

# Programme for Infrastructure Development in Africa

(PIDA)

## Sector-specific Terms of Reference for Transboundary Water Resources Sector

Prepared by



**African Union**



**African Development Bank Group**



**NEPAD**

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## ACRONYMS

ADB	African Development Bank
AICD	African Infrastructure Country Diagnostic Study
AMCOW	African Ministers Council on Water
ANBO	African Network of Basin Organizations
AU	African Union
AUC	African Union Commission
AWF	Africa Water Facility
CEN-SAD	Community of the Sahel-Saharan States
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
ECCAS	Economic Community for Central African States
ECOWAS	Economic Community for West African States
FAO	Food & Agriculture Organization
GWP	Global Water Partnership
ICA	Infrastructure Consortium for Africa
IFAD	International Fund for Agriculture Development
IFPRI	International Food Policy Research Institute
IGAD	Intergovernmental Authority for Development
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
L/RBO's	Lake and River Basin Organizations
MDGs	Millennium Development Goals
NEPAD	New Partnership for African Development
PIDA	Programme for Infrastructure Development in Africa
PPP	Public Private Partnership
RBO	River Basin Organization
REC	Regional Economic Community
RWSSI	Rural Water Supply and Sanitation Initiative
SADC	Southern African Development Community
SC	Steering Committee
STAP	Short Term Action Plan
TC	Technical Committee
ToR	Terms of Reference
TWRM	Transboundary Water Resources Management
UMA	Maghreb Arab Union
UNECA	United Nations Economic Commission for Africa

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These sector-specific terms of reference for the Transboundary Water Resources sector should be read in conjunction with the General Terms of Reference for the study. These ToRs supplement the General ToRs in terms of certain specific aspects of the study which are more clearly dealt with in a sector-specific document. Similar sector-specific ToRs have been prepared for the other three sectors.

## **1. Context of the Study –Transboundary Water Resources Sector**

### **1.1 The Transboundary Water Resources Sector in Africa**

1.1.1 The Transboundary water resources sector in Africa, covering both surface water and groundwater, presents opportunities for regional cooperation and the development and management of water resources to support national and regional socio-economic development. The sector faces significant contemporary challenges including ensuring water security to support sustainable socio-economic development; mitigating the impacts of and adapting to climate change; mitigating the impacts of variable weather patterns; attaining the water related MDGs; ensuring equity and sustainability in the utilisation of water resources; and ensuring environmental sustainability. The challenges are compounded by water resources being unevenly distributed both temporally and spatially; and the expectation that climate change will have a significant impact on rainfall patterns and the distribution of the resources resulting in higher frequency and intensity of extreme weather events. Additionally, the growing populations, improving living standards and development pressures lead to an overall increase on the demand for water resources. Current levels of water withdrawal are low with 3.8% of water resources developed for water supply, irrigation and hydropower use. Only 7% of Africa's hydropower has been developed while the irrigated areas cover about 6% of the total cultivated land. The average per capita storage in Africa is about 50m<sup>3</sup> compared to 3,500m<sup>3</sup> per person in Europe, and over 6,000 m<sup>3</sup> in USA. It is essential to build the water infrastructure assets and increase water storage capacity in Africa for poverty reduction and sustainable socio-economic development.

1.1.2 Transboundary water resources constitute approximately 80% of Africa's freshwater resources. The basins cover 61% of the surface area in which 77% of the human population live. There are over 60 shared rivers and aquifers demarcated as basins, which sometimes cross REC boundaries. Emphasis is placed on their equitable and sustainable utilization through cooperation among the riparian states to maximize benefit sharing. Cooperation is needed to advance trans-boundary regulation of rivers against floods and droughts, groundwater management and protecting watersheds and wetlands. Cooperation, coupled with trans-boundary benefit-sharing, allows countries to leverage the productive potential of their shared rivers, lakes and aquifers, including locating economic activities where they are most efficient. African governments have responded by creating a number of new Lake and River Basin Organizations (L/RBO), building on the positive experiences on the continent such in the Senegal, Niger and Nile River Basins, and in the SADC region. But more needs to be done in terms of creating new cooperation frameworks and strengthening existing ones.

1.1.3 The centrality of the water sector to socio-economic development cannot be overemphasised. Building on the national focus of the water resources management plans, the development of transboundary water resources is necessary to achieve targets in health, food security, water security, energy, transport, industrial development, education and the fight against HIV and AIDS. Furthermore the largely undeveloped, or sub-optimal (uncoordinated) infrastructure, potentially exposes the economy of riparian countries to water stress and scarcity. Cooperation in the development and management of the shared resources is essential to gain win-win benefits.

1.1.4 The management of transboundary water resources is one of the messages of the shared African Water Vision 2025<sup>1</sup>, "an Africa where there is an equitable and sustainable use and management of water resources for poverty alleviation, socio-economic development, regional cooperation and the environment". Various initiatives have been launched to contribute to the realisation of the vision and Declarations made by Heads of State and the AMCOW such as the Abuja Ministerial Declaration (2002) on Water - a key to Sustainable Development; the Sirte Declaration

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<sup>1</sup> Africa Water Vision 2025 (AU, ADB, ECA, 2000)

(2004) on the challenges of implementing integrated and sustainable development on agriculture and water in Africa; the Declaration of Johannesburg (2007) on water for development and the fight against poverty; the Ministerial Declaration ending the First African Water Week (2008) that focused on “Accelerating Water Security for socio-economic development of Africa” and the Heads of State Sharm El-Sheikh Commitments for Accelerating the Achievement of Water and Sanitation Goals in Africa (2008). The declarations create awareness; symbolise political commitment and also aim to ensure an enabling regulatory and institutional framework in the management of water resources and implementation of the action plans.

