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Support for National Water Sector Reform

APPRAISAL REPORT

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Currency Equivalents
December 2009

1 UA	=	1.071 Euro
1 UA	=	1.610 USD
1 UA	=	42.6981 GMD
1 EUR	=	1.4643 USD

Fiscal Year
1st July – 30th June

Weights and Measures

1metric tonne	=	2204 pounds (lbs)
1 kilogramme (kg)	=	2.200 lbs
1 metre (m)	=	3.28 feet (ft)
1 millimetre (mm)	=	0.03937 inch (“)
1 kilometre (km)	=	0.62 mile
1 hectare (ha)	=	2.471 acres

ACRONYMS AND ABBREVIATIONS

ADB	African Development Bank
AMCOW	African Ministers Council on Water
AU	African Union
AWF	African Water Facility
DIFD	Department for International development, United Kingdom
DWR	Department of Water Resources
EA	Executing Agency
EC	European Commission
ECOWAS	Economic Community of West African States
GoTG	Government of The Gambia
IWRM	Integrated Water Resources Management
GNI	Gross National Income
JAS	Joint Assistance Strategy
JICA	Japan International Cooperation Agency
IDB	Islamic Development Bank
MoFWRNAM	Ministry of Fisheries, Water Resources and National Assembly Matters
MoF&E	Ministry of Finance and Economy
MoLGL	Ministry of Local Government and Land
MoF&E	Ministry of Forestry and Environment
MDG	Millennium Development Goals
NAWEC	National Water and Electricity Company
NEA	National Environmental Agency
OMVG	*Organisation pour la Mise en Valeur du fleuve Gambie* (Gambia River Basin Development Organisation)
PURA	Public Utility Regulatory Agency
JMP	Joint Monitoring Programme of WHO/UNICEF
PMU	Project Management Unit
WDR	World Development Report of the World Bank
PSC	Project Steering Committee
ToR	Terms of Reference
WHO	World Health Organisation
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund

LOGICAL FRAMEWORK

HIERARCHY OF OBJECTIVES	EXPECTED RESULTS	REACH / BENEFICIARIES	PERFORMANCE INDICATORS AND VERIFICATION	INDICATIVE TARGET AND TIMEFRAME	RISKS / ASSUMPTIONS AND MITIGATION MEASURES
1. DEVELOPMENT GOAL Effective and sustainable management of water resources to support socio-economic development and environmental integrity in The Gambia	**IMPACT** Socio-economic development resulting improved living condition and poverty reduction in The Gambia	The Gambia's entire population	Improved water resources planning, allocation and management	Full coverage by 2025 as per Africa Water Vision **Source**: National Statistics reports; PRSP Monitoring reports	Assumption Stable political and economic situation in The Gambia.
2. PROJECT OBJECTIVE To support the implementation of Integrated Water Resources Management (IWRM) in The Gambia in line with the National Water Policy and the IWRM Roadmap	**OUTCOMES** • Improved governance of water resources based on IWRM established in the country. • Enhanced institutional capacity available in The Gambia to manage the nation's 'water resources. • Efficient allocation and use of water resources from improved knowledge of the resources • Informed stakeholders participation (from national to community) in IWRM implementation • Sustainable management of groundwater systems in the country	The water sector in The Gambia. Water and related sector institutions in The Gambia Water sector actors and stakeholders at all levels. Urban and rural water supply; agricultural sector	New water law; strategy and implementation plan prepared; reformed institutions established by GoTG. Graduates of training programme serving in sector institutions. Network stations functional and reporting data regularly. Stakeholders understand and implement principles of IWRM at their levels of management.	New water law enacted August 2012 From August 2012 onwards From January 2012 onwards May 2013 Full coverage by 2025 Source: GoTG National Statistics	Assumption: Government continues to be committed to socio-economic development and water sector reform agenda. Risk: The public sector reform delayed and not being implemented in the water sector. Mitigation Measures: Decision makers involved in project implementation. Conduct stakeholder consultations and create awareness on IWRM among decision makers
3. ACTIVITIES	**OUTPUTS**				
3.1 Institutional Development • Revise and update Water Bill to conform to National Water Policy and IWRM, and facilitate process of approval and enactment. • Institutional study for restructuring water resources management, including development of five-year business plan. • Institutional study for establishment of the Meteorological Agency (MA) and develop	• Long term water resources management strategy and implementation plan prepared and validated by stakeholders • Water Resources Management Authority formulated and ready for launching. • Meteorological Agency formulated and ready for launch.	Water and related sector institutions Water and related sector institutions Water and related sector institutions	New water law enacted WRMA institutional structure, business plan, budget and enabling legislation. Meteorology institutional structure, business plan,	Revised Water Bill, August 2012 April 2012 March 2012	National Assembly agenda allows legislation to be enacted Government not wavering on water sector reforms.

five-year business plan. • Develop water resources management strategy and implementation plan for The Gambia and strategy action plan	• Water law conforming to National Water Policy and IWRM enacted. • Organizational Framework for water resources management formulated.	Entire country,	budget and enabling legislation Water Resources Management Strategy and Implementation Plan	August 2012	
3.2 Human Resources Development • Training needs assessment and HRD plan for the proposed sector institutions. • Select candidates and send for high level professional training in the region • Develop a pilot training programme for sub-professional staff with the University of the Gambia and implement training	• Training Needs assessed and HRD Plan for proposed sector institutions developed. • Key professional staff given high level training. • Sub-professional staff trained at UTG	Reformed sector institutions. Trained staff, and the sponsoring institution. Trained staff, sector institutions, and UTG	Training Needs Report, HRD Plan. No. staff with higher qualification. No. of trained staff graduating from UTG	HRD Plan, September 2011 Five staff with MSc qualification, September 2011 30 technicians trained, February 2013	Risk: Sector institutions may not have staff with the prerequisite qualification for training. Mitigation: Trainees could be sourced from open market and secured for employment after training
3.3 Strengthen Water Resources Knowledge and Information Systems • Assess and revise the network design for hydrological, hydro-geological, water quality and meteorological data. • Assess and recommend equipment and facilities for the networks, procure equipment and install at key stations. • Conduct training on the use and maintenance of the equipment. • Design, install and commission a water resources management information system (WRMIS).	• Improved network design for hydrological, hydro-geological, water quality and meteo. data. • Key network stations rehabilitated and improved. • Staff trained in use and maintenance of equipment at measuring stations. • WRMIS installed and operational.	Water sector institutions responsible for networks. Water sector institutions, Water sector institutions. Water sector institutions and the general public.	Study report Number of improved stations operational Number of staff trained in sector institutions WRMIS contains all hydromet databases.	Study Report September 2012 75% of network rehabilitated, July 2012 All operational staff, August 2012 WRMIS operational, September 2012	
3.4 Groundwater Assessment • Groundwater resources assessment study of The Gambia • Revised hydro-geological map of The Gambia. • Groundwater model for areas of potential water supply and irrigation development	• Groundwater study carried out • Revised Hydrogeological map • Groundwater Model	Water sector institutions.	Groundwater study reports and outputs	Hydro-geological map, Ground water Model, January 2013	
3.5 Stakeholder Mobilisation for IWRM • Stakeholder analysis and development of governance structures • Develop Communication Strategy for IWRM for all levels of stakeholders. • Conduct stakeholder awareness campaigns and training in IWRM and	• Governance structures elaborated for different stakeholders • Communication Strategy developed for all stakeholders • Awareness campaigns and training carried out.	All stakeholders All stakeholders. All stakeholders	Study reports Communication Strategy accepted by Government.	November 2011 Communication Strategy, November 2011	

meteorological service. • Develop lesson learning packages to support future IWRM programmes.	• Lesson learning packages developed for future use in promoting IWRM.	All stakeholders	Number of campaigns carried out. Study reports	75% of stakeholder groups trained, May 2013 Learning Packages, June 2013	
3.5 Project Management • Procurement of consultant services, and equipment. • Supervise execution of all consultancy assignments • Management and oversight over the consultative meetings and workshops • Prepare progress reports and financial reports for GoTG and AWF • Formulate project proposals, and conduct a donors' round table. • Support AWF supervision missions	• Consultants engaged and all equipment procured as needed. • Consultancy services effectively carried out. • Logistical support for consultative meetings provided. • Progress reports prepared timely for GoTG and AWF • Donors' round table carried out • AWF supervision missions executed as planned.	Consultants, the Project Executing Agency Consultants, the Project Executing Agency The Project Executing Agency, all Stakeholders PEA and AWF Entire water sector AWF missions	Service contracts, supply contracts Contract progress reports available in the EA's office Workshop Reports available at EA's offices Project progress reports submitted to PSC Round table report AWF Mission Aide memoires	As scheduled As per contract schedule As scheduled Quarterly As scheduled	
INPUTS **Project Financing** African Water Facility: €1,988,582 Govt. of The Gambia: € 104,155 **TOTAL: €2,092,738** **Duration 36 months**					

EXECUTIVE SUMMARY

Background: In early 2008 the Government of The Gambia, through the Ministry of Fisheries, Water Resources and National Assembly Matters (MoFWRNAM) began to implement the new National Water Policy adopted in 2007. The overarching objective of the new water policy is the establishment of a sustainable and inclusive framework for managing The Gambia's water resources based on Integrated Water Resources Management (IWRM) principles and the promotion of an enabling legal and institutional framework. The implementation of the new policy requires development of appropriate legal and institutional arrangements, water resources management tools, and wide ranging human resource capacities necessary for application of IWRM in The Gambia.

Sector Challenge: According to The Gambia's Poverty Reduction Strategy Paper (PRSP) II the key water sector challenge is to provide for sustainable development and management of water resources to meet higher demands for domestic water supply and sanitation, expanding irrigated agriculture to strengthen food security, and sustain environmental integrity in the face of increasing abstractions, climate change and variability, poor waste disposal, and high urbanization.

Problems Definition: Implementation of IWRM in The Gambia faces a number of challenges. There is lack of supportive legal and institutional framework; the existing legislation is not in harmony with new policy, and sector institutions are not structured and organized to be able to implement IWRM. The policy also lacks an effective strategy for its operationalisation. The other problem is severe shortage of suitably qualified staff required for IWRM functions: sector planning, water resources assessment, management of hydro-meteorological data and information systems. On top of this, water information and knowledge management suffer due to shortage of equipment and facilities for data collection, processing, and dissemination. Furthermore there is need for an efficient water resources management information system to respond to the requirements for IWRM.

Project Objective: The objective of the project is to support the establishment of IWRM in The Gambia in line with the National Water Policy and the IWRM Roadmap. This will facilitate efficient, effective and equitable water resources management throughout the country and support economic growth and improve livelihoods so as to reduce poverty.

Project Description: The project has been structured into five components, which together build up the necessary framework for IWRM as follows:

(1) Institutional Development: Revision of the Water Bill 2004 and enactment of a new water law in harmony with new water policy; development of water resources management strategy and implementation plan, formulation of an apex institution for water resources management and formulation of semi-autonomous Meteorological Agency under MoFWRNAM.

(2) Human Resources Development: Provide short and long term training at professional and sub-professional levels for staff of key sector institutions to enable them undertake the IWRM processes.

(3) Improve water resources data and knowledge base: Review and assess hydro-meteorological network and rehabilitate key stations; develop and implement a water resources management information system (WRMIS).

(4) Groundwater Assessment: Undertake a groundwater study to provide sound knowledge base for sustainable management of this strategic resource.

(5) Stakeholder Mobilisation for IWRM: Identify and expand stakeholder networks ensuring broad representation of women and local entities.

(6) Project Management: PMU in MoFWRNAM will implement the project and follow the day to day activities of the project.

Cost and Financing: The total project cost is EURO 2,092,738 and its duration is 36 months after grant effectiveness. Government will finance EURO 104,155 (5%) and EURO 1,988,582 (95%) is requested from AWF. MoFWRNAM is the executing agency on behalf of the government.

Justification: Implementing this project will assist the Government of The Gambia advance the establishment of IWRM in the country so as to facilitate sustainable and effective management of the nation's water resources to boost socio-economic development and reduce poverty. The establishment of IWRM strengthens The Gambia's commitment to ECOWAS' Regional Action Plan on IWRM in West Africa. Through this project, AWF would facilitate introduction of water governance based on IWRM principles in The Gambia; it would further improve water knowledge and information systems. These are strong core mandates of AWF. The project addresses two of the four strategic objective of the AWF. These are strengthening water governance and improvement in water knowledge.

