



Republic of Ghana

**MINISTRY OF LOCAL GOVERNMENT AND RURAL DEVELOPMENT
(MLGRD)**

GREATER ACCRA RESILIENT AND INTEGRATED DEVELOPMENT PROJECT (GARID)

TERMS OF REFERENCE

**CONSULTANCY SERVICES FOR THE DEVELOPMENT OF A JOINT BASIN
MANAGEMENT PLAN
(ODAW RIVER BASIN)**

JUNE, 2021

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MINISTRY OF LOCAL GOVERNMENT AND RURAL DEVELOPMENT
TERMS OF REFERENCE FOR DEVELOPMENT OF A JOINT BASIN MANAGEMENT PLAN
(ODAW DRAINAGE BASIN)

1.0 BACKGROUND

The Greater Accra Region (GAR) currently host 20 % of Ghana population, equivalent to approximately 4.6 million people and controls 25 % of the GDP including critical economic assets. It is projected that the GAR will hold close to 11 million people by 2050. The GAR has 29 Metropolitan/Municipal/District Assemblies (MMDAs).

The economic growth and rapid urbanization have been complementary processes, in particular in large cities like the Greater Accra Metropolitan Area. Perceived improvements in urban economic opportunities and the potential benefits of agglomeration have made cities attractive to migrants. More than 53% of Ghana's total population is living in urban areas and it is projected to reach 65 percent by 2030 by which time 22.6 million people will be living in urban areas. Rapid urbanization over the past three decades has coincided with the rapid Gross Domestic Product (GDP) growth, boosting job creation, increasing human capital, decreasing poverty, expanding economic opportunities and improving living conditions.

The GAMA is drained by eleven (11) drainage basins, namely (from West to East): the Densu Basin, Lafa Basin, West Chemu Basin, Odaw River Basin, Osu Klottey Basin, Kpeshie Basin, Songo Basin, Mokwe Basin, Sakumo Basin and Chemu East Basin, with the Odaw River as the primary one within the Korle-Chemu catchment area that drains most part of the built up area in central Accra and runs through about seventeen (17) MMDAs in the Region. The area covers approximately 272km² and the drainage channel runs 30km long from source to entry into the sea. It is joined by several tributaries among them are the Dzorwulu Drain, the Mukose Drain, the Police Depot Drain, the Kpehe Drain, the Circle Drain, the Nima drain and its tributaries, the Castle Road, Adabraka, and West Ridge drains, the Tesano drain, the Bubuashie, Kaneshie, Awudome, Mataheko, and South Kaneshie drains, the Central Business District Drain, the Korle-Bu Drain, and the Korle Gonno Drain.

The Odaw River Basin has mixed land use characteristics. These include residential, industrial, commercial and minimal agricultural uses with residential being the largest land use type. The downstream section is very densely populated with significant lowincome households. It

becomes medium densely populated mid-stream and sparsely populated upstream where the living conditions are within the medium to high income bracket. The Korle Lagoon, which is polluted with solid and liquid waste, falls within the low-income areas downstream. It has high impervious land cover, producing high run off in the basin with any rainfall intensity.

The Odaw River Basin built-up area is characterized by low elevation, overcrowded spaces, lack of adequate sanitation and drainage infrastructure and weak regulatory enforcement that increases its vulnerability to floods and manifests in the perennial flooding. Provisions of basic services, infrastructure and housing have not kept up with rapidly growing urban population, contributing to higher urban stresses. Unplanned urban expansion coupled with limited local government capacity poses major challenges to the provision, maintenance, management and coordination of infrastructure and service delivery, which is further exacerbated by a complex land tenure and land market system. Basic services including solid waste management and environmental sanitation remain a challenge across all urban areas. A recent World Bank report (WB, 2017: Enhancing Urban Resilience in Greater Accra Metropolitan Areas, Accra) identified poor sanitation, proliferation of informal settlements, high unemployment, land and chieftaincy conflicts, and water scarcity as key urban stresses in Accra. Government of Ghana initiated a long-term, integrated engagement in urban flood risk management in Accra to address these challenges.

These challenges make the city of Accra susceptible to higher disaster and negative climate change impacts including floods, drought and reduced socio-economic development potential. Flooding is especially a major drag on economy and contributes to increase in poverty rates in Accra. The negative effects of climate change are exacerbating GAMA's vulnerabilities, increasing the frequency and intensity of floods, precipitation, sea-level rise, including likely increase in rural-urban migration due to higher drought impacts in the northern parts of the country. Urban stresses and climate and disaster impacts will negatively affect economic growth and poverty reduction goals.