1.1.5 The initiatives include the revised SADC protocol (1998) on shared water resources and management of Transboundary waters; the Nile Basin Initiative (1999); the TIGER Initiative (2002), which is aimed at closing the information gap in the African water sector; the EU Water Initiative (2002), which is a partnership between the EU and African, Caribbean and Pacific Countries; the African Water Facility (2004); the ECOWAS Permanent Framework for Co-ordination and Monitoring of Integrated Water Resources Management (2004); the Rural Water Supply and Sanitation Initiative (2005) and the creation of River Basin Organisations (RBOs), which have an African network. RBOs are agencies for cooperative management and development of water resources.

1.1.6 The RBOs’ objectives include ensuring the protection, management and equitable sharing of the water resources in the basin and build on the principles of Integrated Water Resources Management (IWRM). According to the AU’s guidelines for establishing a cooperative framework agreement for the integrated management of transboundary basins (2007), the factors that determine the performance and effectiveness of these organisations include the commitment of the riparian states, the focus on socio-economic development, the focus and technical precision of their objectives, the number of states in the basin, the support from external agencies and the emphasis placed on the processes involved in the development of infrastructure beyond mere planning. Some rationalisation is important in the establishment of RBOs particularly as they cross RECs e.g. the Congo Basin. Additionally in the institutional arrangements within the African continent the RBOs and Lake Basin Organisations are encouraged to be members of the African Network of Basin Organisations (ANBO). The ANBO is a technical advisory body of AMCOW on transboundary water management. AMCOW is in turn linked to the AU. In a parallel institutional structure, the RECs are the building blocks of regional integration for the AU. These institutional arrangements present opportunities and challenges in transboundary water resources management.

1.1.7 The initiatives in the water sector relate to other sectors as elaborated by the central role of the water sector in socio-economic development. The different sectors of industry, agriculture, domestic use, energy, navigation, and transport are consequently considered as demand drivers, taking into account other NEPAD initiatives in agriculture - the “Comprehensive Africa Agriculture Development Programme (CAADP)”, NEPAD’s energy initiatives to develop fully the energy resources of the continent through regional cooperation and NEPAD’s environmental initiative that supports sustainable management of transboundary water resources through capacity enhancement of RECs and countries.

1.1.8 PIDA is preceded by the Short Term Action Plan (STAP). The STAP is a definitive list of ongoing and planned priority projects conceived and formulated by African stakeholders to fast track meaningful development and integration of the continent through renewed partnership with Africa’s development partners. The 2002 STAP had 13 Water Sector projects to address five themes: creating an enabling environment for regional cooperation; support to development of national IWRM policies; meeting urgent water needs; improving water wisdom; strengthening the financial base for the desired water future. A recognition of the inadequate knowledge and cooperation on shared water resources issues resulted in a strong recommendation to launch an Action Plan for “Transboundary Water Resources Management” (TWRM) with a strategic goal of strengthening the enabling environment for the effective cooperative management and development of Transboundary water resources and initiation of the implementation of prioritized programmes. A portfolio of 24 projects resulted from the Action Plan mainly focused on selected shared basins namely: Niger and Senegal in West Africa, Nile in Eastern Africa, Congo and Lake Chad in Central Africa and, Zambezi and Okavango in Southern Africa.

1.1.9 The STAP Reviews and studies conducted by other reputable organizations will be part of the literature that will inform the study. The findings from the relevant studies conducted, and related publications by entities such as the IWMI (Transboundary water management), the World Bank (AICD

and water security studies) the ADB (RWSSI and meeting MDG targets), GWP (IWRM), the FAO, IFAD and IFPRI (agricultural water use) and the ICA (financing infrastructure), will be beneficial and time saving. Annex I gives an indicative list of sector organisations, and Annex II gives a list of reference documents.

## **1.2 The Scope and Specific Objective of the Study for the Transboundary Water Sector**

1.2.1 The transboundary water sector will only be considered to the extent that there are aspects of a regional nature, primarily through links with storage and multipurpose use, agriculture (irrigation), energy (hydro power), transport (lakes and rivers), drought and flooding and environmental management. Water supply and sanitation is considered to be covered within the scope of national and local actions. Issues that are within the scope of national or local level actions will only be considered in as much as the impact of such actions are felt at transboundary level. In terms of the coverage of water basins, the study will start with the basins covered by the NEPAD<sup>2</sup> STAP.

1.2.2 Within these sub-sectoral limits, the study will cover an assessment of existing policies and strategies relevant for infrastructure development, physical infrastructure, and the regulatory and institutional frameworks to optimise the management of the resources, as well as the outlook for the future. The study also covers the requirements, gaps and justification for the significant investment for the development of the resources and options for maximising shared benefits or minimising costs.