Recommendation: It is recommended that an AWF Grant not exceeding EURO 1,988,582 be granted to MoFWRNAM for the purpose of implementing the project as described herein.

1 BACKGROUND

1.1 Country and Sector Background

1.1.1 The Republic of The Gambia, situated on the west coast of West Africa (see Annex 1), consists of a narrow strip of land about 30 km wide and about 480 km along the bank of the River Gambia. The total area is 11,295 km^2, and the population is estimated at 1.66 million people with annual population growth rate of about 3%. The Gambia is a low income country, GNI per capita of US$390 in 2008, and it ranks 155 out of 177 countries on UN Human Development Index (World Bank WDR 2010). According to UNICEF/WHO JMP (2008) access to water supply and sanitation in 2006 was 86% for water (91% urban, 81% rural) and 52% for sanitation (50% urban, 55% rural).

1.1.2 The Gambia's surface water resources are found in the River Gambia and its tributaries and a few coastal streams. The River Gambia is a trans-boundary river shared by three other countries: Guinea Bissau, Guinea and Senegal. In fact the entire territory of The Gambia lies within the Gambia River Basin. The estimated total surface water resources are 6,500 million m^3 a year; 85% of the total renewable annual surface water comes from upper Gambia River. A third of the length of the River Gambia within The Gambia boundary is saline due to the influence of Atlantic Ocean. The Gambia sits on top of two main aquifer systems, a shallow sand aquifer and a deep sandstone aquifer. The shallow sand aquifer has, in various places, distinct phreatic and semi-confined aquifers with depths ranging from 4 – 30m and 30 – 50m respectively. The deep sandstone aquifer occurs at depths below 250m. The total renewable groundwater resource of the country is estimated at 1,500 million m^3 a year. On the other hand the present total water use is estimated at 142 million m^3 a year, about 70% of which is used by irrigation.

1.1.3 The water sector is presently organised on the basis of legislation of 1979, the National Water Resources Council Act (1979). The Ministry of Fisheries, Water Resources and National Assembly Matters (MoFWRNAM), through its Department of Water Resources (DWR), is responsible for water resources management and provision of water supply to the rural areas; the organisational structure of MoFWRNAM is presented in Annex 2. DWR has also a unit responsible for meteorological services. Other key institutions related to water resources are the National Environment Agency (NEA) (responsible for management of the environment); National Water and Electricity Company (NAWEC) (a service provider for water supply and sewerage services to urban centres); the Public Utilities and Regulatory Authority (PURA) (regulator for provision of electricity, water supply and sanitation services); Department of Physical Planning and Housing (DPPH) (statutory duties and powers in relation to conservation and protection of water resources) in the Ministry of Local Government and Lands; and Local Government Authorities (LGAs) in all regions in the country.

1.1.4 More than 15 donors are providing development assistance to The Gambia across all economic sectors. Annex 3 presents list of recent and current donor interventions in the water sector. These interventions are mainly focused on provision of water supply and sanitation, with elements of capacity building. But there has been hardly any major support for water resources management and institutional reform except now when UNEP is currently supporting a regional project "Improving Water Management and Governance in Western African Countries through support in the development of IWRM Plans" covering seven ECOWAS countries including The Gambia. In the Gambia the UNEP project supported the development of the IWRM Roadmap that was concluded in May 2009. No commitments have been made by donors for the implementation of the

roadmap. However, the Joint Assistance Strategy (JAS) of the World Bank and the African Development Bank for the period 2008-2011 has identified supports two of the five pillars of The Gambia's Poverty Reduction Strategy Paper (PRSP) II (2007-2011); the focus of support includes (a) improving the enabling policy environment, (b) improving coverage of the basic social services (education, health, water and sanitation) and social protection needs of the poor and vulnerable, and (c) enhancing governance. The ADB/ADF portfolio includes projects in agriculture, natural resources and water supply and sanitation, all of which depend on sustainable effective water resources management (see Annex 3).

1.2 Origin of the Project

1.2.1 The Government of The Gambia is currently undertaking water sector reform. The new National Water Policy, adopted in 2007 following a participatory and consultative engagement of many stakeholders, has adopted IWRM as the framework for managing the nation's water resources. A key policy principle is a distinct separation of water resources management functions (policy, coordination, regulation) from those of water resources development and utilisation (provision of water for specific uses). The policy also calls for effective participation of all stakeholders in managing their water resources. The implementation of the new policy requires development of appropriate legal and institutional arrangements, water resources management tools, and wide ranging human resource capacities necessary for application of IWRM in The Gambia.

1.2.2 In May 2009, The Gambia adopted an IWRM Roadmap comprising activities, target outputs and timeline for establishment of IWRM in the water sector. The IWRM Roadmap consists of sets of activities that are organised in five themes:- (i) facilitation of reform/transition process (formulate communication strategy, resource mobilisation, institutional and legal framework review, develop IWRM action plan); (ii) stakeholder engagement (stakeholder consultations, establish stakeholder governance structures); (iii) rejuvenating enabling environment (draft IWRM strategy, revise water legislation); (iv) capacity building (develop IWRM skills, develop water resources information systems, strengthen infrastructure for water information); and (v) action/project planning and execution. Responsibility and resources for implementation of the IWRM Roadmap have not been clarified following the adoption of the roadmap in May 2009.

1.2.3 The Ministry of Fisheries, Water Resources & National Assembly Matters (MoFWRNAM), formerly called Department of State for Fisheries, Water Resources & National Assembly Matters is the lead Government body responsible for the water sector. In 2008 MoFWRNAM initiated the implementation of the new water policy including the establishment of IWRM in the management of the nation's water resources, and the establishment of the legal, institutional and technical framework for the water sector to play its significant role as envisaged in national development plans especially the Poverty Reduction Strategy Paper (PRSP) II and Vision 2020. A project was therefore conceived to support the reform of the water sector and establishment of IWRM.

1.2.4 In November 2008 MoFWRNAM submitted to the African Water Facility (AWF) a Concept Note on Reform of the Water Sector in The Gambia to explore possible support from AWF in implementing the reforms. AWF favourably reviewed the concept note and advised The Gambia to submit a formal proposal, which was subsequently submitted in March 2009. Following the request from MoFWRNAM, AWF undertook a mission to The Gambia in July/August 2009 to assist the government prepares the project and consultations with MoFWRNAM took place over the intervening period. Furthermore, in order to clarify some issues emerging during consultation process, AWF undertook the second mission in November/December 2009.

1.3 Sector Priorities

1.3.1 Vision 2020, The Gambia's blue print for socio-economic development aimed at transforming The Gambia from a Low Income Country to a dynamic Middle Income Country has singled out water resources management, and groundwater in particular, as being vital for improving the productivity of the agriculture sector, one of six development pillars of the Vision. On the other hand the water sector has a special position in the PRSP II as it is an important factor in agriculture, health, environment and tourism. PRSP II envisages expansion of irrigated agriculture as the country moves from rain-fed peasant farming to commercial farming depending on both surface water (River Gambia and tributaries) and groundwater systems (see Annex 3 for on-going irrigation projects).

1.3.2 According to PRSP II, the strategic objective of the water sector is to provide for sustainable development and management of water resources to enhance water, food and energy security, and environmental sustainability. PRSP II highlights the key priorities of the sector; they are: operationalisation of the National Water Policy to ensure IWRM; strengthen the financial, human and infrastructure capacities of sector institutions to perform their mandates effectively; improve the management of groundwater systems (the main source of domestic and agricultural water supply throughout the country); ensure optimal use of natural resources of ground and surface water to increase agricultural productivity to ensure food security; and empower communities to participate in water management.

1.3.3 The Gambia sits entirely within the Gambia River Basin, and is a member of the *Organisation pour la Mise en Valeur du fleuve Gambie* (Gambia River Basin Development Organisation). The country is also a member of the Economic Community of West African States (ECOWAS). The regional member countries have committed themselves to cooperation and management of their shared water resources on the basis of IWRM in line with the Regional Action Plan on IWRM in West Africa, adopted by the ECOWAS Heads of State and Government in 2000. Consequently the support for IWRM implementation in The Gambia is a priority in view of the commitments that The Gambia has already made at regional level.

1.4 Problem Definition

1.4.1 The new National Water Policy, adopted in 2007 subscribes to IWRM in the management of the nation's water resources. To date very little progress has been made in realizing IWRM principles and practices in The Gambia. Implementation of IWRM requires supportive legal and institutional framework, strategies and implementation plans, and also qualified staff in the key Government agencies responsible for management of the sector.

1.4.2 Presently, sector institutions are not structured and organized to be able to implement IWRM. The department responsible for water resources (DWR) has dual responsibility as a regulator and for service provision. It is responsible for rural water supply and sanitation, and for provision of meteorological services (see Annex 2). The department has no water resources planning function, and has no qualified staff for such a function. Regarding legislation, the present legislation is out of date and is not in harmony with the water policy. The legislation does not even recognize IWRM as framework for managing water resources. It is silent on transboundary issues, on water rights, stakeholder participation, and it is weak on groundwater management. Reviewing and up-dating the legislation to reflect new policy provisions including defining roles and

responsibilities of the new sector institutions is necessary. Furthermore, the policy lacks a strategy and plan for its implementation.

1.4.3 The other problem in the sector, and also a constraint to the establishment of IWRM, is lack of qualified staff to effectively manage water and meteorological services. The sector institutions lack qualified staff to carry out water resources assessment, sector planning, management of hydro-metrological networks, data collections, analysis and dissemination of outputs which will be utilized by relevant stakeholders. In addition, there are vacancies in the key positions in hydrology and hydrogeology.

1.4.4 At present the water information and knowledge management suffer due to shortage of equipments and facilities for data collection, processing, and dissemination. There is also need for an effective water resources management information system more responsive to the needs of IWRM. In addition there is a significant gap in knowledge of the groundwater system, in spite of its importance in the overall management of water resources of The Gambia.

1.5 Beneficiary and Stakeholders

1.5.1 The overall population of The Gambia will benefit from the project in terms of improved management of water resources, equitable distribution among competing users, and environmental sustainability, which in total will contribute to improving living conditions and reduce poverty.

1.5.2 The Department of Water Resources, together with its Meteorological unit will be the direct beneficiary of the project. Other Government agencies, including National Water and Electricity Company, Public Utilities Regulatory Agency, Ministry of Local Government and Lands, Ministry of Health, Ministry of Agriculture and the National Environmental Agency will benefit from access to an improved management information system and from an overall planning framework into which their own plans will be better integrated. This also includes users of meteorological information especially the transport sector (civil aviation, river transport), disaster management and relief agencies.

1.5.3 Furthermore, civil societies, NGOs and CBOs and local communities are key stakeholders especially in rural water supply and sanitation sub-sector. They would benefit from improved access to information and knowledge of water resources and be able to contribute to integrated planning and management of the resources. The private sector, also another stakeholder, would benefit in the same manner.

1.5.4 The OMVG, at basin level, is a beneficiary of this project as well because water resources management in this part of the Gambia River Basin would follow the same management principles and processes, thus facilitating greater cooperation and leading to efficiency, equity and sustainability in managing the entire river basin as a whole.

1.6 Justification for AWF Support

1.6.1 The project will assist The Gambia build up the enabling framework for managing water resources based on IWRM principles and practices. It will assist with establishing the legal foundation for the new water policy, assist with developing the appropriate institutional arrangements, and formulate a strategy for water resources management. In total these measures strengthen and improve the governance of water resources in The Gambia. Hence this support falls mainly under pillar 1 of the AWF mandate – strengthening water governance of Regional Member Countries (RMCs).

1.6.2 The project also fulfills pillar 4 of the AWF mandate – improving water knowledge. The project will assist with the rehabilitation and improvement of data gathering network and thus enable the sector to improve the quality and quantity of hydro-meteorological and water quality data and information. By developing the water resources management information system, the project would facilitate information sharing, participation by other stakeholders, and enhance cooperation in the sector and even at regional or basin level. Furthermore, the groundwater study would yield a much better understanding of the aquifer system that underlies the whole country, thus facilitating sustainable management of this important resource.

1.6.3 The project, by facilitating effective sustainable management of water resources in The Gambia will contribute to successful implementation of ADB/ADF financed irrigation projects as well as water supply and sanitation programmes (see Annex 3).