The floods which usually occur in the rainy seasons have caused substantial human and material loss with some of the most serious recorded events occurring in 1986, 1994, 1995, 1997, 2001, 2010, 2013 and 2015. The most severe flood in recent times, occurring on 3rd June, 2015, was assessed to have been aggravated by the blockage of drains by solid waste materials. The flood and subsequent fire in a petrol station resulted in the loss of an estimated

150 lives and affected about 53,000 people. If the status quo continues, with the impact of climate change flood incidents will continue to increase in Greater Accra Area.

The Government of Ghana has obtained financing from the World Bank for the implementation of the Greater Accra Resilient and Integrated Development (GARID) Project over a five -year period (2020-2024). Broadly, the Project aims at supporting critical investments to cope with increased urbanization pressures, disaster and negative climate change impacts in Greater Accra Region.

2.0 THE GARID PROJECT

The overall Project Development Objective of is to improve the flood risk management and Solid Waste Management in the GAR, improve access to basic infrastructure and services in targeted communities and enhance planning and coordination of such interventions across multiple local governments. The project will invest in flood mitigation measures within the Odaw River Basin of the GAR for six years (2019–2025), closing on December 31, 2025. The project is in three (3) principal components and are described as follows;

Component 1 (MWH): Drainage and flood management improvements within the Odaw River Basin

This aims to achieve a T10 protection by (a) deferred and periodic maintenance dredging, (b) urgent repair and reconstruction of drainage channels and bridges and the reengineering and reconfiguration of the Odaw River channel exit to the sea, (c) engineering design and construction of flood detention basins, (d) construction of resilient drains and micro-detention ponds and (e) flood early warning system.

Component 2 (MSWR): Solid Waste Management Capacity Improvements

It will focus on improving solid waste management capacity including minimizing solid waste in water ways. The measures in Phase I are (a) solid waste/litter management plan based on characterization and location of main channels of flow of refuse into the Odaw channel and community-based SWM in selected communities along the Odaw channel, (b) construction of transfer stations, (c) capping of unused dumpsites, and (d) extended capacity for solid waste disposal.

Component 3 (MICZD & MLGRD): Participatory Upgrading of Targeted Flood Prone Low-Income Communities and Local Government Support

This component is jointly managed by the Ministries of Inner City and Zongo Development (Component 3.1 & 3.2) and Local Government and Rural Development (Component 3.3).

Component (3.1&3.2) will address (i) Participatory community upgrading and Community engagement and technical advisory services, while Component 3.3 will focus on Metropolitan governance and operation and maintenance improvement

Component 3.3 (MLGRD): Metropolitan governance and operation and maintenance improvement

This involves the provision of technical assistance to: (i) support the process towards the establishment and institutionalization of inter-jurisdictional coordination; (ii) development of a joint Odaw River Basin development and management plan; (iii) assessment and capacity development of operation and maintenance system of drainage infrastructure at local level in coordination with relevant ministries and departments; (iv) preparation of flood zoning guidelines and maps, and storm water regulations, and lastly, (v) establishment of a local capacity support grant mechanism aimed to provide Grants to finance the technical needs of local governments

3.0 CONTEXT

Over the years in Ghana, and in particular from the advent of the 4th Republic, several spatial and river basin management plans have been prepared for some sections of the Greater Accra Region either in its entirety or parts of the Region. The 1992 Greater Metropolitan Area and the Densu River Basin Management Plans as well as the more recent spatial plans for Accra are classic examples. A few spatial plans have also been prepared for some Assemblies within the Region. However, the Odaw River Basin lacks an integrated water resources management and spatial plans taking into consideration integrated urban watershed management principles that incorporate drainage, sanitation, storm water management (SWM), and disaster risk management (DRM).

The thrust of the proposed basin management plan for the Odaw River Basin area must therefore seek for the presentation of a plan that overcomes the challenges of flooding and its associated impacts. The eventual management plan will be in reference to the national water policy and buffer zone policy 2013 which seeks to coordinate water planning resource and the Land Use and Spatial Planning Act 925 (2016) for land use planning.

This assignment seeks the services of a Consulting Firm to support the MLGRD to prepare a Joint Basin Management Plan for MMAs falling within the Odaw River Basin. The following section provides details of the assignment.

