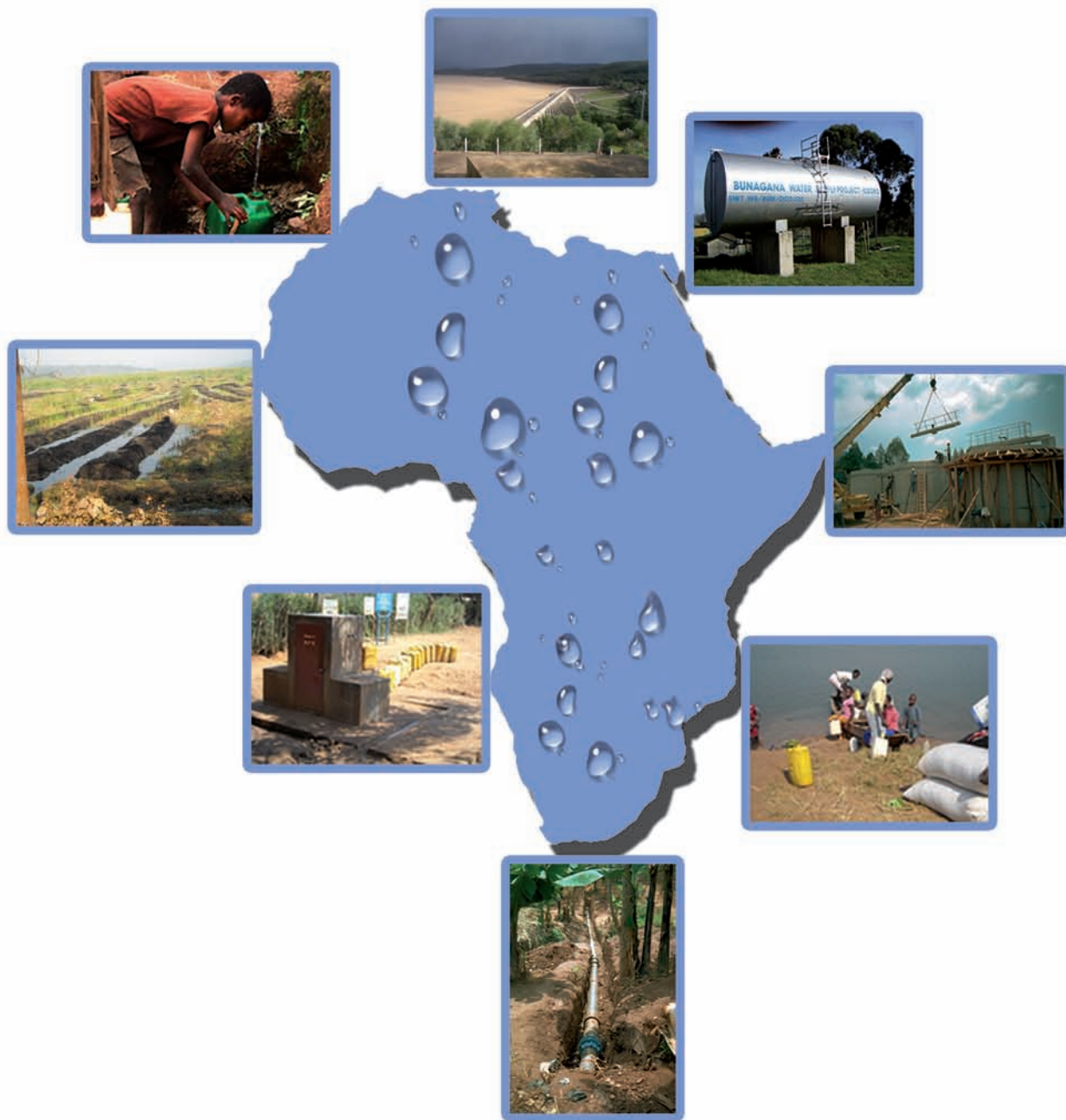




African Ministers' Council On Water



Pan African Water Sector Monitoring and Evaluation Assessment Volume 2 : Rapid Monitoring and Evaluation Assessment Template





AFRICAN MINISTERS' COUNCIL ON WATER

Pan African Water Sector Monitoring and Evaluation Assessment

Volume 2: Rapid M&E Assessment Template



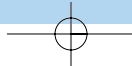
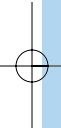


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List of Acronyms

AfDB	African Development Bank
AFD	Agence française de développement
AMCOW	African Ministerial Council on Water
ANAC	Agence nationale de l'aviation civile
ANBO	African Network of Basin Organizations
ANHR	Agence nationale de l'Hydraulique Rurale
ANSD	Agence nationale de la statistique et de la démographie
ASECNA	Agence pour la sécurité de la navigation aérienne
AWF	African Water Facility
CBO	Community-based organization
CEDARE	Centre for Environment and Development for the Arab Region & Europe
CICOS	International Commission of the Congo-Oubangui-Sangha Basin
CNC	Comité national de coordination
DGH	Direction générale de l'Hydraulique
DHG	Direction de l'Hygiène générale
DHS	Demographic and Health Survey
EAC	East African Community
ECOM	Enquête congolaise auprès des ménages
ECOWAS-WRCU	Economic Community of West African States' Water Resources Coordination Unit
EMWIS	Euro-Mediterranean Water Information System on Know-how in the Water Sector
GIS	Geographic Information System
GRSEN	Direction générale de recherche scientifique
IGAD	Inter-Governmental Authority for Development
INBO	International Network of Basin Organizations
IT	Information Technology
IWRM	Integrated Water Resources Management

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JMP	Joint Monitoring Program
M&E	Monitoring and evaluation
MDGs	Millennium Development Goals
MEH	Ministère de l'énergie et d'hydraulique (Congo-Brazzaville)
MICS	Multiple Indicator Cluster Survey
MIS	Management information system
MoH	Ministry of Health
MoU	Memorandum of Understanding
MRS	Ministère de la recherche scientifique (Congo-Brazzaville)
MSP	Ministère de la santé et de la population (Congo-Brazzaville)
NBI	Nile Basin Initiative
NFP	National Focal Point
NGO	Non-governmental organization
OMVS	Organisation pour la mise en valeur du fleuve Sénégal
PEPAM	Programme d'eau potable et d'assainissement du millénaire
PRSP	Poverty Reduction Strategy Paper
RBO	River basin organization
REC	Regional economic community
RMC	Regional member country (AfDB)
RWSS	Rural water supply and sanitation
SADC	Southern African Development Community
SIMS	Sector information and monitoring systems
SNDE	Société nationale de distribution de l'eau (Congo-Brazzaville)
SSWG	Sector Stakeholder Working Group
SWAp	Sector-wide approach
TA	Technical Assistance
TAC	Technical Advisory Committee

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TOR	Terms of reference
TWRM	Transboundary Water Resources Management
UNDP	United Nations Development Program
UNECA	United Nations Economic Commission for Africa
UNICEF	United Nations' Children's Fund
VFM	Value for Money
WHO	World Health Organization
WPM	Water Point Mapping
WRM	Water Resources Management
WSP	Water and Sanitation Program (World Bank)
WSS	Water Supply and Sanitation
WUA	Water Users' Association

PART 1

Executive Summary

1 Executive Summary

Background

The Paris Declaration on Aid Effectiveness of March 2, 2005, laid down a practical, action-orientated roadmap to improve the quality of aid and its impact on development. Dominant features of the Declaration included a mechanism for country ownership of development policies and programs; the harmonization of international resource flows with national priorities; and, a system of mutual accountability. Monitoring and evaluation (M&E) are now recognized as indispensable performance management tools that will be vital to the achievement of development objectives at national, regional and international levels as part of a results-based management effort also advocated by the Paris Declaration.

Water sector M&E has been considered the weakest link in progress towards the Millennium Development Goals (MDGs) in Africa as it faces several challenges at the national and regional levels. At the Paris conference on RWSS on April 1, 2005, the African Ministers in charge of Water and Finance committed to the establishment of a regional mechanism for tracking progress towards the achievement of the MDGs for water and sanitation in rural Africa. The proposed mechanism was to be hosted by the African Development Bank (AfDB). Part of this commitment also implied a greater emphasis on the management of resources by results and the evaluation of the impact of investments in the water sector in Africa.

The 1st Governing Council of the AWF (July 2005) agreed that M&E and Information and Knowledge Management should be the priority areas of intervention by the AWF. Capacity building among regional member countries (RMCs) to cope with the challenges of data collection, analysis, monitoring, evaluation and reporting therefore became one of the major areas of investment for the AWF over the following years. In this regard, and in view of the mandate given to the AfDB in Paris, the Bank prepared Terms of Reference (TORs) in October 2005 to undertake a diagnostic study with the view to establishing a regional mechanism for M&E. At the same time, the French Ministry of Foreign Affairs prepared TORs to undertake a similar study and had already selected

consultants. As these studies had similar objectives, AfDB decided to delay its study and to collaborate with the French Ministry of Foreign Affairs on its study so as to utilize the outcomes to pursue its mandate. The draft final report from the French study was disseminated and examined at the Entebbe AMCOW TAC and Executive Committee (EXCO) meetings from February 15-17, 2006.