1.2.3 The General ToRs define the scope and objectives of the overall study. Sector-specific objectives to be taken into account in the case of the transboundary water sector include:

- Alignment of the long term perspective with the Africa Water Vision 2025
- Ensuring water security to meet future increases in demand for water and enable the socio-economic development of the regions of the African continent
- Enabling the equitable allocation of water resources among competing water uses for sustainable development
- Equitable sharing of benefits arising from the shared basin resources
- Adapting to and mitigating climate change impacts and variability in weather patterns
- Enhancing regional cooperation by deploying the principles of Integrated Water Resource Management (IWRM) particularly for shared water resources through the L/RBOs and regional water protocols
- Ensuring African Ministers Council of Water (AMCOW) fully supports the outputs
- Environmental protection and management as advocated by IWRM principles.

1.2.4 The initial points of contact for the transboundary water sector are the L/RBOs where an analysis of the existing policies will extend to proposals for their operational optimisation. This will include recommendations on the number of L/RBOs to be created within the horizon provided. The regulatory and institutional aspects emerging from the L/RBOs, particularly the overlap and potential multiplicity of policies, and the national level should be taken into account with regard to harmonization or realignment. A reference framework is expected to be established by the Consultant to promote the harmonisation of the national and regional policies.

1.2.5 The Transboundary Water sector study will follow the key steps set out in the General ToRs. These sector-specific ToRs focus only on the scope of work in Phases I and II of the study. The Inception phase and Phase III are covered in the General ToRs.

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<sup>2</sup> Refer to NEPAD STAP for Transboundary Water Resources, NEPAD, ADB, March 2005

## 2. Description of tasks under Phases I and II

### 2.1 Phase I : Diagnosis and in depth Analysis

2.1.1 The General ToRs describe the Inception Phase and the kick-off workshop which provide an essential lead-in to the Phase I work. In particular:

- The Consultant will already have made contact with stakeholders to identify the nature and scope of existing information sources, so that gaps that need to be filled can be more precisely identified; and
- The kick-off meeting will have established a vision and macro framework to inform the Consultant's assumptions and projections (see task B.1. below).

2.1.2 The tasks that are described below are not necessarily sequential, and some of the tasks may overlap in terms of timescales.

#### A. Review and Situation Analysis.

2.1.3 The Consultant shall conduct a two-fold review of: (i) regional and continental transboundary water resources development and management policies and strategies; and (ii) development of regional transboundary water infrastructure (in operation, under implementation or planned), as well as associated services.

#### A.1. Regional and Continental Policies

2.1.4 This review will be an evaluation of regional policies implemented to date. It will address as precisely as possible the following questions:

- What is the scope of existing regional and continental policies?
- To what extent have the policy objectives been achieved?
- What are the limiting factors that impede the achievement of these objectives?

2.1.5 The work plan will be constituted by two distinct levels of analysis:

- a. **Statement concerning the level of achievement of policy objectives.** The analytical framework should specify (i) the manner in which the Consultant intends to assess the level of achievement of each of the policy objectives (econometric methods, utilization of indicators and other analytical approaches) (ii) indicators used for the evaluation; and (iii) the sources of information and documentation which the Consultant plans to use. In order to facilitate comparative analysis and maintain consistency, selected indicators will also be used in the projection and the establishment of the outlook for the future mentioned below.
- b. **Causal Analysis.** This level of analysis will concern the reasons and factors ('the constraints') which limited the level of achievement of the policy objectives. The Consultant's analytical framework will describe the manner in which the causal analysis will be carried out<sup>3</sup>. The Consultant's detailed analysis in this evaluation will be informed, among other things, by international references and quantitative data, and illustrated by analyses of specific successful ('success stories') or unsuccessful ('failure stories') measures.

2.1.6 The causal analysis is especially important in identifying the reasons for delays, conflicts and failures. The results of this analysis should feed into both the prioritisation of projects and programmes, and into the implementation strategies and processes. The results of the 'Revision of the AU/NEPAD African Action Plan' study, and the 'Implementation progress review of the NEPAD STAP' study should provide a useful starting point, but the Consultant should build on these and other studies to develop a sound analytical framework that links the causal analysis with the strategic

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<sup>3</sup> The Programme Concept Note provides some methodological indications for reference on a possible analytical framework (annex 1).

framework and infrastructure development programme. To the extent that the harmonization of regulatory frameworks and administrative procedures, and other "soft interventions", are constraining factors, the Consultant's recommendations and proposals must address these issues.

2.1.7 The output of this task will form part of the Phase I report (see B.3. below).

## **A.2. Regional infrastructure for Transboundary Water resources**

2.1.8 This second part of the review will analyse existing regional and continental infrastructure and associated services, those under implementation and those that are in the pipeline. It will essentially address the following objectives:

- Contribute to the review of regional and continental policies mentioned above;
- Determine the potential for improving the performance of the existing infrastructures for longer term development prospects;
- Assessment and identification of regional infrastructure needs over the longer time frame;
- Formulate the measures to be taken to improve the efficiency of implementation of programmes for the development of regional infrastructures; and
- Enrich the Client's information base.