4.0 OBJECTIVES AND SCOPE OF THE ASSIGNMENT

4.1 Objectives

The main objective of this assignment is to develop Joint Basin Management Plan for the Odaw River Basin. This plan will seek to regulate the social, economic, and physical processes that affect the sustainability of the Basin.

The specific objectives include the following;

- i. Undertake/review baseline assessment, including current and future water availability, quality and variability, demand, the impact of climate change, and upstream land use and existing infrastructure, for the preparation of an urban watershed management plan, including flood zoning guidelines for the Odaw River.
- ii. Revise Existing Local Plans for Odawnaa, Old Fadama, Kaneshie, Alogboshie, Akwetema, Dworwulu and Dome to provide compatible land uses whilst preventing water-polluting activities within the Odaw River Basin.
- iii. Develop an integrated urban watershed management plan that incorporates drainage, sanitation, solid waste management (SWM), and disaster risk management (DRM).

To achieve these objectives, there will be a review of on-going planning instruments such the Greater Accra Region Integrated Urban Environmental Sanitation Management Plan from MSWR,FEWS and the SWM study on informal areas as well as the Ministry working in close collaboration with Land Use and Spatial Planning Authority (LUSPA), Ministry of Sanitation and Water Resources (MSWR), Ministry of Lands and Natural Resources (MLNR), Ministry of Planning (MoP), Ministry of Inner cities and Zongo Development (MIZD), Water Resource Commission (WRC), Hydrological Services Department (HSD), Environmental Protection Agency (EPA), other Relevant Institutions and Stakeholders within the sectors.

4.2 Scope of Services

The description of the scope of services hereafter outlines the tasks, sub-tasks and working packages to be performed by the Consultant. The Scope of services for Consultant shall include following Tasks:

TASK-1: WATER RESOURCES and LAND USE ASSESSMENT

TASK 1(a): Water Resources Planning and Management

Integrated/ Joint Basin Management Planning requires a set of analytical tools including water system models to undertake water balance studies and scenario analysis. These models together with the knowledge base tools will form the core of a Decision Support System (DSS). The basic tools for DSS will include one of the following:

1. Basin water system simulation models
2. Agricultural modelling (rainfed, irrigated, flood irrigation, pump schemes)

An estimate of the spatial and temporal characteristics of the basin's water resources, combined with trends in potential water use will provide a picture of what issues may arise in meeting people's need for water, what opportunities appear to be available for development, and what actions may be required to manage water resources to ensure that conflict does not overtake opportunities. The following key variables shall be considered in the water resources planning and scenarios:

- i. **Surface water availability, variability, and quality, including risk of flooding and related high-risk areas.**
- ii. **Identification of current water uses, including an estimation of the environmental flow regime**
Impact of Climate Change on water availability, quality, and demand

The Consultant will develop a map of problem areas and threats.

TASK 1(b): Projection of future water use

The basic objective of this task is to forecast future water use in the basin. To do this, the Consultant's needs to identify all the sectors and types of water use in the basin and the factors that will influence future water use by these activities. It may also be necessary to identify new categories of water users and forecast their demand. Water uses or activities can be consumptive (e.g., agriculture) or non-consumptive (e.g. fisheries).

The general categories of water use to be considered are listed below. Together with water use, the level and characteristics of wastewater generation and discharge into the basin should be estimated for:

- ❖ Agriculture – rain fed, recession, irrigated (centralized, decentralized)
- ❖ Livestock; Fisheries – commercial, subsistence
- ❖ Wetlands, protected areas, parks
- ❖ Tourism – ecological, cultural
- ❖ Environmental assets and services – recreation, livelihoods

The estimates of future water use depend on a number of assumptions including factors such as population growth rates, rates of urbanization, trends in agriculture practices (crop choices), rates of reforestation, etc. Information on these factors can be availed from Ghana Statistical Services (GSS). Given the large uncertainties around the development of these variables, a scenario analysis should be carried out. The consultant is expected to utilise appropriate hydrological and land use models to identify -under different scenarios- the most appropriate interventions/measures in terms of environmental conservation and economic and social development.