2 THE PROJECT

2.1 Impact

2.1.1 The main impact of the project will be "Higher socio-economic development and reduction of poverty, and enhanced environmental integrity in The Gambia". The water sector with the appropriate institutions, with strong legal mandate, and equipped with management tools (such as strategy, effective information systems and adequate knowledge base concerning the water resources), and the right human resources capacities will be better able to manage the land and water resources of the country for sustainable socio-economic development.

2.2 Project Objective and Outcomes

2.2.1 **Project Objective**: To support the implementation of IWRM in The Gambia in line with the National Water Policy and the IWRM Roadmap.

2.2.2 The **Outcomes** of the project are expected to consist of the following:

(1) Improved governance of water resources based on IWRM principles in the country.
(2) Enhanced capacity available in The Gambia to manage the nation's water resources.
(3) Efficient allocation of water resources from improved knowledge of the resources.
(4) Sustainable management of groundwater systems in the country.
(5) Water sector actors and stakeholders at all levels (from national to community) supportive of IWRM.

2.3 Outputs

2.3.1 The outputs are related to each component and they will consist of the following:

Component 1: Institutional Development

- Water Resources Management Strategy and Implementation Plan prepared and validated by stakeholders
- Water Resources Management Authority formulated and ready for launching.
- Meteorological Agency formulated and ready for launch.
- Water Law conforming to National Water Policy and IWRM enacted

Component 2: Human Resources Development

- Training Needs assessed and Human Resource Development Plan for proposed sector institutions developed.
- Key professional staff given high level training outside The Gambia in the region.
- Sub-professional staff trained at University of The Gambia

Component 3: Strengthen Water Resources Knowledge and Information Systems

- Improved network design for hydrological, hydro-geological, water quality and meteorological data.
- Key network stations rehabilitated and improved.
- Staff trained in use and maintenance of equipment at measuring stations.
- Water Resources Management Information System installed and operational.

Component 4: Groundwater Assessment

- Groundwater study carried out.
- Revised Hydro-geological Map of The Gambia.
- Groundwater model for areas of potential irrigation and water supply development.

Component 5: Stakeholder Mobilization for IWRM

- Communication Strategy developed for all stakeholders.
- Awareness campaigns and training carried out.
- Lesson learning packages developed for future use in promoting IWRM.

Component 6: Project Management

- Consultants engaged and all equipment procured as needed.
- Consultancy services effectively carried out.
- Logistical support for consultative meetings provided.
- Progress reports prepared timely for Government of The Gambia and AWF.
- Donors' round table conference successfully held.

2.4 Activities

2.4.1 The project activities involve establishment of an appropriate water governance structure including development of legal framework and institutional set-up; developing the human resource capacities capable of implementing IWRM process; ensuring data and information for integrated planning and management of water resources; assuring the ground water potential and planning its use; and strengthening the engagement of stakeholders. These aspects are interrelated and provide a comprehensive approach to TWRM operationalization. The activities are structured under 5 components as discussed in the following sections. These activities will be implemented through a firm of consultants; the Terms of Reference for Consultancy Services are presented in Annex 4.

Component 1: Institutional Development

2.4.2 The Water Bill 2004, prepared before the advent of the National Water Policy that enshrines IWRM, will be revised to make adequate provisions for IWRM, to rationalize roles and functions of sector institutions, to strengthen management of groundwater, and incorporate transboundary dimension and regional cooperation. Stakeholder consultations will be carried out to ensure their inputs, particularly water user groups and women organizations. The draft legislation will be subject to a multi-stakeholder consultative workshop together with other proposals for institutional, capacity building and information systems. Thereafter the revised bill will be presented to the National Assembly for enactment.

2.4.3 An institutional study will be carried out to define an apex institution, under the MoFWRNAM, for policy, coordination and regulation of water resources throughout the country. This will include specification of a comprehensive organizational structure, operational budget and establishment costs, and development of a five-year business plan. Similarly, a study will be carried out, building on recent studies, for the establishment of a Meteorological Agency to provide high level and high quality meteorological services for The Gambia. The output will be subject to a joint consultative workshop as described above.

2.4.4 The project will also undertake the preparation of a water resources management strategy and implementation plan. The strategy will address key technical, financial, institutional, economical, social and environmental sector challenges, including climate change, to water resources management. This analysis is required to be participatory and consultative of a broad range of stakeholders, including representatives of women's organizations. The strategy will include an action plan with short, medium and long term measures (investment projects with indicative cost estimates) for addressing the challenges in water resources management. A Monitoring and Evaluation system will be developed to facilitate monitoring the implementation of the strategy and policy.

Component 2: Human Resources Development

2.4.5 A training needs analysis and development plan will be conducted to strengthen the human resources capacities in key sector institutions through short and long term training at professional and sub-professional and also vocational levels so that the institutions are better able to handle their new roles and responsibilities. A pilot training programme will be initiated with the University of The Gambia for training technical level staff in a modular manner such that candidates with the right academic aptitudes will be able to progress to degree level at some future time. This would lay the foundation for the cherished goal of the MoFWRNAM to strengthen its cadre of professionals who understand IWRM and can implement and sustain the necessary reform. On-the-job training will be established by mainstreaming training in all the consultancy activities. A system of secondment will be worked out, depending on availability of suitable staff, so that the MoFWRNAM (and departments) staff can work with the consultants in carrying out specific tasks.

Component 3: Strengthen Water Resources Knowledge and Information Systems

2.4.6 Hydrological, hydro-geological, water quality and meteorological monitoring network which have severely been impaired by lack of maintenance will be rehabilitated and improved. Firstly the design of the network will be reviewed and possible improvements proposed; then an inventory of the equipment and facilities will be done leading to a schedule of requirements for network rehabilitation and/or replacement with modern equipment. New equipment will be procured and installed at priority stations, while resources will be sought for implementing the full scale rehabilitation and improvements. Staff of sector institutions will be trained in the operation and repair of installed equipment.

2.4.7 A Water Resources Management Information System (WRMIS) will be developed to process and make available in usable form hydrological, hydro-geological, meteorological, water quality, and environmental as well as socio-economic data and information. Linkages with information systems under OMVG, and regional HYCOS will be explored and optimized. This will enable the sector to have reliable data and information for improved water resources management, and to provide information

services to relevant stakeholders in the country, sub-region and international. To support the WRMIS the available human capacity will be strengthened through training to be specified under Component 2.

Component 4: Groundwater Assessment

2.4.8 A groundwater study will be undertaken to assess the full potential of the aquifer systems, to determine major characteristics of water-bearing formations, including evaluation of exploitable water reserves, rates of natural recharge and safe yields. A groundwater model will be developed to assist in determining safe abstraction rates in areas targeted for rural water supply and irrigation development where high abstractions could alter the dynamics of saline intrusion into the groundwater system. In addition, the 1987 hydro-geological map (scale of 1:125,000) of The Gambia would be updated taking into account accumulated data generated from groundwater development projects over the last two decades. The groundwater study will build up on the results of the Groundwater Survey Phase I (1987) and Groundwater Survey Phase II (1993) to enhance the knowledge of the aquifer systems and facilitate operational modeling for water resources development planning.

Component 5: Stakeholder Mobilization for IWRM

2.4.9 Key stakeholders at all levels from the top politicians down to community leaders will be identified and an analysis carried out to define their roles and powers, and on this basis define governance structures with respect to their engagement in IWRM. Special attention would be paid to ensuring and use a greater role for women in water resources managemnt and vulnerable groups at community level. In order to facilitate stakeholder awareness, buy-in and effective participation in IWRM, a Communication Strategy will be developed targeting identified stakeholders at different levels (national, regional, district and community). Information packages would be developed for the different types of stakeholders, with due consideration of gender differences, in tailoring messages and choice of communication channels. Awareness raising workshops and training will be designed and implemented. Law makers, as a special stakeholder group, because of their crucial role in legal and institutional reform process would be singled out for targeted awareness raising activities.

Component 6: Project Management Support

2.4.10 The Executing Agency (EA) will establish a Project Management Unit (PMU) to be responsible for day to day execution of the project. The key activities of the PMU include:- procurement of consultants services and all goods identified under the project; supervise execution of the consultancy assignments; management and oversight over the consultative meetings and workshops; prepare progress reports and financial reports for government and AWF; prepare project proposals, and organize a donors' round table to mobilize funds for implementing water resources management projects; and support AWF supervision missions whenever they are undertaken.

2.5 Risks and Assumptions

2.5.1 The proposed institutional reforms will take place within the realm of a public sector reform which the Government of The Gambia has been implementing in the last five years. There is a risk that with a crowded reform agenda, Government may not give timely attention to the water sector reform proposed under the project. This would delay decisions/approvals expected. This risk is considered moderate. Effective development and management of water resources is considered very highly in the PRSP II; hence

stakeholder awareness and regular consultations, as proposed under Component 5 of the project, will help engender a more supportive environment and due regard for water sector reforms among decision makers, which would facilitate decisions for water sector reforms. In addition, MoFWRNAM is the ministry responsible for legislature (National Assembly Matters); it is expected that the ministry will be able to advocate for its own sector development at that high level.

2.5.2 The staff required for higher professional training will be drawn from MoFWRNAM, through DWR and the Meteorological Unit. There is a risk that, due to staff shortages in the department at present, there may not be staff available for training, or those eligible for training do not have the prerequisite qualification to undertake higher level professional training. This risk is considered moderate. To mitigate this, the ministry will recruit graduates on the open market with relevant background and then give them specialized training required for implementation of IWRM. The value of higher qualification and a chance to work in a progressive new organization will attract the right candidates.

2.5.3 Another risk is that trained staff may not return to work for government once they have attained higher qualification enabling them to seek jobs with better conditions of service elsewhere. In the past there has been a high turnover of qualified staff from government due to poorer conditions of service. This risk is considered high, but Government is already dealing with it by tightening conditions for bonding staff on return from training. Furthermore, Government points to the on-going public sector reform that is improving the working environment in civil service by implementing better payment and benefits to staff as incentive for retaining. Hence the trained staff will find much improved working conditions which would be attractive enough for them to return and stay on.

2.5.4 The local authorities have a significant role to play in IWRM in line with the decentralization policy. Presently they draw part of their revenue from fees or levies for water abstractions. If the sector reform causes the local authorities to lose this revenue to the new water resources management institution, the local authorities may not support the reforms. This risk will be addressed by engaging the local authorities in the consultations for developing new water legislation and strategy, and targeting them in the awareness campaigns that will be conducted under Component 5.

2.6 Project Costs and Financing

2.6.1 The total project cost is estimated at Euro 2,092,738, broken down by components as summarized in the Table 2.1 below; details are in Annex 5. The project is to be funded through an AWF grant of Euro 1,988,582 and contribution of the Government of The Gambia estimated at Euro 104,155.

2.6.2 The Government of Republic of The Gambia will contribute to the Project by providing furnished office space for the PMU including all utility (water, electricity and telephone) costs, assign fulltime an office assistant and driver for PMU to fulfill its day to day responsibility and salary for professionals during training. The Government of The Gambia will exempt tax and duties for the Project since AWF grant can not be used to pay tax and duty.

Table 2.1: Project Cost Summary by Component (Euro)

S/No.	Description/Component	GoTG	AWF	Total
1	Institutional Development		384,246	384,245

2	Human Resource Development	40,500	355,472	395,972
3	Water Resources Information		362,332	362,332
4	Groundwater Assessment		466,942	466,942
5	Stakeholder Mobilization for IWRM		56,388	56,388
6	Project Management Unit	55,940	215,900	271,840
	TOTAL	**96,440**	**1,841,280**	**1,937,720**
	Contingency (8%)	7,715	147,302	155,018
	GRAND TOTAL	**104,155**	**1,988,582**	**2,092,738**
	% Contribution	**5**	**95**	**100**

2.6.3 The costs per category are presented in Table 2.2. The costs are based on estimates provided by the appraisal assessment and are based on prevailing rates in the country.