AMCOW requested that AWF take the lead in finalizing the report in connection with the consultant. The report was finalized and resubmitted to the AMCOW TAC, which considered this preliminary study as a prior contribution to the establishment of a regional mechanism, which was mostly related to the institutional aspects of the water sector M&E development. AMCOW recommended that the AWF consider the first part of the main report and the first annex as background and rationale for a regional water sector M&E framework to be developed, and to incorporate relevant sections of some of the annexes to avoid duplication.

The Entebbe AMCOW meetings also mandated the AWF to take the lead in subsequent activities for establishment of the Regional Mechanism as well as to organize a regional conference on M&E around the middle of the year to highlight the M&E situation in Africa and to chart the way forward for stakeholders to work together in the harmonization of M&E standards, methods, and indicators. The Tunis consultative meeting on Building Partnership in Africa Water Sector M&E, September 21-22, 2006, drafted a regional M&E action plan and underscored the primacy of national M&E processes. The main recommendations of the Tunis Report were that AWF, under the auspices of AMCOW:

- a) Undertake a comprehensive assessment of existing M&E systems at regional, sub-regional and national levels;
- b) Support a program for strengthening national and regional M&E capacity based on the results of the assessments;
- c) Build on the existing M&E systems instead of creating new ones; and,

- d) Harmonize and coordinate M&E activities undertaken by the various sector players in the region (UNICEF, GWP, etc.).

As recommended by the February 2006 AMCOW TAC Meeting, the AWF formalized the stakeholders M&E Working Group to support the AWF to implement short-term actions agreed at the Tunis regional consultative meeting. The AWF convened the first meeting of this working group on March 16, 2007 to review the final draft Tunis Action Plan, the TORs of the Pan African M&E Assessment, and the Regional M&E conceptual approach developed from the outcomes of the Tunis meeting. Modalities for country M&E assessments and immediate support were also to be proposed during this meeting.

The review of the Pan African M&E Assessment was done electronically and the bidding process to recruit the consultancy firm was launched in May 2007 with a deadline for submissions on July 6, 2007. The subsequent service contract with Cowater International Inc., a Canadian consultancy firm specializing in international development, was signed in November 2007 to provide the following outputs:

- a) Report of the Pan African M&E Assessment, including a database of M&E stakeholders and an overview of the water sector M&E situation in Africa;
- b) A Rapid M&E Assessment Template for undertaking detailed M&E Country Assessments in selected African countries; and,
- c) A national, sub-regional and regional M&E Framework and Action Plan.

Contents

This publication contains the Rapid Assessment Template prepared under the Pan African M&E Assessment initiative. This was developed by the Consultant through desk research and field testing in five focus countries (Malawi, Senegal, Congo-Brazzaville, Tunisia and Uganda) and visits to selected regional, international and water basin organizations (EMWIS, JMP, WSP-Africa, NBI, OMVS) between November 2007 and May 2008.

This executive summary precedes the rapid assessment template (Section 2) and provides a detailed overview of the findings contained in the Pan African M&E Assessment's final report. These findings informed the development of the template. The main report's contents – found in Vol. 1 – are summarized briefly below.

Chapter 1 provides an overview of the state of water sector M&E systems across Africa and the reasoning behind the need for their systematic improvement. This macro-level review is informed and supported by country- and organization-level reviews and assessments focusing on the M&E systems within the five focus countries and selected regional, international and river basin organizations (RBOs).

Chapter 2 presents a generic framework developed during this study and refined through discussions with AfDB staff and other relevant stakeholders. It is intended to serve as a tool for the harmonized development of national, sub-regional and regional water sector M&E systems that draw on national and sub-regional organizations such as the regional economic communities (RECs) and respond to AMCOW's recently defined reporting requirements to the African Union (AU). Combined, these M&E systems are designed to lead to improved service provision, more effective sector planning and management and improved tracking of progress towards the MDGs and the African Water Vision 2025.

The report's final chapter outlines an Action Plan for the strengthening and harmonization of country-level, sub-regional and regional M&E systems Africa-wide. A step-by-step work plan is presented therein for supporting national efforts to strengthen M&E systems. The Action Plan is supported by a suggested approach and terms of reference (TOR) for the application of the Rapid M&E Assessment Template developed by the Consultant for use in the first phase of the AWF/AMCOW-led M&E strengthening initiative. An indicative budget for this first phase has also been drafted and included in this chapter.

The remainder of this Executive Summary describes the findings and recommendations found in the main report (Volume 1).

1.1 Overview of Water Sector M&E in Africa Water Resources Management & Water Supply and Sanitation M&E

African countries can generally be grouped into three broad categories with respect to the calibre of their M&E systems: strong, intermediate and weak. Apart from a few countries that could be described as having strong though not advanced M&E systems, most countries could be described as falling into the weak category, and some into the intermediate. Typically, the weak countries have systems that are project-based and fragmented, have little capacity to gather, analyse and report, lack national frameworks for M&E, and suffer from a paucity of demand for the information they offer. Many evaluations have been undertaken, but they again are of projects and serve mainly the purposes of donors and do little to support sector planning, budgeting and management processes. Intermediate M&E systems have substantial weaknesses that are recognized as such and are being upgraded over time. As a result, they offer the best potential for early improvement at reasonable cost and are



recommended for inclusion in any AWF initiative. Even within those few countries considered to have strong M&E systems, there are failings that undermine monitoring and the use of information in sector planning and management.

The overall conclusion drawn from this analysis is therefore that while M&E is essential for successful sector operation, including effective funding, it is in an early stage of development. Furthermore, the vast majority of countries will need substantial effort, guidance and resources to create even the basis for effective water sector monitoring. This observation is reinforced by the following analysis of M&E systems in the sector's two primary domains: integrated water resources management (IWRM) and water supply and sanitation (WSS).

With respect to IWRM M&E, many of the intermediate level countries are reforming their sectors and are introducing integrated river basin management approaches. With these reforms have come renewed efforts in M&E that are still in their early stages and vary widely in calibre. Moreover, priority given to water resource M&E is still low and suffers in competition with other demands for scarce resources. The other over-riding constraint to the growth of water resource M&E systems in general is the lack of demand for information by management that is typically inexperienced in the use of management information systems (MIS). As a result, water resource information in these countries is typically fragmented, unreliable and out-of-date. Finally, while demand for information may be lacking in countries where IWRM is not practiced, indicators, tools and methods for basic water resources monitoring are relatively well known and standardized.

The same is not true for WSS. In a single country it is common to see a variety of indicators and methods of data collection used to measure the same parameter, which renders comparative analysis impossible. Most countries now have or are preparing sector policies, setting standards and defining indicators that are promoting harmonization, but the process is far from complete. Most data are collected, analyzed and stored by the service providing agencies and apex ministries, such as ministries of water and/or agriculture and local government. These agencies often estimate coverage using the 'capacity' of systems built rather than determining access to services through direct household observation surveys. This introduces inaccuracies that severely limit use of the information in sector planning and management.

There are notable exceptions, however, such as the WSS M&E systems that have been developed in Uganda and Malawi. Uganda uses a set of ten 'golden indicators' that have been researched over time and standardized across the country. Although there are still questions surrounding their accuracy and the regular availability of data, they are well integrated into sector management systems. In Malawi, water point mapping (WPM) is a basic but highly informative tool that provides a geo-referenced map of water points with essential information on water point location, functionality and distribution. When combined with population data, areas of inequitable distribution of water services can be identified, as can populations falling below national standards. Although WPM is a powerful planning tool, it is only now beginning to be integrated into district and ministry-level planning and management.

Holistic and integrated approaches on a nation-wide scale such as the use of 'golden indicators' in Uganda were found to be highly beneficial in harmonizing indicators and monitoring methodology. Interestingly, no country has been identified as having a functional central sector-wide database and/or MIS, although Senegal is building one and Uganda is rehabilitating its own. Nonetheless, these countries have succeeded without a central MIS because their sub-sectors work together in teams to prepare their annual sector performance assessments and conducting joint sector reviews. Trends in Water Sector M&E:

- **Sector-wide approaches:** Where it exists, M&E is strongly influenced by sector-wide approaches (SWAps). SWAps not only integrate the WRM and WSS sub-sectors, but also set in motion a process of performance reviews on which resource allocation is based and in which all sector stakeholders are involved. This creates a regular demand for monitoring information from the highest levels of management and all stakeholders across the sector. Driven by this demand, the M&E system is given the priority required to ensure its sustainability by being integrated into sector programming processes.