TASK 1(c): Assessment of Land Use and Development in the Basin: This will include zoning of areas for specific uses and purposes as well as identifying lands for which no specific zoning has been proposed and areas of outstanding significance and subject to special treatment and controls. The consultant should also include primary distribution networks of infrastructure and location of services. The structure plan should also provide guidance for the preparation of the local plans in the selected communities. The consultant shall be guided by the Manual for the Preparation of Spatial Plans

TASK-2: STRATEGIC SOCIAL AND ENVIRONMENTAL ASSESSMENT (SSEA)

The consultant will carry out Strategic Social and Environmental Assessment (SSEA) of the Basin to identify major social and environmental issues that must be taken into account in the planning process and that could affect the plans' outcome. The aim is to ensure that these issues are integrated into the planning process at an early stage. The SSEA would focus on identifying the issues and conditions in the basin related to water and natural resources that are likely to be a major influence, and that might represent important risks. It might for

example focus on protected or ecologically sensitive areas, areas with major degradation, vulnerable groups, or livelihoods at risk.

The SSEA should be oriented towards the development of an instrument / tool that can support and form part of the planning process. The SSEA (data, maps, charts, tables, text) should help to formulate and evaluate alternative water management and development options – at various spatial scales (basin, sub-basin, MMAs, etc.) – specifically for avoiding or mitigating adverse impacts on important environmental assets / services and society (including cumulative impacts), for reducing or avoiding social conflict, exclusion, inequality, and for enhancing environmental and social benefits.

For the purposes of capacity building through training, the consultant’s social and environmental specialists will work closely with Stakeholders and Client’s team throughout the process of preparing the SSEA.

The results and findings of the SSEA should be widely shared with stakeholders and thoroughly discussed. The aim should be to improve awareness of the nature and significance of social and environmental issues in the basin, to help stakeholders understand the potential implications of these issues and cumulative impacts, and to integrate them into the planning framework. Because GIS is a powerful communication tool, the data gathered during the SSEA study and the findings of the study should be compiled in the GIS in order to develop maps and other information products to inform stakeholders and facilitate discussion.

The following key elements should be considered in the SSEA process:

- ❖ **Assessment of the Vulnerable Environments in the Basin**
- ❖ **Design a Stakeholder Participation program for the SSEA**
- ❖ **Assessment of Linkages, Cumulative Impacts and Options**
- ❖ **SSEA Guidance Framework**

TASK-3: REVISION OF LOCAL PLANS

A local plan is a detailed plan which proposes a dimensionally accurate disposition parcels of land by function and purpose to meet the present and future identified community needs. The Existing Local Plans for the selected communities have outlived their usefulness and should conform to the broad land use classification prescribed in the Structure Plan. In revising these existing local plans, the consultant shall be guided by the Manual for the Preparation of Spatial Plans, the IUESMP from MSWR, the Infomal SWM study from the same

Ministry, the upcoming FEWS from MWH, HSD, NADMO and Gmet and all other planning instruments prepared at central level.

TASK-4: BASIN MANAGEMENT PLAN

The consultant shall consolidate task 1 to 5 into an urban watershed management plan for the Odaw river, denominated the Joint Odaw Basin Management Plan (JOBMP). The JOBMP will incorporate drainage, sanitation, solid waste management (SWM), and disaster risk management (DRM). The scenarios under Task 2 will inform the design of the JOBMP. The plan, based on the selected scenario, shall present prioritized and sequenced investments and management interventions (in the short, medium and long term), up to the Year 2050. An investment strategy shall be prepared based on a review of the GAMA Integrated Urban Environmental Sanitation Master Plan (Vol. 1 & 2) and situational assessment reports. These documents will be made available to the consultant. In addition to the JOBMP, the consultant should develop an implementation plan (IP) either as a separate document or as an annex to the JOBMP. The IP will contain a detailed blueprint of the activities that need to be implemented and their estimated implementation costs. The consultant shall present the draft JOBMP to the stakeholders in consultation meetings (including public participation in the development of the draft and final basin management plans) to ensure broad acceptability of the plan. The consultant shall present the final JOBMP after integrating comments by the stakeholders. The consultant is expected to develop a monitoring mechanism (i.e., indicators) for the implementation of the JOBMP.