2.1.9 The analysis will be guided by the status of projects considered.

a. **Existing Infrastructures.** The analysis will partly cover existing regional infrastructures. The Consultant shall take into account and build on existing or ongoing studies, in particular those listed in Annex II. This analysis will aim at : (i) assessing the contribution of these infrastructures to reaching policy objectives; (ii) highlighting how various factors constrain the efficiency of these infrastructures (e.g. the planning and quality of physical infrastructure, the quality of the institutional and regulatory environment, the structure of infrastructure services markets); (iii) determining the potential for improving the efficiency of these infrastructures and the role they could play in the future; and (iv) drawing lessons from the construction and operation of these infrastructures. The infrastructures to be analysed will be chosen so as to respond in the best possible way to the objectives of the proposed analysis; based in particular on the following criteria (i) the potential of the concerned infrastructure to serve as a regional multipurpose water source with relevance to the development prospects mentioned above; and (ii) the representativeness of such infrastructure for the analysis of factors of inefficiency and, consequently, the formulation of corrective measures. The Consultant's proposal will indicate the main infrastructures envisaged for the analysis, as well as the scope and proposed analytical approach.

b. **Infrastructures under execution or preparation.** The Consultant shall perform the following tasks:

b.1. **Making an inventory of all projects under implementation and preparation.** The inventory will be based on documentation provided by the Client and the Consultant's own investigations. The Consultant shall prepare a sheet ('project sheet') for each of the projects using a format that will be agreed upon with the Client during the discussion of the work plan presented in the proposal. For purely illustrative purposes, a sample format (which the Consultant is invited to comment on and review) is presented in Annex III. The Consultant shall submit the project sheets in an electronic medium and in the form of an Excel or Access file, to be agreed with the Client. The Consultant shall also provide a project brief along with the sheets, to be included in the Phase I report, which will: (i) indicate the sources of information and specify, as appropriate, the items of information; and (ii) summarize the situation of all of these projects (costs, nature, regions, status, etc.).

b.2. **Detailed analysis of a set of projects.** The objective of this analysis will be to highlight the level of efficiency of implementation of regional infrastructure programmes and the nature of limiting factors. The analysis will cover, among others: (i) the possible gaps between budgets and initial and present schedules; (ii) the

factors causing such gaps; (iii) the conditions of coordination and decision-making on the key parameters of these projects (technical structure, planning, budget, role of various stakeholders in implementation); (iv) any other factor that impacted the efficiency of the process of preparation and/or implementation of the infrastructure concerned. This task should thus help learn lessons from the conditions of preparation and implementation of the projects considered. For the execution of this task, the Consultant could consult works conducted on the STAP and the evaluations of its implementation, as well as other ongoing studies mentioned in Annex II. The set of projects will be agreed upon between the Consultant and the Client and should prioritise a minimum of five projects including at least some projects retained as flagship projects in the STAP that are under preparation or implementation.

2.1.10 The output of this task will form part of the Phase I report (see B.3. below).

## **B. Establishment of the outlook for the future and identification of challenges**

2.1.11 The objective of this stage is to establish the outlook for the future for the development of regional transboundary water resources infrastructures by 2030<sup>4</sup> and assess the challenges that the regions and the continent will have to face in the sector. Such an outlook should serve as a basis for the formulation of realistic long-term objectives, to be targeted by policies and programmes at the continental level in order to anchor infrastructure development into regional integration and trade co-operation in Africa.

2.1.12 The Consultant should consider carefully the extent to which the models already developed by the AICD team can be utilised to establish the outlook for the future. They might, for example, be valuable for developing different outlook scenarios guided by political priorities.

### **B.1. Establishment of an outlook for the future**

2.1.13 **Vision:** As set out in the General ToRs, the Panel of Experts will present, for discussion at the kick-off workshop, a preliminary draft of a Vision and Framework paper. The purpose of this paper is to provide an initial view of a macro framework, and a vision for regional integration in Africa together with the contribution of each infrastructure sector to this regional integration. The outcome of these discussions<sup>5</sup> should be used by the Consultant as a starting point for assumptions and projections of the outlook for the future.

2.1.14 **Validation workshop:** The Consultant's projections of the outlook for the future will take place in two stages. First, the Consultant will develop their parameters and assumptions for the projections, and produce a methodological brief for discussion at a workshop which is expected to take place around 12 weeks after the commencement of work. The Consultant shall deliver their methodological brief a week earlier. The workshop will be organized by the Client and Consultant, and will bring together stakeholders (especially the RECs, L/RBOs and AU specialized institutions/Sector Organizations) and resource persons ('external experts'). The purpose of the workshop will be to discuss the methodological note, and validate the assumptions and parameters to guide the final projections. The second stage will take place after the workshop, and will involve the finalisation of the Consultant's projections for the Phase I report.

2.1.15 **Horizons.** The projections will be established for the periods 2010-2020 and 2021-2030<sup>6</sup>. Year 2007 is envisaged as the reference year, provided that data required for the analysis could be collected in a satisfactory way. In lieu of this, the Consultant may indicate an alternative in their proposal and justify it. Should the work require an analysis of past trends, the period 1998-2007 shall be considered.

2.1.16 **The assumptions and methodology:** The Consultant shall be particularly cautious in preparing the assumptions for the establishment of the outlook for the development of regional

<sup>4</sup> In view of the long term time frame required for relasing the benefits of transboundary cooperation, the consultant may propose another horizon with justification

<sup>5</sup> This outcome will either emerge in the form of a consensus between the Panel of Experts, the consultants, and the Client; or, in the event that no consensus emerges, the final decisions will be made by the Client.