- **Accountability:** This assessment also observed increasing demands by the Auditors General (AGs) of donor countries for increased transparency and accountability as aid shifts gradually away from exclusively project-based support to sector earmarked or direct budgetary support mechanisms. This strongly emphasises the need to create and/or strengthen M&E systems in the water sector, which is highly dependent on external funding in most African countries. Monitoring inputs, outputs and outcomes is one way by which donors can assure their taxpayers of accountability. M&E will therefore become increasingly important in the years to come as the transparency and accountability of the budgetary support mechanism becomes more widely scrutinized in donor countries.
- **Climate Change Monitoring:** The past decade has also witnessed an apparent increase in extreme weather events and the publication of research that has shed considerable new light on climate change and its effects on the world's most vulnerable populations. Since Africa is predicted to be one of the regions in the world most vulnerable to the impact of climate change over the next century, it is becoming increasingly important for African countries to develop monitoring systems capable of tracking its effects to inform adaptation strategies. Progress can be made in this regard by strengthening surface and groundwater monitoring networks, upgrading meteorological monitoring stations and developing transboundary water basin organizations capable of monitoring a complex array of environmental indicators across borders and sub-sectors.

Diagnostic Assessments: Focus Countries and Organizations

The following diagnostic assessments, informed by field visits to the study's countries and organizations of focus, provided the practical basis behind the M&E overview summarized

above and serve as a representative window into the state of water sector M&E in Africa.

Countries

Malawi: M&E systems in Malawi have deteriorated over the past two decades. The hydrological networks are functioning at roughly 20 percent and there is no formal groundwater monitoring mechanism in place. Sanitation monitoring relies on the Health Ministry, which is only beginning to rehabilitate its collection of village health statistics through the districts. On the other hand, Malawi has innovated and established a WPM system that is being expanded to cover nearly all districts and being updated and integrated into district and national water sector planning. Demand for data and information across the sector is weak and ad hoc in nature, while available data is of questionable accuracy due to the use of variable indicators and irregular collection. However, a water policy has been established that has defined criteria for water access and quality, and a national sanitation policy that will set standards for access is in its final stages of approval. These policies will go a long way to harmonize standards and guide decisions on indicators.

Congo-Brazzaville: While some sub-sector institutions have developed action plans for rebuilding pre-war infrastructure or frameworks for the development of water resources databases, urban and rural WSS and WRM M&E systems are currently either weak or non-existent.



Nevertheless, many senior sector officials are cognizant of the importance of such systems and are looking for partners who can assist in the development of appropriate M&E mechanisms in

parallel with, or following the rehabilitation of, WSS infrastructure. Furthermore, the Congo developed a PRSP in 2003 with assistance from development partners that serves as a framework for addressing sector-related MDGs. Building on the PRSP were subsequent studies, including the 2005 Enquête congolaise auprès des ménages (ECOM) and a Demographic and Health Survey (DHS), which provide the most relevant data from which M&E strengthening efforts can be built.

Senegal: Senegal's water sector M&E coordination model – revolving around PEPAM, its central coordination body – is unique to Africa. Although there are detractors, the quality of work and caliber of PEPAM's personnel has given it respect and a central place in the sector. As such, it has successfully influenced sector direction and is able to promote sector reform backed by WSP-Africa and other donors, including the AfDB. Some of the challenges facing PEPAM as it seeks to expand and carry-out the implementation of its M&E system include: the continuing need for awareness-raising within the participating agencies to create ownership and ensure their active participation; most sector agencies see the need for their own database but lack qualified and devoted staff; incentives and budget support are generally lacking throughout the participating agencies; and, PEPAM will have to develop the capacity to verify the data being entered into its system.

Tunisia: Although basic water resource data collection systems are in place, improved monitoring is needed to identify substantial water losses and water use inefficiencies in irrigation. Tunisia is already exploiting 95 percent of available water resources and its last dams are being planned for construction between 2011 and 2013. Such upgrading is also needed to determine the water balance across the country to increase efficiencies in water use and to support IWRM, which is in its initial stages of development. Though efforts are underway to integrate water information through such projects as the Système d'information nationale de l'eau de la Tunisie (SINEAU), which is now upgrading Direction générale des ressources en eau (DGRE) monitoring systems in four of the 24 governorates, datasets are fragmented. While

sharing information within agencies is common, sharing between them is less so and there is no formal way by which the datasets can be accessed by the public.

Uganda: Uganda's M&E provides a good example of a functional system operating within SWAp and providing up-to-date and relatively reliable information on which sector planning and management is based. As such, it could become a training ground for other countries interested in strengthening their sector's monitoring systems. Nevertheless, the following are areas that are recognized locally as needing correction or improvement: not all contributing sub-sector operational databases are providing complete data needed for the golden indicators; inaccuracies in access rates are a result of less than realistic assumptions, sometimes flawed analytical methods and out-dated census data are used despite continued Ugandan attempts to improve the accuracy of water supply coverage estimates; and, data from NGOs continues to be sporadic and less than reliable.

Organizations

EMWIS: Despite their small size compared to the breadth of their mandate and diversity of their membership, the Euro-Mediterranean Information System on Know-how in the Water Sector's Technical Unit (EMWIS) – the focal point of the organization's initiatives in developing Mediterranean partner countries – has succeeded over the last decade in strengthening relations between member country water institutions, creating an enabling environment for more comprehensive information sharing between and within national water institutions through the Mediterranean Water Information Partnership (MedWIP) and providing valuable technical assistance to NFPs. They have also developed a comprehensive website that allows water sector stakeholders to access a wealth of information on the sector from a centralized source. This includes national, regional and international legislation on water resources management; institutional contact information; a database of water sector projects being undertaken in the Euro-Mediterranean region; a geo-sources catalogue providing access

to datasets on water resources information by country; and access to sector related news and events information.

Joint Monitoring Program: Overall, it was observed that within JMP's mandate and resources (particularly considering the availability and quality of data), the methods of analysis and reporting are appropriate for the purposes of assessing progress towards MDGs. It is recognized, however, that there are several concerns over the accuracy, reliability and consistency of estimates. The advantages of coming as close to reality as possible while acknowledging inaccuracies far outweigh the disadvantages of mounting an exhaustive effort into upgrading methodology globally at this stage. The most cost-effective approach to improving accuracy of estimates that JMP is using is to focus on (1) improving survey methods used by contributing statistical agencies and (2) improving surveys and estimates of provider agencies, which will undoubtedly yield added benefits to sector planning and management.

Water and Sanitation Program-Africa: M&E is of substantial concern and interest to WSP. WSP took the lead in organizing a key sector workshop, developing the SIMS concept through work in Benin, Uganda and Senegal and collaborated closely with the AWF. WSP anticipates continuing formal and informal support to the development of SIMS and M&E across Africa through its 12 country offices and collaboration with AWF. The approaches and action plan recommended in this report are consistent with the SIMS and WSP's approach.

Organisation Pour la Mise en Valeur du Fleuve Sénégal (OMVS): The results of this study pointed to the need to strengthen the OMVS Observatory, now functional and based in Dakar, Senegal. With a formal mandate to monitor the state of the environment within the Senegal River basin, the Observatory has been designed as a means to aggregate, store and evaluate basin-wide data in each of the sub-sectors from the relevant ministries in each of its member states. In theory, focal points in each relevant ministry feed their data into the national OMVS focal point (CNC), which then

provides a selection of this data to the OMVS Observatory in Dakar. In practice, significant disparities exist between countries and between ministries within member states that impede the collection and subsequent dissemination of relevant data. While each CNC receives some capacity building support from the OMVS to improve their data collection and storage systems, it has not solved the problem of weak data collection overall. Addressing these deficiencies remains a work in progress.

Nile Basin Initiative: The NBI is a transitional arrangement for development of the Nile Basin pending conclusion of the Cooperative Framework Agreement, which has yet to be ratified by all participating countries. The NBI points to many achievements, not the least of which are its capacity building programs, IWRM projects, natural resources management initiatives, transboundary environmental action projects, stakeholder involvement and confidence building, and regional power trade initiatives. On the other hand, it faces many acknowledged challenges, not the least of which are delays in communications from and between member countries, delays in financial disbursements due to lack of legal recognition of NBI in all countries, lengthy procurement procedures caused by no-objection requirements from member states, and difficulties in accessing project sites due to security concerns.

Songwe River Basin: Although the basin's two riparian countries, Malawi and Tanzania, have created a trans-border committee, no formal agreement has been signed and the prospects for one in the near future are dim. Negotiations are complicated by continuing tension over flows and fluctuations, which are amplified by parallel changes in the national boundary. Even the name of Lake Malawi/Nyasa itself is in dispute. Until consensus is reached, it is very unlikely that international donors will support joint initiatives to solve the problem.