For the avoidance of doubt, the JOBMP shall

- (a) identify issues relating to the protection, conservation or restoration of water, aquatic ecosystems and drinking water sources in the basin;
- (b) contain objectives, policies and recommendations respecting some or all of the following:
 - (i) the protection, conservation or restoration of water, aquatic ecosystems and drinking water sources,
 - (ii) the prevention, control and abatement of water pollution, including wastewater and other point-source discharges, and non-point sources of pollution,
 - (iii) land drainage and flood control, including the maintenance of land drainage and flood control infrastructure,

(iv) water demand management, water use practises and priorities, the conservation of water supplies, and the reduction of water use and consumption during droughts and other periods of water shortage,

(v) emergency preparedness to address spills, accidents and other emergencies that may affect water, an aquatic ecosystem or a drinking water source;

(c) specify linkages between water management and land use planning to facilitate the adoption, in a development plan or other planning instrument, of some or all of the provisions of JOBMP; and

(d) identify ways in which the plan can be implemented, monitored and evaluated, recognizing the need to implement the plan with the assistance of individuals, groups, and organizations.

TASK-5: STAKEHOLDERS IDENTIFICATION, MOBILIZATION AND CONSULTATION

The consultant will carry out a stakeholder identification and analysis, and establish and facilitate the participation of the stakeholders at National, MMAs and Community Level in line with the objectives of the assignment. Stakeholders shall be consulted and mobilised at each stage of the assignment. The consultant will facilitate regular meetings as the planning process proceeds, conduct a capacity needs assessment and later provide training for team designated for Basin Management.

The consultant will develop appropriate mobilization and sensitization tools and approaches. The Consultant shall engage with Stakeholders in integrated Basin planning at national, MMAs, Community level. These shall include the following:

3. Organizations with public and private interest in Basin Management Plan outcomes and/or that are able to provide support that is, Development Partners, Ministries, Departments and Agencies (MDAs), Universities and Research Institutions and Media.
4. Organized groups centred or focused on specific locations or issues in the catchment/basin i.e. Community based organizations – water users, farmers, fisherman, pastoralists, schools, environmental groups etc.
5. Individuals in the basin representing themselves rather than organized groups i.e. Business owners, Land Owners, Commercial Farmers etc.
6. Vulnerable groups such as women, elderly, people with disabilities, children heads of households, etc

TASK-6: DEVELOPMENT OF ABRIDGED VERSIONS

The Consultant shall review/edit all the chapters of the JOBMP, and to produce an abridge versions of the JOBMP that are simplified for easy use by technical and non-technical people. After editing and proof reading the JOBMP and production final versions with coherent flow and presentation of the material in various chapters and sections ready for formatting and publication. The consultant shall;

- ❖ Identify and extract from the report key messages and conclusions.
- ❖ Prepare an abridged version of the JOBMP using information drawn from key messages and conclusions from the main JOBMP.
- ❖ Design a graphical layout of the abridged versions – pictorial, infographics, and other visuals to make the presentation more attractive to users.

4.3 Key Deliverables

The consultant shall submit the following key deliverables:

1. An Inception Report
2. A report on Task 1: Water Resource and Land Use Assessment comprising of basin Situational analysis, Water Balance Study and simulation model, A Structure Plan and Flood Zoning Guidelines for the Odaw Basin including maps.
3. A report on Task 2: Strategic Social and Environmental Assessment.
4. A report on Task 3: Revised Local Plans for the selected communities within the Odaw Basin including maps.
5. A report on Task 4: A Joint Odaw Basin Management Plan including a prioritized investment plan.
6. A report on Task 5: Stakeholder Engagement, to be updated throughout the duration of the consultancy.
7. An Abridged Version of the Joint Odaw Basin Management Plan with highlights of key messages.

5.0 QUALIFICATION OF THE FIRM AND KEY PERSONNEL

5.1 Experience of the Firm

The consulting firm shall demonstrate their capability and experience in undertaking similar assignments. The firm shall provide specific experience of at least three (3) similar

assignments of which 2 projects were undertaken in Sub-Saharan Africa or other developing countries within the last fifteen (15) years.

5.2 Personnel

The consulting firm is expected to provide for the following key experts and non-key experts:

a) Key Experts:

- 1) Integrated River Basin Management Expert /Team leader
- 2) Water Resource Systems Modeller / Hydrologist
- 3) Environmental Management Specialist
- 4) Urban Planner
- 5) GIS Expert

b) Non-key Experts

- 1) Water Quality Specialist
- 2) Sociologist
- 3) Soil and Water Conservation Expert
- 4) Municipal Finance Expert
- 5) Development Planner

In addition, the Consultant is at liberty to propose additional staff/competencies/short-term specialists as deemed appropriate for the successful execution of the assignment.