<sup>6</sup> Ibid

infrastructures, as well as the methodology to be used. The Consultant's methodological brief will analyse the following points:

- a. **The Factors.** The Consultant shall identify and analyse the “dominant” factors that are likely to determine the trends of regional and continental infrastructure supply and demand by 2030 for the definition of basic assumptions and parameters on which the outlook for the future will be established. For example, such factors may include:
  - Endogenous factors such as the development visions, and paths of different parts of the continent, the demand centres associated with the population increases, urbanisation and the socio-economic development based on the exploitation of natural resources and regional integration.
  - Exogenous factors such as emanating from the international discourse on environmental management, international agreements on water resources management, climate change and variable weather patterns.
- b. **Quantified assumptions and parameters** through which the results of the analysis of the aforementioned factors can be reflected.
- c. **Forecast Methodology.** The Consultant shall propose and justify the most appropriate methodology for establishing the outlook for the future. This could be based on the formulation of scenarios, in which case the choice of the scenarios to be retained should be justified in relation to the analysis of trend factors and the study objectives. The Consultant shall describe **precisely** the forecast and analysis models and other tools to be used.

2.1.17 **Formulation of the outlook for the future:** On the basis of the validated assumptions and parameters, the Consultant shall make projections of potential regional and continental water needs (including the demand centres, volumes required and potential sources for the required resources). The output of this task will form part of the Phase I report (see B.3. below).

## **B.2. Analysis of choices and challenges**

2.1.18 **The water sources and demand in view of water security.** The Consultant will analyse the possible options for sources of water taking into account the demand scenarios based on simulated growth in the various sectors such as agriculture, energy and transport that are directly dependent on the availability of water resources. This analysis will also consider the likely impact of climate variability and changes, and the measures that should be integrated within the framework of the overall solution.

2.1.19 **Analysis and assessment of the outlook for the future.** The Consultant shall highlight and analyse the compliance of development prospects with policy objectives; analysing possible conflicts, trade-offs and alignments to be carried out between objective priorities of regional transboundary water infrastructure and improvement of the associated services. The Consultant shall carry out a comprehensive economic analysis of the outlook for the future in terms of the volume of investment and the contribution to the development of the regions and the continent.

2.1.20 **Objective Setting.** The Consultant shall propose a number of realistic objectives that African decision makers could set for their long term regional and continental infrastructure development policies in the transboundary water sector. In so doing the Consultant shall formulate realistic assumptions on the level of resources that could be available for supporting the development of physical assets in the transboundary water sector. These objectives shall be established on the basis of relevant indicators that reflect the outlook for the future and challenges identified in the preceding analysis. In the elaboration of their proposals the Consultant will take into account the objectives of the Africa Water Vision 2025.

2.1.21 The output of this task will form part of the Phase I report (see B.3. below).

## **B.3. Preparation of an outline programme for the development of regional and continental physical infrastructures**

2.1.22 From (i) the review of regional and continental infrastructures and (ii) the formulation of the outlook for the future, the Consultant shall present an outline infrastructure development programme for the development and management of transboundary water resources to the 2030 horizon, in which the following shall be highlighted:

- Investment projects by status (under execution, in current pipeline, new idea);
- Institutional and legal framework (including sector policies) and other soft interventions that are required;
- Relevant implementation stakeholders;
- First cost quantifications and estimated deadlines;
- Specific choice and decision-making issues, in particular regarding projects for which bankability is uncertain

2.1.23 The output of this task, together with the outputs of tasks A.1., A.2., B.1. and B.2, will form the Phase I report, which should be delivered to the Client 20 weeks after the commencement of work.

## **2.2 Phase II: Formulation of a preliminary draft strategic framework, infrastructure development programme, and implementation strategy for the transboundary water sector**

2.2.1 The aim of this phase is to help reach, through a sustained participatory and consultative process, and on the basis of previous studies, a consensus on the essential elements of a regional and continental transboundary water resources strategic framework (including sector policies), infrastructure development programme, and implementation strategy and processes. The key issues that should be addressed include (but are not limited to):

- The institutional and regulatory frameworks and their possible harmonization
- How the institutional arrangements within the African continent relate the L/RBOs to the RECs ,and how are they in turn linked to the AU
- The challenges presented by environmental and climate change and possible mitigation measures
- The financing requirement, gaps, mechanisms and options available
- Opportunities available for private sector participation and incentives to stimulate participation
- The availability of human resources
- The allocation of water resources to competing uses and users.

2.2.2 A core component of this phase will be the holding of a series of sector workshops involving all key stakeholders. The aim of the workshops will be to develop proposals based on outlines prepared by the Consultant. The services of the Consultant for this phase are described below.

### **Preparation and holding of sector workshops**

2.2.3 **Structure of the workshops.** In close collaboration with the Client, the Consultant shall agree the number of workshops to be held, and the organisations to be invited to each workshop. The main workshops will be with the RECs, AMCOW, and L/RBOs, but there may also be a need to consult with other stakeholders at a continental level, such as the NEPAD Head of States and Government Implementation Committee. The Consultant will also advise the Client on measures and programmes most efficiently addressed at continental level.