1.2 Generic M&E Framework

National Framework

The recommended approach to national M&E sets the demand for and use of information as first priority. The importance of demand is best demonstrated in such countries as Uganda and Senegal that are using SWAps, which create the necessary demand for information and motivation for a thriving sector-wide M&E system. The recommended framework presented herein provides step-by-step details for the development of national M&E systems using a sector information and monitoring system (SIMS) approach.

The SIMS approach revolves around the following four pillars. Sector monitoring must be:

- Inclusive of the entire chain from inputs to outcomes;
- Integrated and used in planning, budgeting and reporting;
- Incrementally implemented to achieve broad ownership; and,
- Institutionalized to ensure sustainability.

A fifth "I", incentivized, must also be added: to ensure that monitoring is demand driven, given priority and is owned and used by sector management institutions and personnel.

Inclusive

There are three levels of inclusive sector monitoring:

- (1) Outcome monitoring has been emphasized by the MDGs and is the focus of the JMP's work. JMP stresses inter-country comparability and therefore uses proxy indicators. Within countries, however, use of water resources, WSS facilities, affordability and reliability of service affect important outcome results.

- (2) There are also several indicators important to management at the output level. These include services provided, water point distribution, functionality, water resources allocation, tariff collection efficiencies, unit costs, and etc. Special studies which go beyond routine output monitoring are also needed and include value for money (VFM) audits, tracking studies, and evaluations.
- (3) Input monitoring includes technical assistance, sector investments and other resource inputs as monitored by public expenditure reviews, audits, financial reporting at central and district levels, and project financial reporting.

Integrated

All sub-sectors need to be included to properly integrate water resources and WSS. A strong sector stakeholder working group (SSWG) should be established to provide quality assurance and drive the annual sector performance assessment and joint sector review. Such a group will help achieve the important goal of generating



early consensus among stakeholders around definitions, indicators and indices, to set up reliable collection, storage, reporting and dissemination mechanisms. It will also serve as a means for holding regular stakeholder meetings that will ensure regular performance assessment and transparent and equitable resource allocation. The latter goes beyond monitoring per se but is an essential component that provides the incentive for prioritizing and sustaining quality M&E.

Incremental

The assessment of sector M&E conducted for this study concluded that countries can be grouped into weak, intermediate and strong categories, to which a fourth category (fragile) can also be added. Most countries are grouped as weak (such as Congo-Brazzaville, Libya and Mozambique) or intermediate (Malawi and Tanzania), while only a handful are relatively strong (Tunisia, Uganda and Senegal). While goals for sector monitoring and evaluation can be set, each has to respect the country's starting point, capacities and resources. Such an incremental approach separates phases of development into:

- **The Initial Phase:** establishing the basis for Sector M&E, several initiatives of which can be termed as immediate measures;
- **The Monitoring Systems Phase:** putting procedures, processes, pilots and plans in place for sector M&E development;
- **The Performance Review Phase:** initiating the joint sector review and performance based resource allocation, special monitoring studies and sector expenditure reviews; and,
- **The Consolidation Phase:** strengthening M&E systems by verification, refinement and ensuring follow-up of undertakings.

These phases are further subdivided into types of monitoring (outcome, output and input) and sector management and are explained in further detail in the main report.

Institutionalized

Monitoring systems are not sustainable until and unless they are housed within institutions; likewise, they cannot be sector-wide unless coordinated by some kind of multi-stakeholder coordination body such as a SSWG.

Incentivized

As emphasized above, experience has demonstrated that the most practical way in which

monitoring can be motivated is by making it central to the sector review and resource allocation process, an approach that is increasing in demand by donors.

Phased Development of the Sector and M&E Systems

The main report illustrates this study's proposed approach to the development of a national water sector and of its monitoring components. Parallel sector management development is described in four phases. As noted above, a critical component that binds everything together is the SSWG with representation of key sector departments and councils, donors, NGOs and the private sector. The SSWG is the coordinator, forum for policy dialogue, overseer and quality assurance body for the sector. It also provides oversight to monitoring (possibly through an M&E thematic sub-working group) and strongly influences resource allocation, both national and donor.

The initial phase of M&E development provides for immediate measures. These include setting up the SSWG, building consensus around definitions, indicators and undertaking initial pilot monitoring. It also includes broad sector assessments such as a Country Status Review or Sector Framework Review.

The second phase focuses on developing monitoring systems during which the pilots are scaled up to country wide systems and tested. Benchmarking is an important component of this phase, which includes comparisons and harmonization of sector agency data with others such as the statistics and surveys department responsible for annual household surveys and censuses, and poverty surveys monitoring the PRSP's implementation. Data collection, collation, storage, reporting and dissemination systems are also established during this phase. This is a major undertaking which calls for careful consensus building between all departments in that the foundation for data sharing and dissemination has to be agreed between all contributing stakeholders. Care needs to remain focused on effective use of information in sector planning and management and not only on the MIS and computer

programming systems, which all too often become an end unto themselves. It is at this stage that financial and implementation information also needs to be harmonized: progress reporting needs to be integrated with financial reports to assist managers in relating physical progress directly to financial expenditures. Finally, efficiency and effectiveness studies are needed for performance reviews, planning, and resource allocation, meaning that key indicators such as unit costs and timing need to be generated by the system.

Procedures for joint technical reviews and performance reporting are established during the third phase. The Annual Performance Report combines the sub-sector's information and is the basis of the annual performance review planning, strategy and policy development, resource allocation, undertakings and implementation. It also draws on data from other stakeholders such as the environment, irrigation, forestry and statistics agencies. Monitoring is refined and deepened by enabling the beneficiaries to participate in data collection, systems monitoring and responding to information fed-back after analysis. Special studies such as VFM audits, tracking studies and expenditure reviews are used to elucidate and resolve key issues facing the sector and the Joint Performance Review (JPR). The WSSG typically calls on sector agencies to refine and upgrade their programmes by identifying and reaching agreements on undertakings for the year ahead while at the same time reviewing progress on those of the past year.

Finally, the consolidation phase is focused on triangulating data, refining sector policy, improving efficiency and following up on undertakings. Activities in this phase are meant to polish up and refine procedures and systems developed during earlier phases and to ensure the sustainability of M&E systems well into the future.

Generic Regional and Sub-Regional M&E Framework

This section seeks to map out the regional and sub-regional organizations that may be capable of playing a role in supporting water sector M&E development in Africa, a group that includes NGOs, RECs, RBOs and African branches of international organizations. Most of these

organizations are also discussed at length in this report's annexes. In brief, the field and desk research undertaken for this study did not uncover a truly regional institution capable of leading and coordinating a Pan-African M&E network. Instead, there exists a mix of international and sub-regional organizations that in some cases could have or do have a supporting role to play in regional or sub-regional water sector M&E, and in others they have little to do with the sector and limited capacity and interest to expand into it.

The following competencies are considered desirable, if not essential to an M&E framework at the sub-regional or regional level:

- Vision, coordination and quality assurance in developing the M&E Framework;
- A source of finance or capacity to acquire funding from donors;
- Functional competence in both IWRM and WSS;
- Information collation and dissemination centres with databases, websites and the capability to prepare and disseminate reports;
- Sub-regional mandates responding to the contexts, needs and aspirations of participating countries; and,
- A resource centre able to provide technical assistance and training Africa-wide and resolving M&E and sector policy and development issues generally.

The framework should cover both IWRM and WSS. It must be based in African organizations and preferably not in those that are parented by organizations outside Africa.

The AWF-AfDB has thus far (in collaboration with WSP, JMP and others) been instrumental in carrying forward a vision and coordinating efforts to develop Africa-wide water sector M&E. The Action Plan, summarized in the following section, recommends AWF's expanded role in the first stages of M&E assessments and strengthening at country level Africa-wide. It also has an important role to play in strengthening sub-regional organizations through its financing mechanism. In

addition, AWF offers considerable potential in coordination, management and financing of technical assistance and training through the private sector.

There is considerable potential for establishing sub-regional databases within the RECs. For example, SADC and WRCU-ECOWAS are already working with their member countries in monitoring transboundary water resources. Competencies and interest already being established for transboundary waters could be expanded to include national water resources and WSS services with financial and technical support. Ideally, in the long-term, RECs could be responsible within their sub-regions for:

- Information collation, database management and dissemination;
- Technical assistance to member states;
- M&E coordination, oversight, quality assurance, harmonization of indicators and methods; and,
- Monitoring progress towards the Africa Water Vision & MDGs.

Five RECs (SADC, WRCU-ECOWAS, IGAD, ECCAS, & EAC) and CEDARE have been identified as having potential to provide sector focus and Africa-wide coverage with minimum gaps and overlap across member countries. A principle drawback to the RECs, however, is their focus on IWRM and particularly transboundary WRM to the near exclusion of WSS. However, it is anticipated that with support, their mandates could be expanded to include WSS in the longer term.