5.3 Qualification of Experts

The consulting firm may comprise the following key experts to undertake the assignment with an estimated time input of **72 Staff-months**. The key personnel shall belong to a recognised professional bodies as well as have a minimum academic qualifications and experience as stipulated below:

- 1) **Integrated River Basin Management Expert /Team leader (20 staff-months):** a master's degree and specialization in water resource engineering and management or related field with at least 15 years of experience in preparation of river basin management plans, flood risk management plans, water resources management plans, water resources strategy and action plan development, feasibility studies, project management and technical assistance including capacity building. He/She should also have at least 5 years of experience working in Sub-Saharan Africa or developing countries.
- 2) **Water Resource Systems Modeller/Hydrologist (12 staff-months):** He/she should have a master's degree in hydrology or related fields. The expert should have at least 10 years of

relevant experience in projects related to preparation and/or implementation of basin management plans, with a specialization in water system simulation modelling and 10 years of relevant experience in undertaking water system simulation modelling.

- 3) **Environmental Management Specialist (10 staff-months):** Must have bachelor's degree in Environmental Management or Environmental Science and a master's degree in Environment Engineering/Environmental Science with 10 years relevant experience in undertaking strategic environmental assessments, environmental impact assessments, etc. and in environment management planning. Knowledge of World Bank safeguards policies is desirable and 5 Years of working in Ghana will be an added advantage.
- 4) **Urban Planner (18 staff-months):** Must have a master's degree in Urban Planning or related field with 10 years relevant experience in preparation of spatial plans. Knowledge of World Bank safeguards policies is desirable and 5 Years of working in Ghana will be an added advantage.
- 5) **GIS Expert (12 staff-months):** Must have a master's degree in GIS or Geo-informatics or related field with 10 years relevant experience. Knowledge of World Bank safeguards policies is desirable and 5 Years of working in Ghana will be an added advantage.

The consulting firm may also engage the services of the following experts on short-term basis:

- 6) **Water Quality Specialist:** must have a bachelor's degree in Environmental Engineering, or Environmental science and a master's degree in Water Quality Management/Environmental Engineering with 10 years relevant experience in water quality management, waste water management etc.
- 7) **Sociologist:** Must have bachelor's degree in Sociology or any other related sciences, preferably a master's degree with 10 years of relevant experience in undertaking strategic social assessments, social impact assessments, etc. Knowledge of World Bank safeguards policies is desirable. The Social Development Specialist must have knowledge of Ghana Government social safeguard policies, laws, regulations, competent authorities, etc. and experience in working in Ghana. Knowledge of the local language will be an added advantage.
- 8) **Soil and Water Conservation Expert:** The Soil and Water Conservation Expert should have a minimum Bachelor's degree in natural resources/ water resources management, or Agriculture, or related field. He/She shall have a minimum of 10 years overall experience in preparation and implementation of soil and water conservation measures.

- 9) **Municipal Finance Expert:** Must have a master’s degree in public finance or related field with 10 years of relevant experience in undertaking financial engineering and infrastructure investments. Knowledge of World Bank safeguards policies is desirable. Knowledge of Ghana Government financial management systems and budgeting, laws, regulations and experience in working in Ghana. Knowledge of the local language will be an added advantage.
- 10) **Development Planner:** Must have a master’s degree in Development Planning or related field with 10 years relevant experience in preparation of development plans. Knowledge of World Bank safeguards policies is desirable and 5 Years of working in Ghana will be an added advantage. Knowledge of the local language will be an added advantage.

6.0 PROJECT MANAGEMENT

The Ministry of Local Government and Rural Development (MLGRD) in partnership with Land Use and Spatial Planning Authority (LUSPA) and Water Resource Commission (WRC) and in collaboration with the GARID Project Support Unit (PCU) will coordinate and manage the assignment.

7.0 DURATION OF THE ASSIGNMENT

The duration of the entire assignment will be **Twenty four (24) calendar months**, which includes reviews and approvals period for the Client.

7.0 REPORTS AND SCHEDULE OF DELIVERABLES

Reporting Requirements

The consultant will report primarily through the PIU Lead (MLGRD) to the Chief Director, MLGRD. The consultant shall hand over all data collected during the course of the assignment to the client in formats approved by the client including shape files.

The consultant shall submit copies of all reports in hard and soft copies. Soft copies shall be sent by email to the PIU Lead, sadjornu@hotmail.com and copy cosekyere@yahoo.com & pappoenora@gmail.com on the specified periods.