Table 2.2: Estimated Costs by Category

DESCRIPTION	**AWF**	**GOTG**	**TOTAL**
A. Consultancy Services			
Professional and Technical Staff	510,000		510,000
Reimbursable	466,380		466,380
Total, Consultancy Services	**976,380**		**976,380**
B. Project Management			
PMU Staff	108,900	5,940	114,840
Travel	15,000		15,000
Running Costs	20,000	50,000	70,000
Project Steering Committee	15,000		15,000
Stakeholder Consultative Meetings	24,000		24,000
IWRM Awareness Campaigns	20,000		20,000
Vehicle Maintenance	15,000		15,000
Project Launch	5,000		5,000
Donors' Conference	5,000		5,000
Total, Project Management	**227,900**	**55,940**	**283,840**
C. Capacity Building			
Professional Training	90,000		90,000
Technical Training	240,000	40,500	380,500
Total, Capacity Building	**330,000**	**40,500**	**370,500**
D. Goods			
Vehicle for PMU	20,000		20,000
PMU Office Equipment	12,000		12,000
Computers for WRMI System	20,000		20,000
Hydrological & Water Quality Equipment	200,000		200,000
Meteorological Equipment	55,000		55,000
Total, Goods	**307,000**		**307,000**
Total (A + B + C + D)	**1,841,280**	**96,440**	**1,937,720**
Contingency (8%)	147,302	7,715	155,018
TOTAL PROJECT COST	**1,988,582**	**104,155**	**2,092,738**

%	**95**	**5**	**100**

3 IMPLEMENTATION ARRANGEMENTS

3.1 The Executing Agency

3.1.1 The Ministry of Fisheries, Water Resources and National Assembly Matters, on behalf of Government of Republic of The Gambia will be recipient of the AWF grant. The MoFWRNAM will be the Executing Agency (EA) of the project.

3.1.2 The EA will establish Project Steering Committee and Project Management Unit for policy direction and day to day project implementation. With the support of the Project Steering Committee and Project Management Unit, the EA, MoFWRNAM will be able to implement the project effectively. The EA has sufficient experience in implementing donor funded projects.

3.2 Project Steering Committee

3.2.1 The Project Steering committee (PSC) will be accountable to the Ministry of Fisheries, Water Resources and National Assembly Matters. The PSC will provide overall policy and technical direction for the project; the terms of reference of the PSC are presented in Annex 6.

3.2.2 Representative of the Ministry of Finance will be chair person of the PSC, and Members will consist of same level representatives of NAWEC, PURA, Ministry of Agriculture, Ministry of Local Government and Lands, National Environment Agency, Ministry of Forestry and Environment, Women's Bureau as well as representatives of other relevant stakeholders. The PSC meetings will be held quarterly to discuss progress, approve work plans and budget, and resolve implementation issues.

3.3 Project Management Unit

3.3.1 The Project Management Unit (PMU) will be responsible for day to day implementation of the project. The PMU will consist of a Project Manager and a Monitoring and Evaluation experts with a minimum of BSc in water sector related field and a minimum of 10 years experience and an Accountant with a minimum of AAT and a minimum of 10 years experience.

3.3.2 The PMU will be supported by a Secretary, an Office Assistant and a Driver. The PMU shall maintain all records on project activities, decisions taken by PSC and EA, and financial matters. PMU will refer outstanding actions to appropriate quarters for action. The PMU will prepare and submit quarterly progress reports to the PSC and submit to AWF in accordance with AWF reporting requirement.

3.3.3 The PMU will procure a consultancy firm to undertake studies on: water resources management strategy and implementation plan; ground water assessment; revision of the water bill in line with the water policy, establishment of institutions including the human resources development plan and training need assessment; assess and recommend on hydrogeology, hydrology and water quality equipment required for the water resources knowledge information system.

3.4 Project Implementation Schedule

The project will be implemented over a period of 36 months from the grant approval. The physical project implementation period is 25 months. The Implementation Schedule is summarized in Table 3.1 and shown in detail in Annex 7.

Table 3.1 Implementation Schedule

Activity / Description	Duration (Months)	Responsible Entity
Grant Approval	M	AWF
Recruit Project Manager	M+3	MoFWRNAM
Procure Main Consultants	M+10	PMU/MoFWRNAM
Establish PSC	M+2	PMU/MoFWRNAM
Project Launch	M+9	MoFWRNAM
Start-up of Consultancy studies	M+10	PMU
Revised Water Bill	M+3	Consultants
Proposal for Water Resources Management Organization	M+3	Consultants / MoFWRNAM
Proposal for Meteorological Agency	M+3	Consultants / MoFWRNAM
Draft Water Resources Management Strategy and Implementation Plan	M+27	Consultants
Human Resources Development Plan	M+3	Consultants
Train Five Staff Members with MSc	M+28	Staff / MoFWRNAM
Train 30 Technicians Qualified	M+32	Technicians / MoFWRNAM
Networks Rehabilitated	M+19	Consultants
WRMIS operational	M+21	Consultants
Groundwater Study completed, Revised Hydro-geological Map, Groundwater Model	M+ 33	Consultants
Communication Strategy	M+3	Consultants

3.6 Procurement

3.6.1 All procurement of goods and acquisition of consultancy services financed by AWF and summarized in Table 3.2, shall be in accordance with the AWF's *Operational Procedures*, the Bank's *Rules and Procedures for Procurement of Goods and Works*, or as appropriate, *Rules and Procedures for the Use of Consultants*, using the relevant Bank Standard Bidding Documents.

Goods

3.6.2 Goods consisting of Hydrological and Water Quality Equipment, with a total value of Euro 216,000 and Meteorological Equipment, with a total value of Euro 59,400 will be procured through international shopping (see Table 3.2 and Annex 5 for details). One motor vehicle for the PMU, with a value of Euro 21,600, Computers and Office Equipment for PMU, with a total value of Euro 12,960, and hardware and software for the water resources management information system, with total value of Euro 21,600, will be procured through national shopping.

Table 3.2 Procurement Arrangements (in Euros)

CATEGORY	International Shopping (IS)	National Shopping (NS)	Short List	Other	TOTAL
Works none					
Goods					
One Vehicle for PMU		21,600 (21,600)			21,600 (21,600)
PMU Office equipment		12,960 (12,960)			12,960 (12,960)

Computers for WRMIS		21,600 (21,600)			21,600 (21,600)
Hydrology & Water Quality Equipment	216,000 (216,000)				216,000 (216,000)
Meteorological Equipment	59,400 (59,400)				59,400 (59,400)
Services					
Sector Reform Studies Consultancy			1,054,490 (1,054,490)		1,054,490 (1,054,490)
PMU Project Manager			57,024** (57,024)		57,024** (57,024)
Professional training (MSc)				97,200* (97,200)	97,200* (97,200)
Tech. training at UTG				302,940* (259,200)	302,940* (259,200)
Miscellaneous					
Accountant				21,384** (21,384)	21,384** (21,384)
M&E Expert				24,948** (24,948)	24,948** (24,948)
Secretary				14,256** (14,256)	14,256** (14,256)
Admin. Support staff				6,415* (0)	6415* (0)
Stakeholder Consultative Meetings		25,920 (25,920)			25,920 (25,920)
IWRM Awareness Campaigns		21,600 (21,600)			21,600 (21,600)
PSC Meetings		16,200 (16,200)			16,200 (16,200)
PMU Running Costs		75,600 (21,600)			75,600 (21,600)
PMU Travel				16,200*** (16,200)	16,200*** (16,200)
PMU Vehicle Maintenance		16,200 (16,200)			16,200 (16,200)
Project Launch		5,400 (5,400)			5,400 (5,400)
Donors' conference		5,400 (5,400)			5,400 (5,400)
SUB TOTALS	275,400 (275,400)	222,480 (168,480)	1,111,514 (1,111,514)	483,343 (433,188)	**2,092,737 (1,988,582)**

NB: AWF contribution is shown in parenthesis.

* Direct contracting with training Institution, ** Local recruitment, ***Direct purchase

Services

3.6.3 Acquisition of consulting services for the National Sector Reform Studies shall be processed under one single contract awarded, through competition, following Short-Listing (SL) procedures and utilizing the quality- and cost-based selection (QCBS) process. This contract is valued at Euro 1,054,490. The Specific Procurement Notice (SPN) shall be advertised in the UNDB online, on the Bank's Website or an electronic portal with free access. The head of the Project Management Unit for project implementation and for facilitating national consultative workshops will be engaged thought short listing. The total value of the service is Euro 57,024. Professional and technical training services, at values of Euro 97,200 and Euro 302,940 respectively will be procured by direct contracting with the training or educational institution, whether in The Gambia or in the West African sub-region, offering the requisite training.

Miscellaneous

3.6.4 The PMU staff, consisting of Accountant (at a value of Euro 21,384), M&E Expert (at a value of Euro 24,948) a Secretary (at a value of Euro 14,256), and Administrative Support Staff (at a value of Euro 6,415) will be procured by advertising locally in The Gambia. Running costs, including operation and maintenance of equipment, stationery and supplies for the PMU all valued at Euro 75,600 over the period shall all be procured through National Shopping. These goods generally constitute low value items that are readily available in the country off the shelf. The stakeholder consultative workshops to an aggregate value of Euro 25,920, the IWRM Awareness Campaign, at a total cost of Euro 21,600, the PMU vehicle maintenance, at a total cost of Euro 16,200, support for the Project Steering Committee, at an aggregate cost of Euro 16,200 as well as the Project Launch workshop at a cost of Euro 5,400, and the donors' round table meeting, at a cost Euro 5,400, will be procured by National Shopping. The travel for the PMU, at a total cost of Euro 16,200 will be procured through direct purchase of required items.

The Procurement Plan, Prior and Post Review

3.6.5 **Prior Review**: Contract for goods, works and consultancy services of value higher than Euro 100,000 will be subjected to prior review by the AWF. The following documents are subject to prior review and approval by AWF before promulgation: Specific Procurement Notices (SPN), tender/bid documents or Request for Proposals (RFP) from consulting firms, tender/bid evaluation reports including recommendations for award, as well as draft contracts, if these have been amended from the drafts included in the tender/bid invitation documents.

3.6.6 **Post Review**: Contract for goods, works and consulting services of value less than Euro 100,000 will be processed by, and will be under the full responsibility of MoFWRNAM. Such procurement will be subject to post review by AWF. Post technical verification and post financial control systems will be used in these instances to enable MoFWRNAM to expedite procurement of goods, works and to acquire consulting services. Procurement documents including Specific Procurement Notices (SPN), tender/bid documents or request for proposals from consulting firms, tender/bid evaluation reports or reports on evaluation of consultants' proposals as well as signed contracts will be kept by MoFWRNAM for periodic review by the AWF supervision missions or special audits. The AWF shall carry out post procurement review to confirm compliance.

3.6.7 **Procurement Plan:** MoFWRNAM is responsible for preparing and submitting to the AWF before Grant Approval, a Procurement Plan, for a period of 18 months, acceptable to the AWF and setting forth (a) the particular contracts for goods, works and services during the life of the project; (b) the proposed modes of procurement; and (c) the related AWF review procedures (prior or post review). MoFWRNAM shall update the Procurement Plan annually or as needed throughout the duration of the project. Any revisions proposed to the Procurement Plan shall be furnished to the AWF for its prior approval. MoFWRNAM shall implement the Procurement Plan in the manner in which it has been approved by the AWF.

3.7 Disbursement Arrangements and Expenditure Schedule

3.7.1 Disbursement of funds will be made using the special account method. The Executing Agency will open a Special Account in Euro and in local currency in a bank acceptable to AWF. The Special Account will be replenished based on work progress, reports of previous expenditure and work plan for the following period.

3.7.2 Disbursements will be done in tranches for amounts consistent with expected activities and outputs in accordance with the implementation schedule. The tentative schedule for disbursements is presented in Table 3.3 below. Payments will be made to the Consultants based on the work flow and performance with respect to terms of reference of the assignment. These have been incorporated in the disbursement schedule.

Table 3.3 Disbursement Schedule of AWF Grant (Euro)

		Tranches				TOTAL
Item	**Activity Description**	**1**	**2**	**3**	**4**	
1	Mobilisation, project set-up, Project Launch Workshop, Consultancy Services	400,000				400,000
2	Consultancy Services (Trainings, tendering for equipment, operations etc.)		500,000			500,000
3	Consultancy Services, (Geophysical survey, Procurement for drilling contractor, operations etc.)			600,000		600,000
4	Consultancy Services, (Production of hydro geological map, GW modeling , operations, develop lesson learning Packages etc.)				488,582	488,582
						1,988,582

3.8 Accounting and Audit Arrangements

3.8.1 MoFWRNAM shall be responsible for the financial management of the project. The ministry has proven financial management procedures. There is adequate experience in managing external (project) funds, presently including the European Union (EU), Islamic Development Bank (IDB) and Saudi Sahel Fund (SSF) projects. An accountant will be engaged under the project to maintain an accounting system and books of account specifically for the AWF project. The accountant will maintain the accounts and prepare periodic financial statements in accordance with AWF/ADB procedures. These statements will be submitted to AWF together with the quarterly progress reports.