**2.2.4 Preparation of briefs for the workshops.** In close collaboration with the Client, the Consultant shall prepare briefs to contribute to the workshop discussions. Such briefs, prepared on the basis of the Phase I report, will be specific to each region. They will include summaries of:

- The conclusions of reviews of regional policies and the implementation of infrastructure development programmes;
- The conclusions of projections of needs in regional transboundary water resources infrastructure and associated services, and an analysis of coherence with sector policies and economic guidelines;
- A set of recommendations aimed at strengthening regional and continental policies on transboundary water resources infrastructure and associated services development and management;
- The issues that should be addressed in the strategic framework for transboundary water resources, both to prioritise projects and programmes, and to ensure successful implementation;
- Outlines of specific regional infrastructure development programmes for transboundary water resources management, including analyses of new projects; and
- Outlines of an implementation strategy and processes.

**2.2.5** Briefs for the preparation of the sector workshops will be delivered to the Client 5 weeks after Phase I validation.

**2.2.6 Participation in and/or facilitation of workshops.** The Consultant shall assist the Client in preparing, organizing and implementing the workshops by:

- Proposing the structures of workshops (notably plenary and regional sessions) and a method of facilitation. Such proposals will be discussed and validated with the Client;
- Preparing the detailed agenda;
- Presenting briefs, and taking part in workshop proceedings, especially by clarifying the assumptions chosen during discussions and further analyses to be made consequently;
- Contributing to workshop proceedings, especially by ensuring that discussions effectively lead to the formulation of conclusions relevant to the strategic framework (including sector policies), infrastructure development programme, and implementation strategy and processes;
- Playing the role of the facilitator and/or advising the Client on such a role in order to structure the conduct of the workshops and summarize the various conclusions.

**2.2.7** At the end of the workshops, the Consultant shall prepare a report highlighting: (i) the guidelines formulated by participants on the strategic framework/sector policies, infrastructure development programme, and implementation strategy and processes; (ii) the agreed appropriate levels at which the measures and initiatives should be undertaken: continental or regional; (iii) the interfaces between the regional and continental levels on which to undertake these measures and initiatives (iv) issues on which participants could not reach a consensus, and (v) additional analyses brought forward and necessary for the consolidation of results.

**2.2.8** Reports on the sector workshops will be delivered to the Client within 1 week of each workshop being completed.

### **Formulation of a preliminary draft strategic framework (including sector policies)**

**2.2.9** The Consultant shall:

- Carry out additional analyses needed to validate assumptions adopted during the workshops;
- Assist the Client to address issues on which agreement was not reached during the workshops;

- Review and if necessary reformulate the strategic objectives and sector policies taking into account the outcome of the workshops;
- Finalize a preliminary draft of an African transboundary water resources strategic framework (including sector policies) on the basis of the guidelines formulated by the workshops and further analyses as necessary;
- Outline the measures and other propositions where a consensus was not reached.

2.2.10 The strategic framework (including sector policies) will provide the basis on which the infrastructure development programme can be developed, as well as addressing the issues relating to successful implementation. The framework should set out clear criteria for prioritising both transboundary water basins and programmes within those basins, having due regard to any existing criteria being applied in the choice of water resources development programmes, or used to prioritize programmes and projects.

2.2.11 The output of this task will form part of the Phase II report.

### **Formulation of a preliminary draft infrastructure development programme**

2.2.12 The preliminary draft infrastructure development programme will be phased into the short term (2010-2015), medium term (2016-2020) and long term (2021-2030). It will include options and their rationale as may be necessary. The programme will stem from the strategic framework (including sector policies), and particularly: (i) the establishment of the outlook for the future, and the identification of strategic objectives and policies for the sector, and (ii) the strategic guidelines and criteria formulated during the workshops, especially for the prioritisation of projects and programmes.

2.2.13 Technical and political processes need to go hand in hand in arriving at agreement on a set of prioritized trans-boundary water infrastructure projects, based on sound technical and consensus-based proposals. Since the process of identifying, assessing and agreeing on a set of priority projects requires substantial negotiation and buy-in at a political level, the Consultant should carefully consider options for the level of detail that is feasible. One option may be to establish a set of agreed core principles at a continental level, and promote policy development at a regional level.

2.2.14 This task will necessitate the following analyses:

- The coherence of projects and programmes with the policy and strategic objectives of the sector.
- Preliminary assessments of the financial and economic viability of projects/programmes to provide an initial criterion for their prioritisation.
- Refinement of the prioritisation criteria to include other relevant factors including (but not limited to): (i) the contribution of each project/programme to the attainment of objectives; (ii) the stage of development of each programme (according to defined milestones); (iii) an assessment of "soft interventions" such as the difficulties of harmonising regulatory frameworks and administrative procedures; (iv) the prospects for financing.
- Role of stakeholders in programme implementation, together with human resource availability and capacity building requirements..
- The need for complementary policy, institutional, or regulatory measures required to enable efficient and fruitful implementation.
- Potential environmental impact.
- Other risks and challenges to implementation.