The detailed schedule for the required reporting is contained in Table below:

Item	Report/ Document Title	Timing After Commencement	Content	No. Of Copies
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A.1	Inception Report	Month 1	The report shall outline the Consultant's mobilization, the work plan, strategy, methodology, a quality assurance plan and timetable for the services. The quality assurance plan shall include the following (i) A quality policy statement setting out the objectives of the plan and (ii) The personnel who will implement the plan, their responsibilities and authority. A Final Inception Report shall incorporate comments that have been received by the Consultant from the stakeholder consultative workshop where the draft report was presented	10 hard copies and an electronic copy on a memory stick to Client
A.2	Stakeholder Engagement Report	Month 4	This will include methodology for stakeholder identification and mobilization, results of stakeholder consultation. The final Stakeholder Engagement Report will be finalized at the end of the assignment based on experience on the ground.	10 hard copies and an electronic copy on a memory stick to Client
A.3	Strategic Social and Environmental Assessment Report	Month 7	Analysis of baseline environmental and social findings, environmental and social impact scoping results with the relevant annexes.	10 hard copies and an electronic copy on a memory stick to Client
	Climate change and Scenario Analysis	Month 12	Climate change analysis. Downscaling of climate models	
A.4	Water Resource Assessment (WRA) Report	Month 18	The report shall comprise results of all technical and socio-economic investigations carried out in four months. It will include basin situational analysis, the water balance, and the analysis of future water demand and development issues and problems.	10 hard copies and an electronic copy on a memory stick to Client
A.5	Report on Evaluation of Options	Month 11	This will present water resources development and management scenarios and ranking of options, including methodology used.	5 hard copies and an electronic copy on a memory

				stick to Client
A.5	Spatial Data Analysis Report for the Preparation of Structure Plan	Month 5	Present the situation analysis report	10 hard copies and an electronic copy on a memory stick to Client
A.6	Scenario Development and Selection Report	Month 6	Present different development options (a minimum of three (3) options of designing the Structure Plan, Flood zoning guidelines.	10 hard copies and an electronic copy on a memory stick to Client
A.7	Final Structure Plan Report.	Month 8	This will include the plan with accompanying zoning proposals indicating areas for the preparation of Local Plans, flood risk zoning guidelines, phased implementation and investment plan prioritizing key developments	10 hard copies and an electronic copy on a memory stick to Client
	Spatial Data Analysis Report for the Preparation of Local Plans	Month 10	Present the situation analysis report	10 hard copies and an electronic copy on a memory stick to Client
	Scenario Development and Selection Report	Month 10	Present different development options (a minimum of two (2) options of designing the Local Plan	10 hard copies and an electronic copy on a memory stick to Client
	Final Local Plan Reports	Month 20	This will include the plans with accompanying land use proposals, phased implementation and investment plan prioritizing key developments	10 hard copies and an electronic copy on a memory stick to Client
A.6	Draft Basin Management Plan (JOBMP)	Month 14	Draft basin management plan for Odaw River Basin, with executive summary	10 hard copies and an electronic copy on a memory stick to Client
A.8	Documentary on Stakeholder Engagement and experiences during the	Month 23	This will include a documentary of the experiences during the development of the JOBMP, Lessons learnt and outcomes of the process.	5 CDs, 5 memory sticks and 1 video tape to Client

	development of the JOBMP			
A.9	Final Basin Management Plan (JOBMP)	Month 22	Final basin management plan for Odaw River Basin, with executive summary	10 hard copies and an electronic copy on a memory stick to Client
A.10	Report on identified priority basin management measures, Environmental and Social project briefs	Month 19	<p>Reports containing priority identified confirmed quantified and costed basin investment and management measures to be implemented. These should be areas sensitive to planned and future developments and focus should be on investment and management measures.</p> <p>These investments should be prepared up to prefeasibility stage and including costed bills of quantities for implementation as well as environmental briefs for each sub project.</p>	10 hard copies and an electronic copy on a memory stick to Client
A.11	Final abridged versions of the basin Management Plans	Month 23	Final popular versions of the Basin Management Plans having key messages, with well-designed graphical layout (pictorial, infographics, and other visuals to make the presentation more attractive to users).	5 hard copies and an electronic copy on 4 memory sticks to Client
A.12	4 Workshops	At the end of draft Inception Phase	Share with stakeholders the draft inception report	5 hard copies and an electronic copy on a memory stick to Client
		After submission of SSEA, WRA, and Draft Stakeholder Engagement Reports and Development of vision n strategic objectives	Share with stakeholders the draft SSEA, WRA, and Draft Stakeholder Engagement Reports and Develop vision and strategic objectives	5 hard copies and an electronic copy on a memory stick to Client