3.8.2 AWF will recruit and retain an auditor to conduct an annual monitoring of the use of the project funds and perform an annual audit of the project accounts at the end of each financial year. Each year the Accountant will prepare the accounts for the project, and these will be audited by the external auditor engaged by AWF. The audited accounts will be submitted to AWF within six months of the end of the year. The cost of audit service will be covered by AWF administrative budget and will not be part of the Grant.

3.9 Monitoring Evaluation and Reporting Arrangement

3.9.1 The basis for overall project monitoring will be the logframe and key performance indicators as specified in the logframe at the beginning of this report. The PMU is responsible for monitoring project execution and reporting regularly on the implementation of the project.

3.9.2 The PMU will report progress to the PSC at its semi-annual meetings. The reports will cover technical and financial progress, administrative issues and constraints affecting the project and suggested solutions to enable the PSC take decisions towards smooth implementation of the project.

3.9.3 The AWF will undertake implementation supervision through regular correspondence with the MoFWRNAM, reviewing progress reports submitted to the PSC, procurement documents, and technical reports from the consulting assignments. Supervision missions to the MoFWRNAM will be carried out as need arises.

3.9.4 At the end of the project, the MoFWRNAM will prepare a project completion report (PCR) in accordance with AWF guidelines. Subsequently, the AWF will prepare its own project completion report and performance evaluation report.

4 PROJECT BENEFITS

4.1 Effectiveness and Efficiency

4.1.1 The project responds to The Gambia's expressed need for reform and adoption of IWRM in the water sector following the new water policy that was approved in 2007. The key activities of the project mirror closely the IWRM Roadmap that the country has already adopted as a blueprint for moving towards effective and sustainable management of the nation's water resources in accordance with IWRM principles and also in conformity with ECOWA's Regional Water Policy and Strategy as well as the Regional Action Plan on IWRM in West Africa. The project is in effect the implementation of the IWRM Roadmap. The project is therefore very relevant and timely and would contribute significantly to the sector reforms that would ensure a sound framework for the development and management of water resources to support socio-economic development and poverty reduction.

4.1.2 The project will help establish institutions that will be able to manage the sector more efficiently. By equipping the institutions with qualified manpower, the necessary legal framework, sound water information systems, and improved knowledge base, this will provide a foundation for sustainable management of water resources in the country.

4.1.3 Development of water sector strategy and implementation plan will contribute towards the implementation of The Gambia's water sector policy. These important enabling documents are designed to address the water challenges and provide an integrated strategy that is based on the assessment of resources availability and demand coupled with the technical and institutional framework for efficient and effective water resources management and use.

4.1.4 The development of a water resources information management system will equip water managers with readily accessible information to facilitate efficient decision making with respect to water allocation, disaster management, and conflict resolution.

4.2 Sustainability

4.2.1 The water sector reforms are taking place within an overall framework of reform of the public service in The Gambia leading to more efficient and better managed institutions with motivated workforce. Hence the sustainability of the project outputs is likely to be enhanced as the reform agenda in the public sector is realized.

4.2.2 Water resources management has high priority in Government's PRSP II because of its cross-cutting impact on all development that influences poverty reduction in the country – agriculture, water supply and sanitation, health, and environment. Hence government is committed to water sector reforms. The outputs resulting from the activities undertaken in this project will be sustained in future by government.

4.2.3 Human resource capacity building is an important element of the project. Staff will be trained and given opportunity to acquire better qualification. And then they will be equipped with management tools for them to work effectively. This is motivating, and it is most likely that the project will have laid a foundation for sustainable operation of the new water sector institutions.

4.2.4 The Gambia's Gender Policy recognized the important role of women in the poverty reduction and socio-economic development of the country. The project will ensure participation of women as main stakeholder in all components of the project. The project will mainstream gender in the preparation of strategy and implementation plan, human resources development plan especially in human capacity building such as trainings (Msc and sub–professional). Women participation in water resources management is important due to their experience in managing water at household level including water recycling.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

5.1.1 The lack of a legal and institutional framework for IWRM, and an over-arching water resources strategy and implementation plan has limited government and development partners' response to ensure appropriate synergies and coordinated action to address prioritized challenges in the water sector of The Gambia. The water resources management strategy together with an implementation plan, a new water legislation embodying IWRM, and new sector institution providing leadership in water resources management will address this lack of coherency to ensure effectiveness, efficiency and sustainability in the development and management of water resources.

5.1.2 The project will also strengthen the human and institutional capacity of the sector through training of cadre of staff, improving the water monitoring networks with modern equipment and development of water resources management information system to meet the needs of stakeholders in IWRM. This intervention will ensure the establishment of strong information and knowledge system as well as water resources monitoring mechanisms which will contribute to improved water resources planning, allocation and utilisation.

5.2 Recommendations

5.2.1 Based on the assessment of the justification for the project, its relevance and effectiveness, it is recommended that an AWF Grant not exceeding Euro 1,988,582 be granted the Government of the Republic of The Gambia for the purpose of implementing the project as described in this report, subject to the following specific conditions.

A. <u>Conditions Precedent to Entry into Force of the Grant Protocol of Agreement and First Disbursement</u>

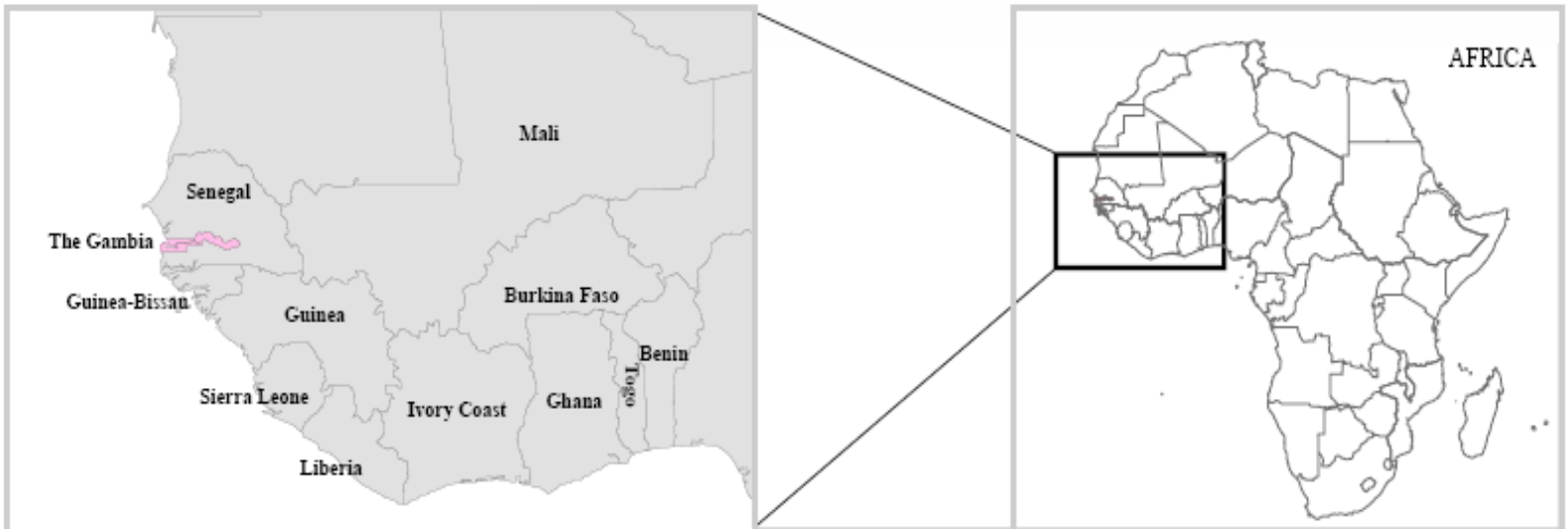
The Grant shall enter into force on its signature. The first disbursement of the grant shall be conditional upon fulfillment of the following conditions:

(i) Provide evidence of the opening of a special bank account ("Special Account") in EURO at a bank in Banjul, The Gambia into which the AWF grant shall be deposited on the request of the executing agency;

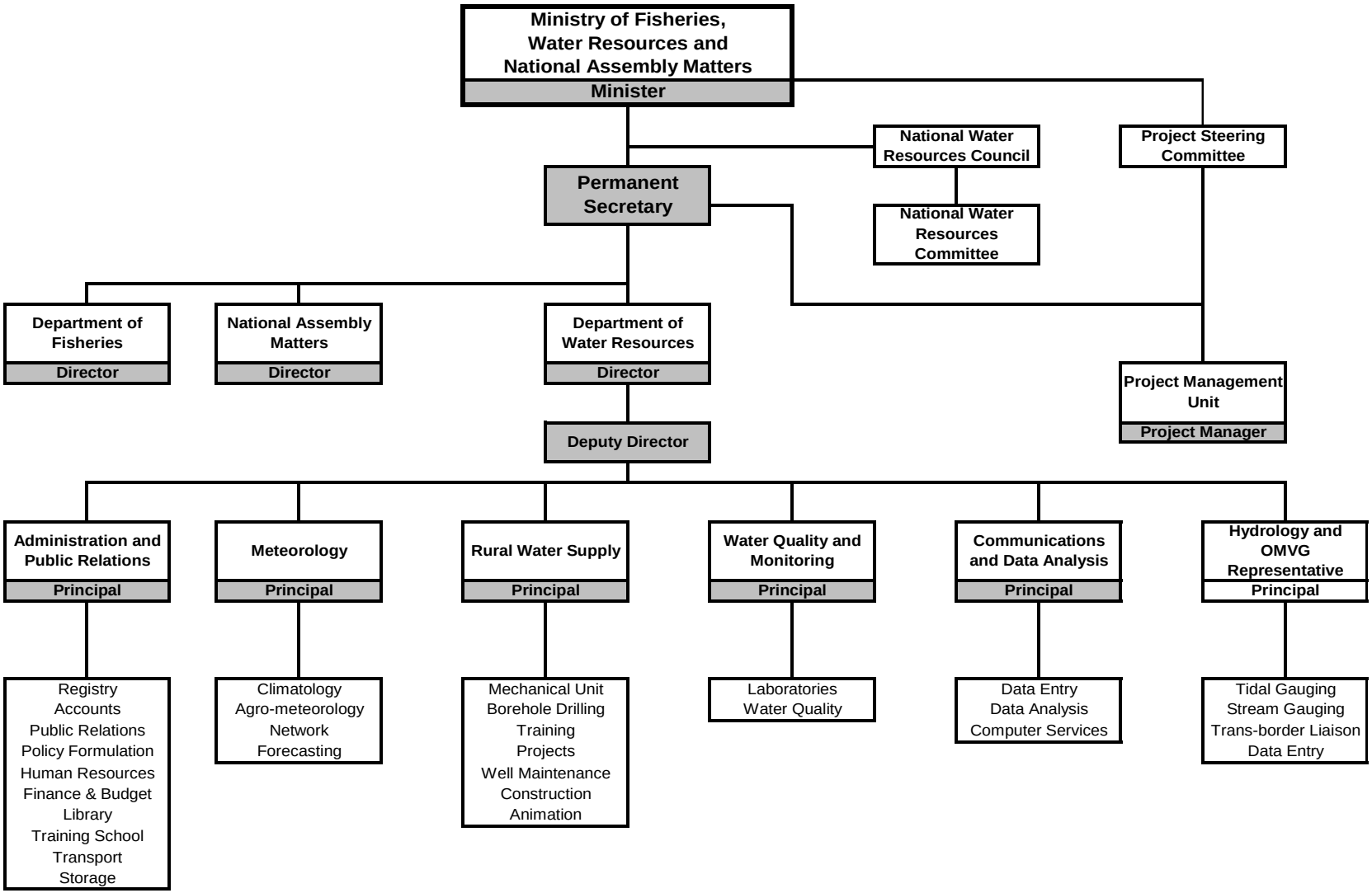
(ii) Provide evidence of the establishment of a Project Steering Committee of the project, the composition of which shall be acceptable to AWF.

