.1 The National Focal Structure

A national focal point exists for overseeing implementation of obligations under existing transboundary arrangements. In order to support the national focal point to effectively implement transboundary obligations, a National Focal Structure (NFS), which is an expansion of the existing water governance framework to fully integrate other relevant stakeholders, was established in August 2019. The NFS is to facilitate implementation of obligations under the Volta Basin Convention and other fresh arrangements. Hence, the NFS composed of the Dialogue Team and the Management Unit will be adopted to support implementation of obligations under the 1992 Water Convention.

5.1.2 Dialogue Team

The Dialogue Team (DT) is in the nature of an inter-ministerial coordination body and anchored at the WRC, which is the national focal institution and lead implementing agency. The DT is made up of institutional representatives of following ministries and institutions:

- Ministries in charge of policy direction for water, finance, international relations, and gender/children/social relations.
- Water and water related regulatory agencies (water, environment, forestry and minerals).
- Major water users in the public sector (water supply, irrigation, and energy).
- Data management institutions (hydrology, hydrogeology, meteorology, water quality).
- Local government authorities for decentralized water governance
- NGOs/civil society (advocacy and public awareness)
- Traditional authorities (local decision making)
- Key institutions for national development planning and disaster management.

The DT working through the Management Unit (MU) will be the link between the Water Convention Secretariat, ancillary bodies and the State. Specifically, the DT will ensure the implementation of the planned actions/measures through dialogue and consultation among all

the stakeholders involved in transboundary water resources management; facilitate the investigation, collection, processing and disseminate information related to management of transboundary basins; disseminate transboundary related strategic documents to stakeholders; and facilitate actions towards the fulfilment of all obligations to the 1992 Water Convention.

5.1.3 The Management Unit

The Management Unit (MU) will support the Dialogue Team. It is composed of a Coordinator, assisted by an Assistant Coordinator/Programmes Manager, Monitoring and Evaluation Specialist, a Secretary/Accounting Officer and a Driver. In addition, the Legal Directorate of the WRC will provide legal services and direction relating to the implementation of the Water Convention.

The MU will operate as the secretariat of the DT in charge of the day-to-day operations of the NFS.

5.2 Resources for Implementation

The human resources of the Management Unit will be selected from the water sector agencies and assigned responsibility by the Minister in charge of water.

Material resources will be provided by the State. It is anticipated that other technical and financial partners and, to some extent, the Water Convention secretariat will provide some material resources as part of the implementation of projects and programs in the country

The overall budget required to execute the actions/measures is about USD465,000 over the anticipated five-year period (2021-2025) (Table 1). The proposed time lines are aligned with the time lines adopted for the national and basin level IWRM plans.

The operating costs of the NFS will be covered by the State through budgetary provisions. The Ghana NFS will also receive grants, donations and any other support from Water Convention secretariat and from other technical and financial partners. It should be mentioned that the stipulated budget for some actions/measures are to leverage and support the actual cost of executing existing or anticipated programs or projects.

5.3 Functional link to the Water Convention Secretariat

The NFS is deemed responsible for coordinating, monitoring and reporting on Water Convention activities in the country. Accordingly, the NFS will:

- monitor and report on progress of implementation
- produce bi-annual technical and financial reports on the implementation plan; and
- feed the reports and any other relevant reports and documents, as may be requested, to the Water Convention Secretariat; and
- participate in the sessions of the bodies and organs of the Water Convention and any other duties related to the implementation plan.

REFERENCES

- Ampomah, B., (2016), *Water Governance in the Volta Basin* - Chapter 8; in *The Volta River Basin: Water for food, economic growth and environment*; Earthscan series on Major River Basins of the World; (UK: Routledge, Taylor and Francis Group, 2016), 112.
- Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 1992, UNECE, Helsinki, 1992
- Convention on the Status of the Volta River and the Establishment of Volta Basin Authority, 2007
- Government of Ghana, National Population Census, Ghana Statistical Service, 2019.
- Government of Ghana. Ghana National Climate Change Policy. Accra: MESTI, 2013.
- Government of Ghana. National Water Policy. Accra: MWRWH, 2007.
- Government of Ghana. Riparian Buffer Zone Policy for Managing Freshwater Bodies in Ghana. Accra; MWRWH, 2013.
- Ministry of Water Resources, Works and Housing. Report on Harmonisation and Alignment in Ghana's Water Sector. Accra: IRC, 2014.
- Ministry of Water Resources, Works and Housing. Water Sector Strategic Development Plan (2012-2015). Accra: MWRWH, 2014.
- Ministry of Works and Housing. Ghana's Water Resources, Management Challenges and Opportunities. Accra: MWH, 1998.
- UNECE - Background Document High-Level Workshop on Financing Transboundary Basin Development 9 October 2018, Astana, Kazakhstan; 8th Session of the Meeting of Parties to the UNECE Water Convention, 10-12 October 2018.
- United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, New York, 1997
- Volta Basin Authority. Convention on the Status of the Volta River and the Establishment of Volta Basin Authority, 2007.
- Volta Basin Authority. Volta Basin Charter, May , 2019.
- Water Resources Commission. Hydrogeological Assessment Project of the Northern Regions of Ghana, Final Technical Report Vol. 1. Accra: CIDA, 2011.
- Water Resources Commission. National Integrated Water Resources Management Plan. Accra: WRC, 2012.