In accordance with the AU's July 2008 Sharm El-Sheikh Agreement, AMCOW will report annually on progress made in implementation of the AU's commitments in the sector while being strengthened as a key regional mechanism for promoting sector cooperation. AMCOW will need reliable information, the sources of which could be the RECs if they are strengthened and their mandates expanded to include WSS. AMCOW's Secretariats (if established as planned) would link with the RECs to obtain and report on the required data and information. The central

AMCOW Secretariat in Abuja, Nigeria, could be responsible for coordinating the data and information from sub-regions obtained through its network of Secretariats to prepare and disseminate an Annual AMCOW African Water Report.

1.3 M&E Action Plan

A principal conclusion of this study has been that water sector M&E is deficient in almost every African country, and that needs go well beyond monitoring progress towards the MDGs. A second conclusion is that M&E is badly needed for planning and managing the sector. Failure of M&E systems in most countries has brought enormous opportunity costs in terms of poor distribution of services, increased poverty and ineffective use of scarce resources. Without relevant and reliable information being generated at the country level, sub-regional, regional and even global databases are rendered ineffective.

Within this context, this report's proposed Action Plan builds on its institutional, country and region-level overview by outlining a starting point for an AWF-led effort to strengthen and harmonize water sector M&E systems across the continent.

National M&E

The Action Plan at the national level comprises three stages, the first of which is supported by guidelines and a template for rapid assessment of national M&E systems Africa-wide. The three stages are structured as follows:

In the first stage, comprised of the Africa-wide Rapid M&E Assessment, consultants will first be trained and then undertake assessments in five countries, followed by up to 25 others using the guidelines and template prepared for the purpose. The remaining countries will be assessed through desk reviews relying on the Internet, secondary data, international agency knowledge and phone contact. The objectives of this first stage will be to:

- Identify high quality consultants and orient and train them in water sector M&E assessment;

- Establish standard procedures through a first set of five country M&E assessments;
- Refine the Rapid Assessment Template;
- Generate a greater understanding of national M&E across Africa;
- Ensure adequacy and comparability of country level rapid assessments; and,
- Identify initial gaps, needs, work plans and conceptual proposals for strengthening national M&E systems.

The second stage comprises Orientation, Work-planning and Proposal Development, in which selected countries will be assisted through detailed needs identification and proposal development. The numbers of countries involved will at this stage be kept to a manageable 20, but those not selected will receive support in subsequent batches. Proposals will be developed for AWF funding. The objective of this stage is to:

- Orient key country stakeholders to national M&E frameworks, systems and requirements;
- Provide greater detail as to the status and needs of sub-sector M&E systems in target countries;
- Prepare work plans, budgets and detailed proposals to undertake strengthening of national M&E systems; and,
- Identify immediate needs of those countries with weaker M&E systems.

The third stage will entail the actual Strengthening of National M&E systems, for which the AWF will appraise and select projects for funding. Using its standard proposal assessment and approval cycle, it is anticipated that some 34 projects will receive funding. They will be grouped into three categories:

- i Support will be provided to countries with more advanced M&E systems for specific activities identified as gaps. These could include, for example, training for M&E personnel, research into improved and harmonized indicators, tools and methods of data collection, piloting benchmarking, introducing data collection by beneficiary communities, and upgrading the weaker contributing databases.

- ii The main effort will be devoted to the many countries having M&E categorized as intermediate. These include, for example, Tanzania, Benin and Malawi. This category includes those with greatest need for support while offering the greatest opportunity for improvement and benefits. They have reasonably strong water sectors, most of which are undergoing sector reform including PRSPs, decentralization, SWAps, annual performance reviews and Joint Sector Reviews. Most have also now moved from project funding to earmarked sector budgetary support. They will be looking for a full range of strengthening initiatives including IWRM M&E; standards, indicators and tools development; benchmarking; water point mapping; participatory data collection; database development; and integration of monitoring into the annual performance assessment process. Again, emphasis will be on information demand creation and its use in planning and management and on sustainability.
- iii The immediate measures identified in the weaker M&E countries, such as Congo-Brazzaville, will be those that respond to early stages of sector and M&E development and that make the best use of such resources and sector strengths as currently exist. First steps might be to improve collaboration between sub-sector agencies, to establish institutional and communication structures for sector M&E such as a stakeholder working group, to select and build consensus for harmonized indicators and M&E methods/systems and to initiate performance assessment pilots. All of these can be undertaken as immediate quick-win measures.
- As described above, first priority should be given to strengthening M&E systems at the country rather than regional or sub-regional levels. Country M&E strengthening should start with direct and pro-active AWF-to-country support. It should begin with Rapid Assessments coupled with proposal development once a cadre of assessors has been trained to ensure quality and consistency of assessments and proposals. Rapid assessments and initial strengthening of country M&E should begin in a limited number of countries (five) and later expand to 15 and 30 over time.
 - M&E systems need to be sector and country-wide and not limited to projects, programmes or sub-sectors. Where feasible they should be based on the SIMS model and strongly incentivized to ensure their sustainability. Where possible they should also form the basis of regular sector performance assessments within the SWAp framework.
 - While the participation of organizations such as RECs should be welcomed, they should not be relied upon as prime movers until such time as their capacities can be strengthened and experience in the sector broadened. Proposals from RECs and associated institutions should be encouraged by AWF, but their weaknesses not overlooked. Funding and support should only be demand responsive.
 - Support to sub-regional organizations can be undertaken in parallel with the above direct AWF-to-country support, but it should first be for their own capacity building and institutional strengthening. Suggestions have been made that AMCOW secretariats could become sub-regional centres themselves. Unfortunately, the secretariats are institutionally even weaker than the RECs that sometimes act as their hosts. REC mandates are more relevant to the task and provide opportunities for more arms-length relationships with AMCOW and AWF. AMCOW secretariats should be developed with linkages to the strengthened sub-regional organizations so that AMCOW can benefit directly and provide a measure of quality

Regional and Sub-regional M&E

As indicated above, a combination of national and sub-regional organizations is recommended as the basis of an Africa-wide M&E system. The following are recommended as principles and approaches to its development:

assurance over data and information that is generated by the sub-regional organizations for purposes of AMCOW reporting and dissemination.

Summary

In summary, strengthening M&E is envisaged as proceeding first at the country level while initiatives are being developed and supported at the sub-regional level. Assuming a pro-active role, the AWF will undertake an Africa-wide assessment of M&E within countries that will form the basis of needs identification and proposal development by the countries themselves. This will be followed by a program of well-defined and coordinated AWF support to countries. Inevitably, sub-regional organizations (particularly the RECs) will request AWF support for their role in coordinating country M&E development in their sub-regions; however,

they themselves will first need to be strengthened before they can effectively support M&E development at sub-regional levels. This strengthening should proceed in parallel with AWF's country level support program. The development of regional M&E networking capacity is seen as important but not as high a priority as country or even sub-regional M&E strengthening and would depend on the initiative of such regional bodies as ANBO.

A schedule and indicative budget are presented in the report that envisages the country assessments taking place during the first nine months followed by country M&E strengthening beginning during the second year and ongoing throughout the third. Sub-regional organization strengthening would take place during the second year following proposal development during the first, while the regional network timing would vary depending on the initiative of proposing organizations.

PART 2

Template For Rapid Assessment of
Water Sector M&E Systems

2 Template for Rapid Assessment of Water Sector M&E Systems

Introduction

This template, intended to serve as a guide and to promote inclusiveness, consistency and quality of information obtained to facilitate cross country comparisons, is composed of two main parts. Part 1 is composed of guidelines on what can be expected and what to look for in carrying out the rapid assessment. It provides background material on the water sector's institutional framework and roles and responsibilities of the sector's stakeholders, and it describes the types of organizations to review and interview, information to be acquired and assessments to be made.

Part 2 is more specific. It provides a suggested Table of Contents and checklist for the assessment report. Under each section heading are questions that need to be responded to during the rapid assessment. The purposes of both parts are to: i) provide guidance on rapid assessment of the sector's M&E; and ii) to encourage uniformity and consistency between country assessments.

It should also be noted at this stage that the water sector's principal components have historically been water resources and water supply and sanitation. In recent decades, however, optimization of multiple uses of water resources has introduced IWRM at the country level. At the same time, the water supply and sanitation sector has increased in priority in development programs in response to poverty reduction initiatives such as PRSPs. This template therefore covers all three sub-sectors.

2.1 Rapid Assessment Guidelines

M&E of the water sector is considered the weakest link in efforts to achieve the Africa Water Vision 2025 and the MDGs. At the Paris Conference in 2005, the African Ministers of Water and Finance committed to establishing a regional mechanism for tracking progress towards achievement of the WSS MDGs. The first Governing Council of the AWF agreed that M&E and Information and Knowledge Management should be priority areas of intervention for the AWF. The overall objective of

the M&E subcomponent is "to support the establishment of water sector M&E systems and management capabilities at national and regional levels in consultation with stakeholders. As a result, improved M&E standards and methodologies will be developed, and regular M&E reporting mechanisms will be established and become operational in RMCs. The availability of timely and regular monitoring and evaluation results will enhance planning, implementation and management of water sector investments."