(iii) EA will prepare and submit to the AWF before Grant Approval, a Procurement Plan, for a period of 18 months, acceptable to the AWF and setting forth (a) the particular contracts for goods, works and services during the life of the project; (b) the proposed modes of procurement; and (c) the related AWF review procedures (prior or post review).

ANNEX 1 – Map of The Gambia



ANNEX 2 – Organizational Structure of MoFWRNAM



ANNEX 3 – Donor Interventions in the Water Sector

Funding Source	Project Name	Amount	Description	Period
KFAED , GoTG	Irrigated Rice Development Project	US$ 3.78 million	Development of 1,206 hectares of swampland for irrigated rice production	2002-2008
Saudi Fund	Saudi Sahelian Programme Phase 4	US$ 3 million	Rural water supply and sanitation for target population of 100,000	2006-2014
Islamic Development Bank	Rural Water Supply Development Project	US$ 3 million	Kotu Ring Rural Water Supply and Sanitation	2004 - 2008
Islamic Development Bank	Water Supply and Sanitation Project	US$ 4.74	100 water points in 4 divisions	2009-2012
UNDESA Japan	Managing Water and Energy Services for Poverty Eradication	US$ 10.8 million	Rural water supply and establish vegetable gardens with distribution network	2004-2007
EC/EDF-8	Village Water Supply Project Phase II	Euro 3.9 million	21 new solar powered water systems, upgrade 9 solar systems and connect 3 villages to urban grids	2003-2008
EC/EDF-9	Rural Water Sector Support Programme	Euro 6.8 million	Rural water supply and sanitation (wells, boreholes and solar systems)	2006-2010
JICA	Integrated Water Use Project Phase 2	JPY 900 million	20 new solar powered water systems and converting 9 diesel powered systems to solar power	2005-2009
AfDB	Water Supply and Sanitation Study for The Gambia	UA 1.2 million	Master Plan for Water Supply and Sanitation in major urban areas and detailed design for priority areas	2006-2008
AfDB	Peri-Urban Agricultural Development Project	UA 5.07 million	Provide communal gardens with irrigation infrastructure	2001-2007
AfDB, IFAD, GoTG	Participatory Integrated Watershed Management	UA 16.99 million	Reduce rural poverty by increasing total land productivity on a sustainable basis through sound environmental and natural resource management	2006-2013
AfDB, GoTG	Farmer Managed Rice Irrigation Project	UA 5.5 million	Develop new schemes and rehabilitate existing irrigation schemes	2005-2011
UNEP	Improving Water Management and Governance in West African Countries	Euro 1,595,712	Promote and support preparation of IWRM roadmaps and IWRM plans in the target countries (7 countries including The Gambia) in West Africa	2007-2010

ANNEX 4 – Terms of Reference for Consultancy Services

WATER SECTOR REFORM STUDY FOR THE GAMBIA

1. INTRODUCTION

1.1 In early 2008 the Government of The Gambia, through the Ministry of Fisheries, Water Resources and National Assembly Matters (MoFWRNAM) began to implement the new National Water Policy adopted in 2007. The overarching objective of the new water policy is the establishment of a sustainable and inclusive framework for managing The Gambia's water resources based on Integrated Water Resources Management (IWRM) principles and the promotion of an enabling legal and institutional framework. This would facilitate sustainable development and management of water resources to meet higher demands for domestic water supply and sanitation, expanding irrigated agriculture to strengthen food security, and sustain environmental integrity in the face of increasing abstractions, climate change and variability, poor waste disposal, and high urbanization.

1.2 Implementation of IWRM in The Gambia faces a number of challenges. There is lack of supportive legal and institutional framework; the existing legislation is not in harmony with new policy, and sector institutions are not structured and organized to be able to implement IWRM. The policy also lacks an effective strategy for its operationalisation. The other problem is shortage of suitably qualified staff required for IWRM functions: sector planning, water resources assessment, management of hydro-metrological data and information systems. On top of this, water information and knowledge management suffer due to shortage of equipment and facilities for data collection, processing, and dissemination; and there is lack of an integrated and efficient water resources management information system to respond to the requirements for IWRM. Furthermore there is relatively poor knowledge about the groundwater system (the aquifers that underlie the whole country) in terms of their characteristics, potential for exploitation, and interactions between the aquifers themselves and also with the surface water systems – the River Gambia and its tributaries.

1.3 MoFWRNAM is implementing a water sector reform project with financing from the African Water Facility, and now seeks consultants to undertake a number of studies aimed at supporting the water sector reform; specifically to facilitate institutional development, policy and strategy elaboration, strengthen technical operations, build human resource capacity, improve knowledge and information systems, and enhance stakeholder engagement in IWRM processes.

2. OBJECTIVES OF THE CONSULTING SERVICES

2.1 The overall objective of the consulting services is to support the establishment of a framework for IWRM in The Gambia in line with the National Water Policy. This would involve the formulation of appropriate legal and institutional arrangements, development of water management tools, human resources capacity development, strengthening knowledge base, development of water resources management information system, and communication and awareness systems.

2.2 The specific objectives of the consulting services are as follows:

(1) To review the overall existing framework, develop a water resources management strategy and implementation plan. Review water resources allocation, use and future plan.
(2) To develop an institutional set up for water resources management in The Gambia.
(3) To develop the institutional set up for meteorological services in The Gambia.
(4) To revise the Water Bill of 2004 to provide legislation that fully incorporates the provisions of the new National Water Policy so as to establish IWRM in The Gambia.
(5) Assessment and mapping of groundwater resources.
(6) To develop and implement a training programme for MoFWRNAM.
(7) To rehabilitate and improve the hydrological, hydro-geological, meteorological and water quality monitoring networks in The Gambia.
(8) To develop and implement a water resources management information system.
(9) To develop and implement a communications strategy.

3. SCOPE OF WORKS

3.1 General

3.1.1 The work will involve considerable review and analysis of documents (water resources assessments, policy, legislation, project reports, study reports) mainly in Banjul at MoFWRNAM and other sector related institutions. There would also be interviews and consultations with key stakeholders at national, regional and local level and field verification assessments. However the groundwater studies, installation and rehabilitation of networks will involve a significant level of field investigations all over the country.

3.1.2 There is close relationship between the legal framework, the institutional set-up, the human resources required, and information systems that serves the sector. Thus one output affects or influences the other. For this reason, studies will be carried out in parallel, and the draft legislation, the proposed institutional arrangements, the water resources information system, and the communication strategy will be jointly reviewed in a multi-stakeholder workshop so as to reinforce synergies, avoid incongruent solutions and also optimize stakeholder participation. The joint multi-stakeholder consultative workshop will take place after draft outputs have been realised. The finalisation of the outputs will carefully take into account the stakeholder workshop.

3.1.3 The detailed scope of work is described below grouped according to the main components of the project.

3.2 Develop a water resources management strategy and implementation plan

3.2.1 The main objective is to develop a water resources management strategy for The Gambia based on IWRM, and to develop a strategy implementation plan with short to long term development goals. The key activities consist but are not limited to the following:

- Review and assessment of the existing situation (policy, legal and institutional arrangements, human resources, investment plans, financing, and stakeholder engagement especially the role of women)
- Rapid assessment of resources – surface water, groundwater, and financing. Detail scope of works for groundwater assessment are indicated under section 3.3.
- Assess demand for water resources across all sectors for a 25 year horizon.
- Matching resources and demands (development scenario analysis)

- Stakeholder consultations to identify technical, economic, financial, institutional capacity, and environmental challenges to effective water resources management in the country.
- Identification of strategies for addressing the issues and formulation of national Water Resources Management Strategy
- Development of implementation plan with short to long term development goals consistent with national development plans, Vision 2020 and PRSP II.
- Present for critical analysis at a stakeholder validation workshop, and subsequently, finalize the proposed strategy taking into account the comments raised.
- Government approval of the Strategy and formal launch.

3.2.2 The key output consists of a comprehensive water resources management strategy and implementation plan addressing development and management of water resources for socio-economic development and environmental sustainability in The Gambia. The implementation plan consists of investment, institutional and environmental management projects for achieving water sector objectives.

3.3 Groundwater Assessment Studies

3.3.1 The main objective is to improve knowledge of the groundwater potential through the assessment of groundwater resources to facilitate sustainable management of the resource and put in place measures to monitor and control seawater intrusion and pollution from land sources. The study is a progressive build up on previous studies carried out in the late 1980s, particularly Groundwater Survey I of 1987 (Ceesay & Sons and Howard Humphreys), Groundwater Survey II of 1993 (Scott Wilson Kirkpatrick) or similar studies undertaken lately.

3.3.2 The scope of work will consist but is not limited to the following:

- Assess the existing hydrogeological network and make recommendations and/or proposals for the complete re-establishing and necessary expansion of the network with cost estimates of the works and equipment needed and provide support for the procurement of appropriate equipment and civil works.
- Conduct an inventory of hydro-geological data obtained by various agencies in the intervening period and assemble into a single national database. Appropriate software and hardware consistent with the water resources management information system shall be procured.
- Design and initiate a groundwater level and water quality monitoring programme.
- Review and update existing geophysical surveys (resistivity investigation and geophysical logging) so as to obtain more comprehensive description of the aquifers.
- Design and implement exploratory drilling and aquifer testing to facilitate determination of hydraulic and hydrochemical properties of the aquifer systems. The new boreholes shall also be equipped with water level data loggers to allow for continued monitoring of the aquifers.
- Develop and run a model of the shallow sand aquifer for priority areas where there is potential water stress and quality concerns, and make recommendations for sustainable management of the groundwater resources in the identified area(s).
- Make recommendations and prepare a proposal for additional investigations of the groundwater systems to enhance the knowledge base of the groundwater systems in The Gambia.
- Analyze the data and information collected and prepare an updated hydro-geologic map of The Gambia to a scale of 1:125,000 or finer.

3.3.3 The key outputs from this set of activities consist of: (i) updated hydro-geologic map of The Gambia; (ii) groundwater model developed for managing groundwater resources in one sensitive (with respect to groundwater) area in the country; and (iii) groundwater development program prepared (iv) a fully equipped groundwater monitoring network established.

3.4 Institutional Development

3.4.1 New institution for water resources management

3.4.1.1 The objective of this study is to establish a new apex institution responsible for water resources management in the country. The study builds on previous studies carried out recently, but goes far enough to elaborate the organisational arrangements, operating budget, financing, and includes a strategic plan for the new organisation. Main activities for the study include:

- Elaborate the powers and functions of the apex institution for management of water resources in The Gambia as required by policy and legal framework.
- Taking into account the functions of the organisation, elaborate the organisational structure from management down to the bottom of the structure. Due consideration should be given to define the institutional arrangements at regional/district level and community.
- Review the functions, organisational structure and operations of the Department of Water Resources (DWR) and assess how the proposed institution may be constituted – either a restructured DWR or a completely new institution.
- Estimate the costs of the institution in terms of personnel costs, operating costs, investments or capital costs, and cost of actual establishment (transfer to new institutions – offices, transport and equipment).
- Analyse the potential financing of the new body, examining potential for revenue for services provided, and comment on financial viability of the organisation.
- Develop a draft 5-year strategic plan for the new organisation.
- Analyse the institutional form of the organisation and recommend, with justification, the most appropriate institution, a statutory body or a public service organisation.
- Establish an action plan for implementing the institutional reform.
- Draft enabling legislation, if at all necessary, for establishing the new body
- Conduct a national stakeholder consultation workshop to validate the results.
- Assess the impact on the reorganisation on MoFWRNAM and its implications on the future organisational structure of the ministry.

3.4.1.2 The main outputs of the study consist of a study report providing a comprehensive institutional structure, human resource requirements, financing requirements, and action plan for the establishment of the organisation. In addition, there will be a strategic plan and draft legislation for the formal establishment of the organisation.

3.4.2 New institution for meteorological services

3.4.2.1 The objective of this study is to transform the Meteorological Division of the Department of Water Resources in MoFWRNAM into a semi-autonomous agency able to provide sustainable effective meteorological services to the country, the sub-region as well as meet international obligations. The study is a finalization of institutional analyses already carried out in MoFWRNAM and should lead to comprehensive institutional structure, well developed strategic plan and business plan. Activities of the study include:

- Elaborate the powers and functions of the meteorological institution for The Gambia.