		After development Options and Scenarios for the different proposed investments	Share with stakeholders the draft Development Options and Scenarios for the different proposed investments	5 hard copies and an electronic copy on a memory stick to Client
		After submission of Draft Basin Management Plan	Share with stakeholders the draft basin Management Plan	5 hard copies and an electronic copy on a memory stick to Client

The consultant is encouraged to assess the appropriateness of the suggested milestones and comment upon realistic expectations, especially with regard to the allocated time frames for the activities, and propose his own assessment and work plan as part of his proposal.

All reports have to be submitted in both soft (MS Word, PDF) and hard copy. The hard copies will be prepared in DIN A4 format, except for plans and drawings which should be prepared in DIN A3 format. The reports should be clearly labelled i.e. title of the study indicated, for easy identification and documentation purposes. All reports shall be prepared in English language.

Please note that the Consultant will be expected within two (2) weeks of submission of some reports to conduct presentations to the Client during workshops. Four (4) workshops will be organized. The Consultant will further be required to include a provisional sum of USD 40,000 to meet costs of holding the Workshops.

The first workshop will be conducted at the end of the inception phase. The second will be organized after submission of the SSEA to discuss the reports produced to that point with stakeholders and set the scene for the developing the evaluation of options (including vision, objectives and criteria). The third workshop will be organized during the development of options and scenarios for the different proposed investments and the fourth workshop will be after submission of draft basin management plan.

The workshops will be facilitated by the Client. At each workshop, the consultants will make Power Point presentations, provide concise background documents for discussion and prepare workshop reports to document the proceedings.

In addition to the workshops described above, the consultant will be expected to conduct informal stakeholder engagement sessions (workshops, meetings, etc.) throughout the duration of the assignment. The costs of holding such workshops and stakeholder consultations must be included in the consultant's proposal.

7.0 CAPACITY BUILDING AND TRAINING

The Consultant shall train designated staff of the Ministry for basin management, Local Government technical staff with the aim of developing capacity and knowledge transfer. The training measures are defined (but not limited to) improving the performance of the designated technical staff installed. The Consultant should propose training topics in the technical proposal which will be further defined during consultative meetings with respective entities. For tendering purposes, the tentative number of individuals to be trained is Ten (10).

The proposal shall include the proposed approach and methodology for the knowledge transfer throughout the assignment, the proposed training obligations of the consultant, the type and duration of training activities to be undertaken, the optimum number of participants in each training, methodology for monitoring and evaluation of trainees, and any post training support and resources.

The Consultant will also provide capacity development support for the long-term integrated management of Odaw Drainage Basin. More specifically, this support would comprise:

- Presentations to the Joint Odaw Drainage Basin Management Committee (to be established), personnel from Government institutions and other stakeholders on issues related to the Joint Odaw Drainage Basin Management Plan
- Comprehensive proposals on institutional/organizational structure necessary for the future Joint Drainage Basin Management of the Odaw Drainage Basin, including flood risk management. A few management options need to be considered following the existing legal requirement be aligned with the national-level processes of improving country's water management
- Support to responsible ministry sectors / personnel in the communication / correspondence with transboundary stakeholders (e.g., adjoining basins) on issues related to JBMP
- Proposals on a basin-wide monitoring system as well as on existing national monitoring capacities (e.g., responsible institutions, access to funding).

8.0 DOCUMENTS AND FACILITIES TO BE PROVIDED BY THE CLIENT

The MLGRD will provide the following but not limited to the consultant:

1. Provide all the information, documents including the HKV Study Reports, Greater Accra Spatial Development Framework (2017-2036), Greater Accra Metropolitan Area Integrated Urban Environmental Sanitation Master Plans (Vol. I & II) and situational assessment report (vol. 1) spatial plans over the last 30 years, existing studies, policies, plans relevant GARID Project documents etc, in his possession and necessary for the completion of his services, free of charge, for the duration of the project.
2. Will officially introduce and link the consultant to the MMAs, and any other institutions required
3. Will host all the sensitization and validation workshops required in the deliverables