Subsequently, in September 2006, the AWF held a regional forum in Tunis of stakeholders involved in sector M&E work in the region to define key requirements for harmonized results oriented M&E in the African water sector. The forum reaffirmed the centrality of RMCs, RBOs and RECs as the prime stakeholders, and it confirmed AWF's mandate to accelerate the development of a framework to develop the water sector M&E process. It then requested AWF undertake a rapid assessment of the current status, stakeholders and key activities supporting the water sector M&E in Africa and agreed that a Pan African assessment comprised of an M&E mapping exercise was needed to assist AWF in taking decisions about harmonizing and strengthening water sector M&E in Africa. In November 2007, the AWF contracted Cowater International of Canada to undertake a "Pan African Water M&E Assessment" to support these objectives. This template for rapid in-country assessment of M&E systems is an integral part of the Pan African Water M&E Assessment initiative and is therefore being published in parallel with a condensed version of the Assessment's final report (Volume 1 – Main Report).

2.1.1 Pre-Assessment: An Overview of Sector Organizations

Before undertaking a rapid assessment, the assessor should acquire a good understanding of the country's sector organizations, their mandates and their programs. This is best done through Internet searches, available documentation and networking contacts in-country. The objective is to get a broad understanding of the sector's stakeholders, their programs and M&E capabilities

from the outset from which a plan of action for the assessment can be developed. A list of the key players needs to be drawn up, especially those that would willingly provide reliable information. For verification purposes, visits need to be made to facilities such as RBOs, offices responsible for maintaining databases as well as a selection of projects, both rural and urban. The numerous NGOs operating in the sector can provide another perspective. Listed below are several global, regional and sub-regional organizations that may be of relevance to this research. It is not a complete list but offers a good starting point.

- **Global:** the Joint Monitoring Program (JMP) of the WHO and UNICEF; the Water and Sanitation Program (WSP) of the World Bank; the Global Water Partnership, the World Water Council; UN Secretary-General's Advisory Board on Water and Sanitation (UNSGAB); UN-Water and UNEP Collaborating Centre on Water and the Environment; International Network of Basin organizations (INBO); The International Benchmarking Network for Water and Sanitation Utilities (IBNET); AQUASTAT-FAO; GEMS-Water; Global International Waters Assessment; International Secretariat for Water (ISW); International Water and Sanitation Centre (IRC); Institute for Water and Sanitation Development – Africa (IWSD), Water Supply and Sanitation Coordinating Council (WSSCC), and Cap-Net (the International Network for Capacity Building in IWRM).
- **Regional:** AMCOW; New Partnership for Africa's Development (NEPAD); AWF, African Network for Basin Organizations (ANBO); UN-Water-Africa; Advanced Real Time Environmental Monitoring Information System (ARTEMIS); UNECA; African Peer Review Mechanism; Africa Environmental Information Network (AEIN); L'Observatoire économique et statistique d'Afrique sub-saharienne (AFRISTAT); African Water Association; Africa Civil Society Network on Water and Sanitation (ANEW); International Secretariat for Water - Africa.

- **River basin and Sub-regional Organizations:** EMWIS; ECOWAS-WRCU; (OMVS-SOE; CREPA; Permanent Interstate Committee for Drought Control in the Sahel; OSS/ROSELT; Niger Delta Development Commission; Mano River Union; Volta Basin Authority; Awash Basin Water Resources Administration Agency; Nile Basin Initiative; Suivi des bassins hydrographiques Burkina; ZAPRO; Benin Country Water Partnership; Agence de bassin Algérois; CICOS; Agence de bassin hydrographique Sahara.

2.1.2 Integrated Water Resources M&E

Water resources monitoring refers to the comprehensive collection, storage and analysis of information on the quantity, quality, character, location, patterns of use, and response of the resource to use and user demands, pollution, water quality degradation and environment. M&E is essential to the water resource planning and management process. The information on availability and use facilitates water allocations so that socioeconomic activities within a basin can be optimized within the capacity of the resource. The information assists central, local and municipal governments, as well as investors take decisions on planning and development. The objective is to enable preparation of country-wide inventories of resources so that development opportunities can be quantified and mapped for planning, and implementation. Thus, it is crucial that this IWRM data collection, analysis and dissemination process be transparent, accountable and equally accessible to all users.

Policies, Strategies and Legislation

Most countries now have approved national water strategy and policy documents. They are often sub-divided between sub-sectors, but go a long way to describe sector planning and development options. They often include M&E strategies and policies. Many countries are undergoing sector reform so that policies and background reports detailing the reforms will be available and useful to the M&E assessment. These sector reforms are aimed at achievement of the Africa Water

Vision 2025. Typically, these include sector reform programs strengthening IWRM and separating regulatory from executive functions, public service reforms, the introduction of performance measurement systems, and local government decentralization and reform.

Institutions

The organizational structure of sector institutions is to be provided in each assessment report. An example is given below in Figure 1.1 of Tanzania's planned organizational structure for water resources management. M&E functions should be shown on the organization chart or a separate more detailed M&E organization chart can be prepared. It should show the various levels of information collection, collation, verification, analysis, report preparation, storage, dissemination and use. As a minimum the organizational chart should describe the various M&E responsibilities of each stakeholder.

Most countries will be at the early stages of IWRM development. Water user associations (WUAs) will probably be in their formative stages and be influencing basin policy only on major issues such as the sharing of the resource between irrigation and hydro power. Seldom are WUAs participating in data collection, but they should be. WUAs provide appropriate platforms for consultations and cooperation amongst the different stakeholders and communities. They have important and constructive roles to play in the self-regulation of water use, monitoring pollution, and reporting. Each of these is part of the M&E framework.

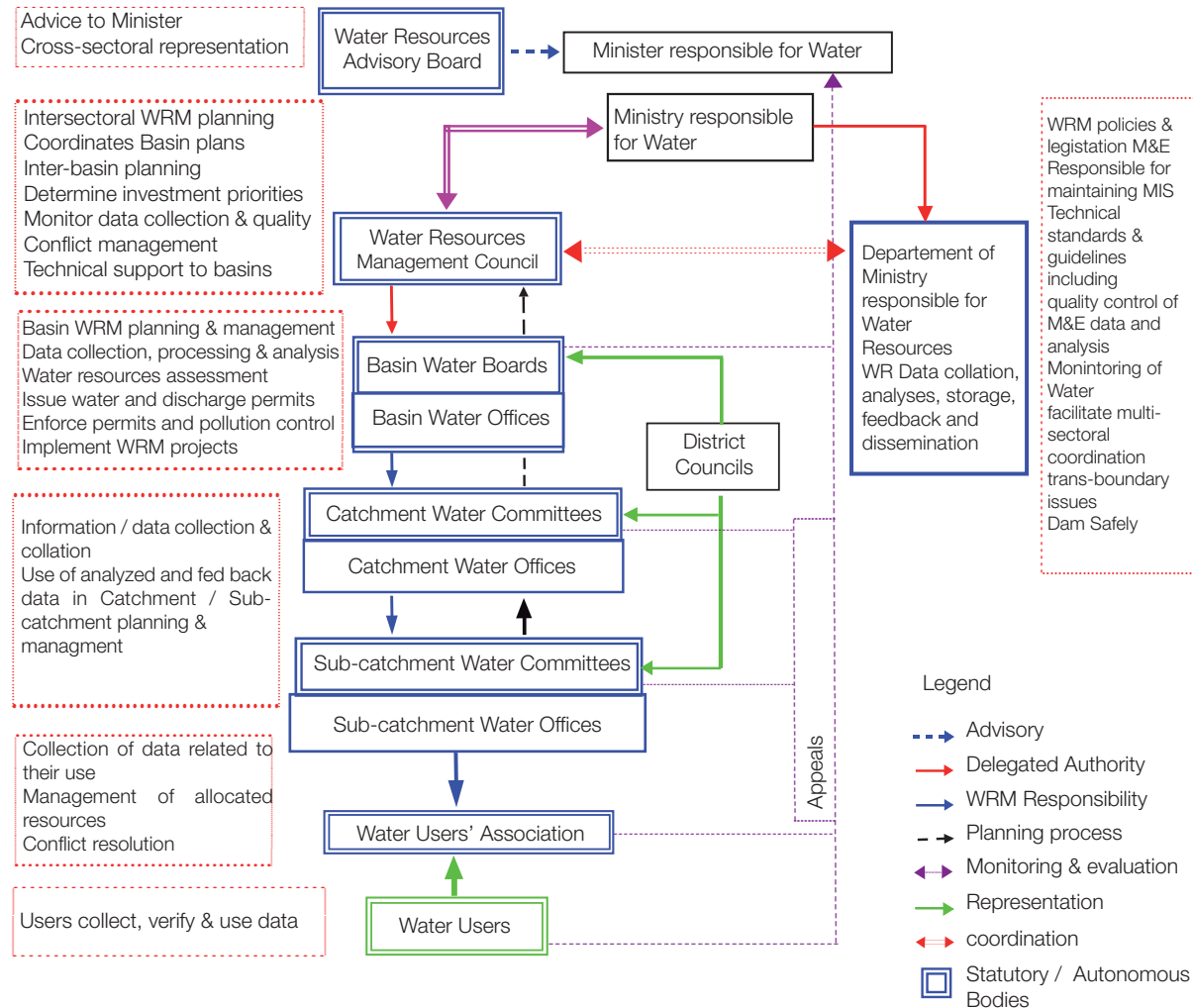
Typically, RBOs in Africa are influential only in the major basins and where their input is critical to