- Taking into account the functions of the organisation, elaborate the organisational structure from management down to the lowest appropriate level (region/district).
- Estimate the costs of the institution in terms of personnel costs, operating costs, investments or capital costs, and cost of actual establishment (transfer to new institutions – offices, transport and equipment).
- Analyse the potential financing of the new body, examining potential for revenue for services provided, and comment on financial viability of the organisation.
- Analyse the institutional form of the organisation and recommend the most appropriate institutional form, either a statutory body or a public service institution.
- Develop 5-year strategic plan and business plan for the new organisation.
- Establish an action plan for implementing the institutional reform.
- Draft the enabling legislation, if at all necessary, for establishing the new organisation.
- Conduct a national stakeholder consultation workshop to validate the results.
- Assess the impact on the reorganisation on MoFWRNAM and its implications on the future organisational structure of the ministry.

3.4.2.2 The main outputs of the study consist of a study report providing a comprehensive institutional structure, human resource requirements, financing requirements, and action plan for the implementation of the institutional reform. In addition, there will be strategic and business plans and draft legislation for the formal establishment of the organisation.

3.4.3 Revision and preparation of new Water Bill.

3.4.3.1 The purpose of this study is to revise the existing water bill, drafted in 2004, and to formulate water sector legislation that conforms to the new National Water Policy as adopted in 2007 and incorporates IWRM principles and practices. Activities will consist but not limited to the following:

- Review the existing water bill, and taking into account the new National Water Policy, sector reform process and IWRM principles and practices, draft new water bill that is consistent with the new policy, with due attention to clarifying institutional responsibilities, management of groundwater resources, and transboundary provisions.
- Examine other water sector related legislation, including agriculture, environment, water supply and sanitation, lands, local government, decentralisation, and gender, and document and analyse overlaps and inconsistencies with the proposed legislation. In consultation with relevant sector officials propose how the variance may be resolved.
- Support the presentation and discussion of the draft water bill at a national stakeholders' workshop.
- Incorporate the comments arising from the workshop into a final draft water bill and, through MoFWRNAM, present to appropriate authorities for enacting the new water sector legislation.

3.4.3.2 The main output is a draft legislation, validated by stakeholders, that is a comprehensive legal basis for the new National Water Policy and establishes IWRM as a basis for managing water resources in The Gambia.

3.5 Human Resource Development

3.5.1 The objective of this component is to develop and implement a capacity building programme for key sector institutions to meet priority needs for human resources for the implementation of IWRM. The main activities will include:

- ❖ Assess the required expertise (professional and technical) necessary to perform the functions under the reformed sector institutions, and on basis of manpower study (qualifications, age, deployment) in existing organizations formulate a training programme that builds on the existing staff situation.
- ❖ Present and discuss the proposed plan at a joint stakeholder workshop, and subsequently, revise in light of comments received.
- ❖ Identify priority training requirements for professional staff, identify suitable training institutions in The Gambia and/or the West African region, select candidates for training and send for training.
- ❖ Develop a pilot training programme for technical staff (sub-professional level) at the University of The Gambia, and subject to viability relative to external training in the region implement the training programme.

3.5.2 The expected outputs from these activities consist of (i) Training plan that shows the types of qualifications needed at professional and technical levels, the number of persons needed, source for the candidates for training, and the schedule of training, venue and cost; (ii) prioritized training for key professional staff; and (iii) technical staff training carried out either at UTG or in the region. (iv) incentive structure for professional staffs.

3.6 Strengthen Water Resources Information Systems

3.6.1 The twin objectives of this component are (i) to strengthen and improve the infrastructure of data collection systems; and (ii) to develop an integrated water resources management information system to support IWRM.

3.6.2 In order to strengthen and improve the hydrological, hydro-geological, water quality, and meteorological data collection networks, the consultant will carry out the following activities:

- Inspect all hydrological, hydro-geological, water quality, and meteorological data collection stations to ascertain the operational status of the stations.
- Review the network design for each of the four sub-systems and propose revised network design to suit the monitoring required for effective water resources management. The network design should also take into account requirements for transboundary basin management under OMVG, and regional data collection systems such as HYCOS or similar.
- Make proposals for equipment to rehabilitate and/or improve the networks; prepare specifications, schedule of requirements, and bidding documents.
- Assist the MoFWRNAM procure the equipment for a priority number of network stations, install the equipment and train the staff in use and basic maintenance of equipment.

3.6.3 The water resources management information system shall be a web-based multi-sectoral information system accessible to stakeholders and the general public. The development of this system will involve the following activities:

- Baseline survey to assess the available data and information, storage systems, and how the data is managed.
- Through consultation with various stakeholders, define the required databases (socio-economic, hydrology, hydrogeology, water quality and meteorological).
- Presentation of the proposed information system at a multi-stakeholder workshop and finalization of the design incorporating the resulting comments.
- Selection of software for the databases, and programming software for linking the databases, and design of the entire management information system.
- Procurement of hardware and software for the system.
- Collection of datasets from the various sources

– Build up the system, and commissioning.
– Provide training in the use of the integrated information management system.

3.6.4 The key outputs of these sets of activities consist of the following: (1) status report on the status of the existing network; (2) revised network design and schedule of requirements and cost estimates for rehabilitation of the network. These ultimately lead to rehabilitation of priority areas of the network. The next phase of the work leads to (3) a fully functional water resources management information system installed in the water resources management institution; and (4) staff trained in the management of the information system.

3.7 Stakeholder Mobilisation for IWRM

3.7.1 The overall objective is to facilitate stakeholder awareness, buy-in and effective participation in the IWRM process. Therefore a Communication Strategy and IWRM awareness campaigns will be developed and implemented to facilitate stakeholder awareness of IWRM and effective participation in integrated management of water resources. The strategy will address all levels of stakeholders from national, regional, district and community levels. Towards this end the consultants will undertake the following activities:

- Identify all stakeholders involved with water resources management; analyze their particular stake in IWRM and the relationships, noting any horizontal and vertical relationships.
- Assess the stakeholders' knowledge of IWRM and capacities to play the roles they have, and identify any capacity strengthening that may be necessary.
- Formulate a comprehensive communication strategy and implementation plan targeting all identified stakeholders.
- Present the strategy at a joint stakeholder workshop to obtain critical feedback on the proposal as well to put the strategy in the context of the legal and institutional framework established.
- Develop awareness and training campaigns for the various stakeholders.
- Implement the campaigns.
- Draw out lessons learnt as the campaigns are implemented so as to refine the approaches for future IWRM programmes.

3.7.2 The main output is a Communication Strategy for IWRM. This will include an implementation plan with activities, time schedule, responsibilities and required resources. A related output will consist of awareness and training packages.

4. IMPLEMENTATION OF THE ASSIGNMENT

4.1 Approach and Reporting

4.1.1 The institutional development, capacity building and information systems development will be implemented in parallel. This would enable effective coordination and integration of these related outputs. A joint multi-stakeholder consultative workshop to discuss the proposals for legislation, institutional set-up, human resource development plan, and water resources information system will be held soon after the draft proposals for legislation, institutional set-up, human resource development plan, and information systems have been achieved. This would ensure coherency in the proposals for new legislation, the new institutions, human resource development plans, and the water resources information system. The other studies, especially those involving field investigations will follow on the heels of these other activities.

4.1.2 There will be a short Inception Phase during which the consultants will identify sources of data and information, assemble what may be readily available, and prepare a detailed work plan for executing the assignment. The Inception Phase will be one calendar month from commencement of the assignment. At the end of this period the consultants will submit an Inception Report**.** The Inception Report will include a detailed work plan showing how they intend to execute the assignment, staff schedule, timing and cost estimates. It will also comment on the status of available information, identify field investigations to be carried out and timing. The Inception Report is subject to approval by the Client.

4.1.3 The consultants will produce reports (deliverables) in accordance with the work plan. The outputs under each activity are stated in the relevant sections above. The reporting requirements will therefore consist of the following:

Inception Report	Submitted one month from commencement of the consulting services.
Specific Outputs (reports)	As per work plan
Progress Report	Every three months from Inception Report. Progress report will summarise work progress on each activity on the work plan, comment on issues affecting implementation, and propose measures to resolve the issues including next quarter activities. It will also summarise expenditures during the period and cumulative summary for the period.

4.2 Duration of the Assignment

4.2.1 The total duration of the assignment is estimated at 25 months. This includes mobilization, desk studies, parallel activities, procurement of equipment and installation, field investigations, national consultative workshops, and analyses and reporting. Within this period, the consultancy time input is estimated at 47.5 man-months for professional staff and 35 man-months for technical staff.

4.3 Consultants' Profile

4.3.1 The assignment will be carried out by a consulting firm and the consultants' team will have key competencies in hydrology, hydrogeology, water resources engineering, institutional development, meteorology, information systems, communications. It is envisaged that the consulting team would consist but not limited to the following:

1. Water Resources Engineer (Team Leader)
2. Hydro-geologist (Deputy Team Leader)
3. Hydrologist
4. Institutional Expert
5. Lawyer
6. Socio-economist
7. Information Systems Engineer
8. Meteorologist
9. Information and Communications Expert

4.3.2 The profile and ToR of key staff are presented in Appendix 1 of this annex. There will also be technical staff (technicians) for carrying out field surveys at national level.

5. DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT

5.1 Data: The consultants will be responsible for assembling all the required documents, reports, studies, policies, legislation, hydro-meteorological and hydro-geological data and statistical publications from the relevant sources in the country. The Client will provide the necessary introductions to the national authorities or others to facilitate access to the required information. All data collected during the course of the assignment shall be listed, clearly marked and categorized according to source, and shall become property of the Client.

5.2 Services: The Client will be responsible for all communication with stakeholders outside MoFWRNAM. For this purpose the Client will:

- Provide introductory letters for the consultants to enable them gain access to relevant authorities.
- Process invitations and necessary contacts for the consultative workshops. The consultants are however responsible for the technical planning and organization of the workshops. The consultants shall liaise closely with the Client to ensure timely notification and invitation of all participants.
- Meet all costs related to the consultative workshops, including transportation, board and lodging of the participants, venue, production of reports, and incidentals.
- Reimburse the consultants for all costs related to acquisition of data, subject to documentary evidence of such expenditures (payment receipts).
- Production and dissemination of reports for the consultative workshops as well as to decision makers beyond MoFWRNAM.

5.3 Facilities: The Client will provide a furnished office with utilities (water, electricity) for the use of consultants, but the consultants will provide the necessary office equipment and communication facilities. The required office space is about 75 m^2.

Terms of Reference of Key Consultants

WATER RESOURCES ENGINEER (Team Leader)

Profile:
Higher degree in water resources management or equivalent; 15 years experience in water resources planning, development and management with multi-disciplinary skills and experience to support integrated planning; experience in water policy and strategy development in developing countries, preferably in Africa. The consultant shall have good communication skills.

Key responsibilities:
- Overall management of the consultancy services and coordination of the implementation
- Draw up project work plan and monitor its implementation.
- Lead the development of IWRM strategy and coordinate all professional inputs from the rest of the consulting team – situation analysis, assessment of resources, demand analysis, scenario development and analysis, stakeholder consultations, issues analysis and strategy formulation, and implementation plan including specific project concepts and indicative costs.
- Coordinate preparation of study reports as required and present at consultative meetings.
- Prepare progress reports and present to the Client.

HYDRO-GEOLOGIST (Deputy Team Leader)

Profile:
Degree in hydro-geology and minimum 15 years experience in groundwater development studies, data collection systems, geophysical surveys, analysis of hydro-geologic data and modeling. Must be familiar with conventional groundwater modeling software

Key responsibilities
- Inventory and assessment of groundwater monitoring network and recommendations for system improvements.
- Design the hydro-geological investigations programme taking into account the most recent groundwater studies carried out.
- Review and update geo-physical surveys, collect the data and analyse.
- Design the exploratory drilling programme, procure drilling contractor, and upon award, supervise the drilling contract.
- Design the database for hydro-geological data, specify hardware and software requirements in consultation with the Information System Engineer; input the data into a unified database.
- Collect all data from the monitoring programme, the drilling programme, geophysical surveys and carry out analysis and update aquifer characteristics.
- Develop and run a model of the shallow aquifer and recommend development potentials in the study area.
- Update the hydro-geologic map to a scale of 1:125,000.
- Provide inputs into the development of the water resources management strategy.