2.2.15 The output of this task will form part of the Phase II report.

### **Formulation of a preliminary draft implementation strategy and processes**

2.2.16 The Consultant shall prepare a preliminary draft implementation strategy and processes, based on analyses of the potential barriers to implementation. The successful implementation of the infrastructure development programme will depend on building a consensus among all stakeholders around a realistic platform of measures and projects. The implementation strategy and processes will

involve the development of priority measures, resources and tools to support the successful implementation of PIDA, including:

- a. **Priority actions to be undertaken in the period 2010-2015** in terms of both physical investments and associated measures required to secure successful implementation (e.g. policy, institutional, regulatory, financial, legal). This set of actions shall form the Priority Action Plan, which will replace the NEPAD STAP, and should be designed in a form to be a roll-over action plan.
- b. **Respective roles of regional and continental entities and institutions** in the implementation of the Priority Action Plan, and more generally in the preparation and implementation of further investment programmes as well as in the elaboration and application of regional and continental policies. The study will review all institutional arrangements that affect the development and delivery of infrastructure services at the regional and continental levels, and will make recommendations on how they could be modified to improve infrastructure services. The recommendations will draw on the causal analysis undertaken in Phase 1.
- c. How the regional and continental policies, entities and institutions could contribute to resolving **the issue of financing proposed investments and their sustainability**, covering both construction and operation and maintenance of the infrastructure.
- d. **Mobilizing regional and external financing and private sector participation.** The study will address the mobilization of funding within the region, and from development partners and the private sector. The existing situation will be evaluated, and projections made of the likely financial resource envelopes for regional infrastructure projects, based on an analysis of past trends and other relevant factors. It is desirable to produce scenarios of future financial resources within which development projects and programmes can be prioritised. These projections should be based on realistic assumptions, and, as far as possible, innovative ways of finding solutions to these recurrent issues. The Consultant will propose measures likely to help mobilise private sector participation in infrastructure, and strengthen cooperation with international development partners.
- e. **Civil society participation** in the preparation and implementation of proposed measures in terms of policies as well as physical investments. In this context, the Consultant shall propose communication and dissemination measures that regional and continental entities and institutions shall undertake in order to enhance civil society participation.
- f. **Defining an implementation and monitoring process:** This involves proposing to stakeholders, the mechanisms and tools to: (i) review and update over time the strategic framework and infrastructure development programme; and (ii) actively manage the roll-over Priority Action Plan. With respect to the action plan, this will mainly consist of knowing how to initiate and complete an action, as well as how to monitor the progress of the action. This process will include:
  - \* **Capacity building:** The formulation of recommendations for the institutional capacity building of continental and regional entities responsible for monitoring, coordinating and managing the implementation of the agreed measures and actions (while implementation of the recommendations will be the direct responsibility of the entities concerned, and will be carried out outside this study).
  - \* **Monitoring mechanism.** Starting from the work already done to design the NEPAD Project Management System (NPMS), and the upgrading of this system under MLTSF, the Consultant will assess the adequacy of the present data base as an effective monitoring mechanism, and formulate observations, comments and recommendations on its upgrading to the extent that this is assessed to be necessary. The final design and implementation of any improved monitoring mechanism will be carried out separately from this study.

2.2.17 The output of this task will form part of the Phase II report. The full report Phase II report will be delivered to the Client 24 weeks after Phase I validation, and will contain:

- Preliminary draft strategic framework (including sector policies)

- Preliminary draft infrastructure development programme
- Preliminary draft implementation strategy and processes.

### **INDICATIVE LIST OF SECTOR ORGANISATIONS**

- |              |   |
|--------------|---|
| 1. AFUR      | African Forum for Utility Regulators                                |
| 2. AMCOW     | African Ministers' Council on Water                                 |
| 3. ANBO      | African Network of Basin Organisations                              |
| 4. CICOS     | International Commission of Congo-Oubangui-Sangha Basin             |
| 5. GWP       | Global Water Partnership (African Chapters)                         |
| 6. IHA       | International Hydropower Association (based in UK)                  |
| 7. IWMI      | International Water Management Institute (Pretoria)                 |
| 8. LCBC      | Lake Chad Basin Commission  |
| 9. L/RBO's   | Lake / River Basin Organizations                                    |
| 10. NBA      | Niger Basin Authority   |
| 11. NBI      | Nile Basin Initiative   |
| 12. OBK      | Kagera River Basin Organization                                     |
| 13. OKACOM   | Okavango River Basin Commission                                     |
| 14. OMVG     | Gambia River Basin Organisation                                     |
| 15. OMVS     | Senegal River Basin Organisation                                    |
| 16. ORASECOM | Orange-Senqu River Basin Commission                                 |
| 17. RBO's    | River Basin Organizations   |
| 18. UNEP     | United Nations Environment Programme (Dams and Development Project) |
| 19. VBA      | Volta Basin Authority   |
| 20. ZAMCOM   | Zambezi River Basin Commission                                      |

**LIST OF REFERENCE DOCUMENTS**

In order to inform the study, the Consultant shall research any other available information on the topic either from institutions working on Africa (RECs, UNECA, World Bank, etc.), from other regions, or from the web.

**Documents related to the NEPAD infrastructure programme**

## 1 CAADP Documents

**Africa Infrastructure Country Diagnosis**

The Africa Infrastructure Country Diagnostic (AICD) is a project designed to expand the world's knowledge of physical infrastructure in Africa. AICD will provide a baseline against which future improvements in infrastructure services can be measured, making it possible to monitor the results achieved from donor support.