ANNEX 1 QUESTIONNAIRE FOR DATA COLLECTION

UNECE 1992 Water Convention Implementation Plan for Ghana

Consultative Questionnaire

Preamble

The universalization of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention), which is serviced by the United Nations Economic Commission for Europe (UNECE), provides great opportunities to strengthen transboundary water cooperation worldwide. Indeed, accession to the Convention supports strengthening of the legal, technical and institutional basis for cooperation, as well as national water governance.

As of March 2016, all UN members can accede to the Water Convention. Ghana acceded as third African country in September 2020. The Water Convention is an important tool to operationalize the achievement of the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), particularly with regards to water and transboundary water cooperation. Indeed, the Water Convention offers an operational framework to implement integrated water resources management (IWRM) in practice at both national and transboundary level.

The implementation of the Convention requirement is key obligation when acceding to the Water Convention. Different legal, economic, operational, administrative and technical measures, in accordance with the Convention, are to be progressively put in place and implemented through a step-by-step approach in accordance with the resources and capacity of a Party.

A common way of setting the path to ensure the implementation of the Convention is to develop a plan implementation for the Convention, which would assess the needs and requirements for implementation and specify measures, a timeline and resources. The implementation plan demonstrates the Party's commitment to take all appropriate measures. Moreover, such a plan can help gather the needed internal resources for implementation and can help in approaching development partners for external funding. As new Party, Ghana looks for the implementation of the Water convention.

This questionnaire is to seek the views and inputs of important stakeholders in the water sector in Ghana. Your responses will aid in the development of a National Implementation Plan. You are entreated to be expansive in your responses to the questions below.

QUESTIONS

Section A

Institutional arrangements

1. Indicate the appropriate institution(s) to lead the implementation drive
2. Indicate if any joint or inter-ministerial arrangements are needed.
 - a. mention the institutions
 - b. indicate the types of roles they are to carry out
3. Monitoring and evaluation
 - a. mention the responsible institution
 - b. indicate their roles
4. Reporting mechanism by responsible institutions
 - a. which institution is to be reported to:
 - b. time lines for reporting:

Section B

Financial arrangements

1. Budgetary responsibility
 - a. responsible institution:
 - b. budget items:
2. Financial responsibilities
 - a. institutions to contribute to budget:
 - b. how to calculate financial responsibilities:
3. Auditing
 - a. financial:
 - b. performance:

Section C

Human resources capacity considerations

1. Required personnel:
2. Required qualification:

3. Training needs:

4. Means of liaison with the UNECE 1992 Convention secretariat

Section D

Any other comments

ANNEX 2

LIST OF INSTITUTIONS/PERSONS FOR STAKEHOLDER CONSULTATION

No.	Institution	No. of persons	Contact Person
1.	VRA	1	Abdul Wahab
2.	Bui Power Authority	1	Osafo Kissi
3.	GIDA	1	Kofi Modzaka
4.	GWCL	1	Jacob Yendor
5.	EPA	1	Jewel Kudjawu
6.	WRI	1	Anthony Karikari
7.	HSD	1	Sylvester Darko
8.	CWSA	1	Theodora Adomako Adjei
9.	Min. of Sanitation & Water Resources	1	Kwabena Gyasi Duku
10.	Alternate National Focal Point	1	Adwoa Paintsil
11.	CWP-Ghana	1	Maxwell Boateng Gyimah
12.	WRC- Legal & Monitoring Dept.	1	Eric Muala
13.	Tano Basin Officer	1	Solomon Danso Ankomah
14.	White Volta Basin Officer	2	Aaron Aduna/Andrew Asaviansa
15.	Black Volta Basin Officer	1	Joachim Abungba
16.	National Focal Point	1	Ben Ampomah
17.	VBA Operational Focal Point	1	Maame Esi Biney
	Total	18	