INSTITUTIONAL DEVELOPMENT SPECIALIST

Profile:
Degree in human resources development, or water engineering and relevant institutional development qualifications; minimum 10 years in policy and institutional analysis, development and implementation of training programmes; experience in establishing institutional set-ups and organizational structures and procedures.

Key responsibilities:

- Build up on recent manpower development studies and institutional reforms of the MoFWRNAM and/or departments.
- In light of new Water Policy and legislation propose an appropriate institutional set-up for water resources management, and for meteorological services. Specify composition of staff and relevant qualifications and outline detail requirements to the lowest appropriate level (national down to community level).
- Prepare a budget for operations of the institution, and analyse financing opportunities and assess the financial viability of the proposed institution.
- Develop a business plan for the proposed institution(s) for a 5-year planning horizon.
- With respect to capacity building, (1) Conduct a training needs analysis at various levels to determine what training is needed, who can be trained, and suitability for training, as well where the training can be done; (2) develop a training plan specifying who, what, when, how many, where and cost of training required; (3) liaise with UTG to develop a pilot training programme for technicians; and (4) implement the training programme at UTG.

LAWYER

Profile:
Degree in law with higher qualification specializing in natural resources or environmental law; professionally qualified, with minimum 15 years working experience in progressively higher level of responsibility in the public service and/or private practice. Experience in legal drafting, more especially in transforming sector policies, strategies into enabling legislation; familiar with the law in The Gambia.

Key responsibilities:

- Become completely familiar with the new National Water Policy so as to be able to transform the policy into legislation.
- Review the draft water bill and taking into account the water policy prepare revisions to ensure comprehensive and clear provisions of the key elements of policy are transformed into law.
- Review other water sector related laws and analyse overlaps, conflict and inconsistencies and, in consultation with the sectoral ministries concerned reach consensus on how to resolve these.
- Conduct stakeholder consultations to get feedback and input into the revised water bill and finalize.
- Provide inputs into any necessary legislation for the establishment of new sector institutions for water resources and for meteorology.

ANNEX 5 – Detailed Cost Estimates

	Unit	Qty	Unit Cost	Total	GTG	AWF
			Euro	Euro		
Component 1: Institutional Development						
Revise Water Bill (consultants)	m-m	3.5	10,000	35,000		35,000
Consultants' Reimbursables	LS	1	15,945	15,945		15,945
Stakeholder consultation Workshop	LS	1	6,000	6,000		6,000
Formulate and Establish WRMA, incl. Business plan (consultants)	m-m	4	10,000	40,000		40,000
Consultants' Reimbursables	LS	1	18,221	18,221		18,221
Stakeholder consultations	LS	1	6,000	6,000		6,000
Formulate and Establish Met. Services Authority incl. Business plan (consultants)	m-m	3	10,000	30,000		30,000
Consultants' Reimbursables	LS	1	13,666	13,666		13,666
Stakeholder consultations	LS	1	6,000	6,000		6,000
Formulate Water Resources Management Strategy & Implementation Plan	m-m	14.25	10,000	142,500		142,500
Consultants' Reimbursables	LS	1	64,914	64,914		64,914
Stakeholder consultations	LS	1	6,000	6,000		6,000
Sub Total, Institutional Development				**384,246**	**0**	**384,246**
Component 2: - Human Resources development						
Training needs assessment for WRMA and Met. Services Authority	m-m	1.75	10,000	17,500		17,500
Consultants' Reimbursables	LS	1	7,972	7,972		7,972
MSc Training in West Africa						
-Two Hydro-geologist MSc, Diploma		2	18,000	36,000		36,000
-One Hydrologist		1	18,000	18,000		18,000
-One Management Information Specialist		1	18,000	18,000		18,000
-One Meteorologist		1	18,000	18,000		18,000
Sub-professionals Training with University of The Gambia (30 trainnees total)		30	8,000	240,000		240,000
Sub-professionals, salary during training		30	1350	40,500	40,500	
Sub Total, Human Resource Development				**395,972**	**40,500**	**355,472**
Component 3 - Water Resources Management Information						
Review network design and revise network	m-m	2	10,000	20,000		20,000
Consultants' Reimbursables	LS	1	9,111	9,111		9,111
Equipment for revised network				0		
Hydrological equipment	LS	1	150,000	150,000		150,000
Water quality laboratory	LS	1	50,000	50,000		50,000
Meteorological equipment	LS	1	55,000	55,000		55,000
Install new equipment, training in the use and maintenance of equipment						
Design the water resources information system (WRIS) infrastructure	m-m	4	10,000	40,000		40,000
Consultants' Reimbursables	LS	1	18,221	18,221		18,221
Procure hardware and software for the WRIS	LS	1	20,000	20,000		20,000
Install WRI system, provide training for operators						
Sub Total, Water Resources Information System				**362,332**	**0**	**362,332**
Component 4 - Groundwater Assessment						
Groundwater study, consultants (professional)	m-m	12.5	10,000	125,000		125,000
Technicians	m-m	35	1,000	35,000		35,000
Consultants' Reimbursables	LS	1	56,942	56,942		56,942
Hydrogeological Investigations (drilling contract)	LS	1	200,000	200,000		200,000
Equipment for field investigation	LS	1	20,000	20,000		20,000
Field Allowance for technicians	LS	1	30,000	30,000		30,000
Sub Total				**466,942**	**0**	**466,942**
Component 5 – Stakeholders mobilization for IWRM						
Develop Communication Strategy for IWRM	m-m	2.5	10,000	25,000		25,000
Consultants' Reimbursables	LS	1	11,388	11,388		11,388
Carry out stakeholder awareness campaigns and training.	LS	1	20,000	20,000		20,000
Develop lesson learning packages to support future IWRM programmes.						
Sub Total				**56,388**	**0**	**56,388**
Project Management Unit (PMU)						
Staff Allowances						
Project Manager	m-m	33	1,600	52,800		52,800
Accountant	m-m	33	600	19,800		19,800
M&E Expert	m-m	33	700	23,100		23,100
Secretary	m-m	33	400	13,200		13,200
Driver	m-m	33	90	2,970	2,970	
Office Assistant	m-m	33	90	2,970	2,970	
Office Supplies & Equipment	LS	1	12,000	12,000		12,000
Operational Costs	LS	1	70,000	70,000	50,000	20,000
Staff Travel	LS	1	15,000	15,000		15,000
Vehicles, pick up	LS	1	20,000	20,000		20,000
Vehicle Maintenance	LS	1	15,000	15,000		15,000
Project Launching	LS	1	5,000	5,000		5,000
Project Steering Committee	LS	1	15,000	15,000		15,000
Donors' conference	LS	1	5,000	5,000		5,000
Sub Total, Project Management				**271,840**	**55,940**	**215,900**
Grand Total				**1,937,720**	**96,440**	**1,841,280**
Contingencies (8%)				155,018	7,715	147,302
Total Project Budget				**2,092,738**	**104,155**	**1,988,582**
					%	%
				100	**5**	**95**

Preliminary Schedule of Requirements and Cost Estimates for Network Equipment

Hydrological Equipment

Item no.	Quantity	Description	Unit Cost	Total Cost
			Euro	Euro
1	1	Global Positioning System	11,540	11,540
2	1	Precision Digital Echo Sounder	7,695	7,695
3	1	AFRA Set	5,770	5,770
4	2	EC, TDS, BOD, pH Loggers	2,500	5,000
5	1	Automatic Analyzer	3,850	3,850
6	11	Water Level Recorder with Data Loggers	3,080	33,880
c	1	Satellite Receiving Station	11,540	11,540
8	1	Remote Transmission Equipment	11,540	11,540
9	2	Rubber dinghy boat with 25HP engine	3,463	6,926
10	1	Digitizing Table	2,307	2,307
11	46	Ground Water Loggers	1,000	46,000
13	1	Hydrodynamic Modeling Software	3,850	3,850
14	1	Add-on TD & Water Quality Modules	3,080	3,080
15	4	Baby/Pigmy Current Meter Kit	1,310	5,240
16	1	Dumpy level	5,000	5,000
Sub total				163,218

Equipment for DWR Water Testing Laboratory

Item no.	Quantity	Description	Unit Cost	Total Cost
			Euro	Euro
1	3	pH Meters	3,333	9,999
2	4	Electrical Conductivity Meters	3,750	15,000
3	1	Spectophotometer	4,000	4,000
4	2	Dissolved Oxygen Meter Testers and Incubators	2,500	5,000
5	2	Acidity Meter or Tester	500	1,000
6	2	Electronic Balance	2,500	5,000
7	3	Sodium Meter	334	1,002
8	1	GSM meter for heavy metals\grease	10,000	10,000
9	1	Various Reagents	10,000	10,000
				-
Sub Total				**61,001**

Meteorological Equipment

Item no.	Quantity	Description	Unit Cost	Total Cost
			Euro	Euro
1	3	Computer and printer	4,000	12,000
2	2	Barometers	5,500	11,000
3	2	Barograph	2,400	4,800
4	2	Automated Weather Stations	7,846	15,692
5	5	Rainfall Recorder	2,750	13,750
6	5	Anemometers	2,750	13,750
7	1	Transport, clearance	4,010	4,010
				-
Sub Total				**75,002**

Cost Estimates for Consultancy Services

Description	Unit	Qty	Unit Rate Euro	Total Euro
CONSULTANCY SERVICES				
Professional Staff				
Water Resources Engineer (Team Leader)	m-m	13	10,000	130,000
Lawyer (local)	m-m	4	10,000	40,000
Institutional Expert	m-m	5	10,000	50,000
Hydrogeologist	m-m	12.5	10,000	125,000
Hydrologist	m-m	4	10,000	40,000
Socio-economist	m-m	2	10,000	20,000
Meteorologist	m-m	1	10,000	10,000
Information Systems Engineer	m-m	3	10,000	30,000
Information & Communications Expert	m-m	3	10,000	30,000
Sub Total		47.5		475,000
Technical Staff	m-m	35	1,000	35,000
Total, Professional and Technical Staff				**510,000**
Expenses				
Hydrogeological investigations (drilling)	LS	1	200,000	200,000
Hotel	days	1,000	90	90,000
Air tickets	no.	15	1,500	22,500
Field allowance for technical staff	no.	600	50	30,000
Vehicles (4-W field vehicle)	no.	2	20,000	40,000
Equipment (surveying, meters, water quality)	LS	1	20,000	20,000
Office Equipment	LS	1	10,000	10,000
Software	LS	1	5,000	5,000
Vehicle Running costs (logistics)	months	26	1,500	39,000
Office running costs	months	26	380	9,880
Total Expenses				**466,380**
Grand Total, Consultancy Services				**976,380**

ANNEX 6 – Terms of Reference for the Project Steering Committee

Purpose and Functions

The purpose of the PSC is to provide policy and technical guidance in the implementation of the project. The key functions of the PSC

1. Review and approve annual work plans and budget within the framework of the financing agreement and the Project Appraisal Report.
2. Review and approve project outputs – study reports, strategies, draft water bill, etc, and provide feedback to the consultants and/or the Project Management Unit.
3. Review and approve progress reports and financial reports.
4. Facilitate contacts with national institutions, stakeholders and/or individuals for access to data and information needed for carrying out the studies.
5. Ensure participation of national institutions and individuals in project activities.
6. Serve as platform for disseminating and sharing information.
7. Resolve conflicts or obstacles to implementation of the project through expeditious consultations with relevant institutions and stakeholders.

Membership

The members of the PSC will consist of senior representatives of the following organizations:

(1) Ministry of Finance and Economy
(2) Ministry of Fisheries, Water Resources and National Assembly Matters
(3) Ministry of Local Government and Land
(4) Ministry of Agriculture
(5) Ministry of Forestry and Environment
(6) National Water and Electricity Company
(7) National Environmental Agency
(8) Public Utility Regulatory Agency
(9) National Planning Commission, Policy Analysis Unit and Personnel Management Office
(10) Women's Bureau
(11) Umbrella body Civil Society or NGOs with water sector programmes

Meetings

The PSC will meet quarterly; but the Chairperson may call an extraordinary meeting to consider any legitimate matters brought to the PSC's attention.

ANNEX 7 – Implementation Schedule