**Background papers**

	Date of posting on AICD site
<i>General</i>	
Fiscal costs of infrastructure	
Access, affordability and alternatives (household survey)	<b>February 2008</b>
Unit costs of infrastructure	
<i>Investment Needs Studies</i>	
Irrigation	
Water resources	
<i>State of the Sector Reviews</i>	
Irrigation	
River basin management	Phase II
Urban infrastructure	Phase II
Water resources	March 2008

**Working Papers**

	Topic	Authors	Date of posting on AICD site
Infrastructure and Growth in Africa	Macro/ Growth	Calderon	<b>February 2008</b>
Making Sense of Sub-Saharan Africa's Infrastructure Endowment: A Benchmarking Approach	Macro/ B'mkg	Yepes/ Pierce/ Foster	<b>February 2008</b>
Building Sector Concerns into Macro-Economic Financial Programming: Lessons from Senegal and Uganda	Macro/ fiscal	Estache/ Munoz	March 2008
Impact of Infrastructure Spending in Sub-Saharan Africa: A CGE Modelling Approach	Macro/ fiscal	Perrault/Savard	March 2008
Fiscal Costs of Infrastructure Provision: A Practitioner's Guide	Macro/ Fiscal	Briceno	
Water Reforms in Senegal: A Micro-Macro Analysis of the Effects on Poverty and Distribution	Water/ Impact	Boccanfuso/ Estache/Savard	March 2008
Impact of Infrastructure Constraints on Firm Productivity in Africa	Micro/ PSD	Escribano/ Guasch	March 2008
Potential for Local Private Finance of Infrastructure in Africa	Finance/PSD	Manroth/ Irving/Carter	

Water Tariffs and the Poor: Case Studies from Sub-Saharan Africa	Water/ Poverty	Wodon/Banerjee
Crop Production and Road Connectivity in Sub-Saharan Africa: A Spatial Analysis	Roads/ PSD	Dorosh
The Role of Small Scale Independent Providers of Water in Urban Areas in Sub-Saharan Africa	Water/ SDV	Keener
A Tale of Three Cities: Understanding Differences in Provision of Modern Services	Urban	Gulyani/Talukdar

### Web Tools

	Date of posting on AICD site
<i>On-line interactive databases</i>	
Fiscal costs of infrastructure	
Household survey data	
Irrigation sector performance indicators	
River basin management sector performance indicators	Phase II
Urban infrastructure sector performance indicators	Phase II
Water resources sector performance indicators	
<i>On-line interactive simulation models</i>	
Investment needs for irrigation	
Investment needs for power	
Investment needs for water resources	
<i>GIS Africa infrastructure atlas</i>	

### Other documents relevant to the Transboundary Water Resources Sector

- 1 Africa Water Vision 2025, AU, ADB, ECA, 2000
- 2 Short Term Action Plan (STAP) analysis & measures to accelerate its implementation, Water Sector,, MLTSF Part I, 2007 (Discussion Paper)
- 3 Infrastructure Development Gap, MLTSF Study Part 1, 2007 (Provisional Document)
- 4 African Water Development Report, UN-Water Africa & AMCOW, 2006
- 5 Transboundary River/ Lake Basin Water Development in Africa: Prospects, Problems and Achievements (UNECA, 2000)
- 6 The Rural Water and Sanitation Initiative Launching Documents (2005)
- 7 TIGER Initiative Strategic Document and Implementation Plan (2005)
- 8 Instrument establishing the Africa Water Facility (2004)
- 9 Africa Environment Outlook – Past present and Future perspectives (UNEP, 2002)
- 10 State of the Environment in Africa (UNECA)
- 11 Reports on Irrigation in Africa (FAO)
- 12 Reports by MDG Task Force on Environmental Sustainability
- 13 Reports by MDG Task Force on Water and Sanitation
- 14 Outcomes and Recommendations of the Pan African Implementation and Partnership Conference (UNECA, 2004)
- 15 Ministerial Declaration of the Hague Conference on Water security in the 21st Century
- 16 Abuja Ministerial Declaration on Water - a key to Sustainable Development in Africa
- 17 Sirte Declaration on the challenges of implementing integrated and sustainable development on agriculture and water in Africa

- 18 Declaration of Johannesburg on water for development and the fight against poverty
- 19 Ministerial Declaration of the First African Water Week 2008
- 20 The EU Water Initiative Launching documents (2002)
- 21 L'Initiative Canadienne (PAWD), Programme for Water Development in Africa (GWP, UNDP 2005)
- 22 G8 Africa Action Plan and Transboundary Water Management
- 23 Guidelines for establishing a cooperative framework agreement for the integrated management of Transboundary basins (AU 2007)
- 24 Sharm El-Sheikh Commitments for Accelerating the Achievement of Water and Sanitation Goals in Africa (2008)
- 25 Dams and Development – A new framework for decision making (2000), World Commission on Dams

**Indicative format for project record sheet**

1	Project number (according to NPMS referencing system as far as possible)
2	Title
3	Funding requirement - Pre-implementation (USD)
4	Funding requirement - Implementation (USD)
5	Sector (Transboundary Water resources, etc.)
6	NEPAD Priority
7	Beneficiaries
8	Implementation stage (last stage/milestone reached, date, and narrative description)
9	RECs involved (leader and other RECs/other regional organisations involved)
10	Countries
11	Next stages/milestones scheduled dates (incl. Start and end dates)
12	Background
13	Expected Results (outputs, outcomes, impact)
14	Regional significance
15	Project assumptions and risks
16	Role of key players
17	PPP viability
18	Private sector involvement
19	Implementing agency
20	Project type (physical project, capacity building, other soft intervention)
21	Project manager (contact details)
22	Site Manager (contact details)