water sharing and/or transboundary considerations. They hold prime responsibility for data collection. In large basins they will have catchment and sub-catchment organizations as well as offices, staff and monitoring networks, all of which will need to be documented for the rapid assessment. In most countries the hydrometric, water use and water quality information will be poor and in some non-existent. Nevertheless, having realized the costs of either under-designing projects resulting in loss of economic opportunity or over-design, resulting in over-exploitation and negative environmental impact, most are trying to improve the quality of their data collection systems and analysis. The upper echelons of the institutional framework usually comprise such bodies as: water resources management councils; international transboundary committees; and, the ministry and its various departments responsible for water resources.

These need to be described, with particular attention paid to the water resources ministry. The ministry typically takes charge of information and data collation gathered from the basin boards and will likely have a special M&E section or department coupled to a mechanism for dissemination, such as annual reports, an MIS and a website. All need to be documented along with their ability to: i) maintain reliability, consistency and accuracy of information; ii) use the information effectively in planning and managing the sector; and iii) inform the public, stakeholders and government.

Surrounding this structure are the various sub-system organizations and stakeholders. These will represent interests of the environment, energy, agriculture, statistics, local government and the media.

Figure 2.1 An Example of an Institutional Framework and M&E Roles in Water Resources Management



Monitoring Networks

The monitoring networks within the basin, their equipment, facilities, offices and staff are crucial to M&E data quality and reliability. An overall assessment of the existing monitoring stations in each basin is required. This will include river gauging stations, rainfall gauges, meteorological stations, water quality measurement and groundwater observation points. These elements will need to be quantified. Table 1.1, below, can be used as template for the collection of this information and demonstrates the level of detail required.

In addition to groundwater observation wells, hydrometric stations, meteorological stations,

rainfall stations, a basin water testing laboratory, transport and data storage facilities, properly resourced water basin offices will require the following monitoring tools:

- **Surface water:** current meters, gauging reels, sinkers, sediment samplers, boats, bridge cranes, laptops, sediment samplers, GPS, and related tools and accessories.
- **Groundwater:** dippers, well loggers, resistivity meters, terrameters, geophysical systems (magnetometers), GPS, and related tools and accessories.
- **Water quality:** field kits for chemical and bacteriological water quality testing.

Assessments can be recorded in the table as they have seen in the column headed “Remarks and Recommendations” in Table 1.1. Consideration should be given to existing and future needs for surface water monitoring. There may be plans already prepared and available for upgrading the monitoring stations and offices. These can be used as a basis for making recommendations later in the report.

Data Analysis, Storage and Dissemination

Water resources assessment and mapping refer to the comprehensive collection and assembly of information on the quantity, quality, character, location, patterns of use and response of the resource to user demands, pollution and water quality degradation processes and environment. Assessment and mapping are prerequisites in the water resources planning process and depends heavily on data collection, storage and analysis at the basin level.

Information on the availability, quality and use of water resources must be available to facilitate decision making in water allocations so that all socio-economic activities within given basins are optimized within the sustainable limits of the resource. Ultimately, countrywide inventories of resources, current and potential uses of water, and all sector-wide development opportunities need to be identified, quantified, and mapped to provide essential information for planning and

implementing various development options. This includes a survey and mapping of existing dams/reservoirs as well as the preparation of guidelines for development of the resource for different purposes. Thus, the IWRM data collection, analysis, and dissemination process must be transparent, accountable and accessible to all users.

Once data has been collected, basin offices are the first point of data storage. Such offices normally have a database management system (DBMS) and a GIS database. The DBMS is used in storage, processing, validating, and analysing the many types of multi-disciplinary data, including time series and spatial data on climate, surface water, groundwater, water quality, sediment, other natural resources, as well as related information such as water rights and actual abstractions.

The data management chain must be defined and assessed from initial data collection by basin (and possibly sub-catchment) offices (and WUAs) up to regional and central levels. The responsible department of the central ministry typically holds ultimate responsibility for quality of data, its storage, analysis and dissemination. Each level needs to be reviewed, described and assessed. Although the headings will need to be tailored to each country, Table 1.2 below can be used as a template for description, analysis and recommendations.

Table 2.1 Sample Chart of Monitoring Stations and their Status

BASIN	Type of Station					Remarks & Recommendations
	River Gauging	Rainfall	Meteor	Water Quality & Pollution	Groundwater	
River A	63 gauging stations (29 were rehabilitated and upgraded under previous Project but most stations destroyed by floods, vandalism, or stolen)	45 rain gauging stations all in working condition, spatial distribution inadequate	10 meteorological stations - partially working due to malfunctioning anemometers, thermometers.	12 stations but systematic monitoring required (currently spot monitoring is done)	11 observation boreholes have been drilled, await installation of data loggers.	Review of network and improvement/upgrading of the network are needed to meet present needs. May require 12 additional groundwater observation wells. Basin will have three sub-offices for data gathering and O& M of stations.
River B	48 (operational) 4 (new) 5 (temporary)	50 – all in good working condition, spatial distribution inadequate.	11 - all in good working condition	12 but systematic monitoring required (currently spot monitoring is done)	16 observatory boreholes have been drilled, await installation of data loggers, two more will be drilled.	Review of network and improvement/upgrading of the network is needed to meet present needs. Requires four additional hydrometric stations, five temporal stations, two met stations, and 14 groundwater observation stations. Basin will have five sub-offices for data gathering and O& M of stations.
River C	48 (all in bad condition)	15 (are in good condition, 1 needs rehab, 15 additional required)	Six (all are not functioning)	No systematic monitoring exists (network design and establishment urgently required).	Eight (six fair, two not working, 22 additional stations needed)	29 River Gauging stations and six met stations will be rehabilitated through a future project, 19 to be rehabilitated. Basin will have two sub-offices for data gathering and O& M of stations.
Lake D	21 partially working	45 partially working	10 partially working	122 (operational)	Nil	Additional stations required: seven hydrometric stations, 15 groundwater, five met stations and four rainfall stations to meet present needs. Basin will have three sub-offices teams for data gathering and O& M of stations.
River E	30 (all stations not working properly)	None	None	Nil	Nil	The network is in bad shape-requires review and improvement/upgrading to meet present needs. Basin will have three sub-offices for data gathering and O& M of stations.
Lake F	35 hydrometric stations – all in bad shape	None	Five meteorological stations	Nil (but urgently needed)	Nil (but urgently needed)	The network is in bad shape-requires review and improvement/upgrading to meet present needs. Basin will have two sub-offices for data gathering and O& M of stations.
Lake G	26 (24 in bad condition)	18 in good condition but below standard (at least 10 additional stations are needed)	Six (all in bad condition)	Nil (but urgently needed)	Nil (at least 10 stations are needed)	24 hydrometric stations need rehab/upgrading. Basin will have two sub-offices for data gathering and O& M of stations.

The ministry's department responsible for water resources may not be adequately resourced to fulfill its role as the central manager of knowledge and information on water resources. Also, there may be more than one database in operation separately funded by different donors. Such duplication is unfortunate but not uncommon. Taking this into account, the M&E assessment will document the current capacity of the department to adequately gather, store, analyze and disseminate data. The M&E report will assess the situation and make recommendations as to its strengthening and upgrading.

It should be noted that dissemination necessarily goes far beyond storage and publishing annual reports. It should include proactive feedback to the basin, sub-catchment, WUAs and users. The feedback should target the needs of the reader and be of sufficient quality and relevance to remain in demand. Its use at the various levels needs to be assessed to determine if it is actually being used as intended in planning, management and investment decisions basin level.

The needs of other stakeholders and the extent to which they are being met should also be assessed. These stakeholders include:

- The environment, especially in the areas of pollution control, deforestation, and minimum environmental flows;
- Local, regional and central governments;
- Transboundary water resources management;
- Tourism;
- Agriculture;
- Hydropower;
- Industry and commerce;
- Water supply and sewerage;
- Transport/navigation;
- National and regional development planning; and,
- The media and civil society.

This may call for holding a workshop amongst the many stakeholders to determine if their needs are being met and, if not, determining what information is required, in what format, and how it is best disseminated.

Table 2.2 Data Management Matrix

Level	Method of Collection	Information Collected	Collation and Storage	Analysis	Dissemination	Recommendations
Users & WUAs						
Sub-catchment						
Basin Office/ Organization						
Water Resources Council						
Ministry Department						
Water Resources Advisory Board						
Media and Private Sector						

2.1.3 Rural Water Supply and Sanitation M&E

Typically, M&E in this sub-sector is spread across several organizations. To complicate matters more, there are many indicators used and definitions given to what is acceptable coverage. The best starting point is with the formally approved national strategies and policies for water supply and sanitation. These will likely provide the public sector organizational framework and the nationally accepted indicators and standards.

Rural Institutions and Monitoring Networks

The first task is to identify all of the institutions working in and monitoring the RWSS sub-sector. These will likely include the lead ministry such as a ministry of water, which may be collecting



information from others and then collating, analyzing, storing and disseminating the information. The information gathering may be done by the sub-offices of the ministry at the provincial/state level responsible for the monitoring. In turn, these would likely have district, county, and sub-county level offices collecting information. In those countries that have undergone devolution the responsibility would be passed to the more autonomous district offices that would link to the ministry of local government. In this case one would probably identify a department of water supply within district government which would have monitoring responsibility. Fully devolved governments may have established information collection through village level organizations and extension agents. These need to be identified. The entire network of monitoring water supplies needs to be described. Likewise, its monitoring efficacy and reliability needs to be assessed.

The ministry of health, its sub-offices, clinics and BHUs and their outreach networks may be collecting and analyzing data on sanitation. Likewise under devolved government the district and sub-district departments of health and hygiene will have a role to play in collecting information. These networks need to be identified and described; they also need to be assessed in terms of their coverage, reliability and accuracy.

Other sources of information on monitoring RWSS include donor assisted projects and NGOs. These may themselves be collecting information from their projects and areas of operation. One such NGO is WaterAid which usually maintains a useful overview of the sub-sector.

Survey and/or statistical departments regularly undertake household surveys, censuses and socio-economic surveys. The questionnaires used often include questions related to water supply and sanitation (although seldom are they sufficiently targeted to provide reliable coverage information). These organizations and surveys need to be identified and their relevance to M&E of the water sector assessed. The JMP have found household surveys (DHS) and Multi Indicator Cluster Surveys (MICS) useful in estimating broad coverage to determine progress towards the MDGs. Under normal circumstances, however, the JMP has had to adapt and interpret the information before using it in inter-country comparisons. Certainly, JMP offices should be approached to get a better understanding of sources and data available and used by the JMP. Identifying, describing and assessing their relevance and reliability will be important.

Data Collection

Quality of information: in most cases, the information collected will be of the “coverage” type in the form of numbers and accessibility of standpipes, house-connections or tube wells and open wells. In some instances the quality of water provided and access to sanitation will be measured. The quality of such information, its accuracy and relevance needs to be assessed, as do the monitoring systems themselves.

Type of information: The type of information collected usually varies widely from the numbers of water points and technologies used to the degree of access and the safety of the supply. Determination of whether or not a given technology and source is classified as safe, and whether or not a particular type and situation of latrine is acceptable is often made by the implementing agency. These local definitions need

to be acquired and assessed in the context of the definitions and criteria set by the MDGs.

Geographic spread of information: An assessment needs to be made as to the geographic extent of information collection. Is it collected only in project areas? Does it include NGO projects? Are privately owned supplies (such as household handpumps) considered coverage and included?

Timing, reliability and verification of data collection: How often are surveys undertaken? Are they regular and of consistent design? Are there instances where data is reported on but not actually collected? In other words, are assumptions made by the data collectors and their institutions about coverage without actually visiting the field to collect the data?

Survey Design: the designs of surveys need to be assessed. Countries will not be able to undertake a 100% sample, so sample size, clustering, timing of surveys and the representativeness of the sample taken need to be assessed.

Water quality: Details are needed of the tests used to assess the drinking water quality. These may include total or thermo-tolerant coli forms and faecal streptococci, turbidity, dissolved solids, pH, arsenic, fluorides, and heavy metals. Local standards for “safe water” also need to be obtained from sector institutions. The quality and reliability of the staff used for sample collection and their methods need to be determined and assessed, as does the accuracy and reliability of laboratory testing.

Population: Most coverage information is reported as percentages for comparative purposes. The denominator (being the total population) is important to get right. The source and accuracy of population data being used needs to be determined and assessed as should the methods used for any projections or estimates of population. Some methods of estimating coverage avoid the use of population entirely by counting the number of areas (such as sub-counties or hamlets) with at least one water point. All the local methods being used to estimate coverage need to be identified, documented and assessed.

Table 1.3, below, can be used during the rapid assessment as a guide. Each significant survey or data collecting initiative should be reported on separately in its own table.

The Definition of Coverage

There are many definitions for coverage. Even within a single country there will be variations. National policies on WSS will have the officially accepted definitions of coverage. These and their proxy indicators should be compared to the internationally accepted definitions used by the MDGs. Being technology based, these are relatively easy to determine in the field, they are verifiable, comparable and quantifiable so are accepted as adequate for the purpose of measuring sector progress

towards the MDGs. There are however, questions being raised about their consistency. For example, there are wide variations in the safety of water provided by the same technologies under different installation procedures and operating regimes.

Data Storage and Analysis

The information collected will be passed upwards to a point of storage and analysis. The chain needs to be identified and assessed for its reliability and consistency. For example, where information is not in regular demand, the impetus to collect it dissipates. Methods of data storage range from stacks of dusty files on the shelf to websites giving access to databases. They need to be identified, documented and assessed.

Table 2.3 Indicators and Sampling for Data Collection

Question	Response	Comments
For what purpose (related to water supply and sanitation) is the data being collected?		
Is the data being collected by direct observation (such as through household surveys) or through knowledge of delivery of services by projects (supply side)?		
Which indicators are being used? How do they compare to the indicators used by the JMP to measure progress towards the MDG?		
What is the geographic area and/or population being surveyed?		
Comment on the survey design and the sample and its representativeness.		
Are there quality checks on the data collection? Is the data verified?		
Coverage is the most common objective. Does the survey and its indicators give a realistic/accurate determination of coverage?		
Is the local definition of coverage the same as that of the MDGs.		
Is water quality tested and do the sample collection, indicators and water analysis give a realistic/accurate determination of water safety?		
Are the coverage rates based on area, or population? If based on area, do they accurately reflect population? If based on population, is the total population up-to-date and accurate or have interpretations been made which are of doubtful quality?		

Information Dissemination and Use

What happens to the data after analysis and storage?

- Is it compiled into reports which are then disseminated to other government offices, or is the dissemination pro-active and targeted?
- Are the information and reports readily available from sector institutions, libraries and the Internet?
- Has the information been institutionalized, do sector institutions own, respect and utilize the information effectively?
- Is there a two-way flow of information between those collecting the data and those who analyze and store it? In other words, do the collectors and providers get fed back the information in analyzed format?

Who uses the information, for what purpose, and how often?

- Is the information from the M&E system used by management for sector planning, budgeting and reporting and how?
- Is it used by the media, educational institutions such as universities and the public at large, such as private sector consultants?
- Is it used locally, regionally and internationally to assess coverage and progress towards local targets and MDGs?
- Is there feedback on the quality and reliability of the information provided?

What is being said here is that without dissemination and effective use of the information, there is little point in collecting it in the first place. Dissemination and use is seldom stressed but is, in fact, just as important as its collection and storage. Dissemination and use must be given the priority it deserves under the rapid assessment.

2.1.4 Urban Water Supply and Sanitation M&E

There are many parallels between rural and urban in water supply and sanitation. Urban water supply and sanitation are also key elements of

both the Africa Water Vision 2025 and the MDGs. The assessor is therefore encouraged to review the sections above, as much of what has already been said about rural WSS also applies to urban WSS.

Institutions

One should begin with the local definition of urban. It is usually subdivided between market centres and towns, municipalities and cities. Responsibility for water and sanitation in the smaller towns is usually held by local government or regional water boards. Municipalities and city councils or assemblies often hold responsibility for their water supply and sanitation. Increasingly, however, public private partnerships are being used in the management of urban water supplies, which involve leases, concessions or management contracts between private organizations and government. These usually improve service delivery by achieving greater financial viability and monitoring capacity. A case in point is the regulatory agency NWASCO of Zambia, which licences 10 commercial utilities, 13 local authorities and six private water providers running water supply and sanitation services. Each year their progress is published in annual reports and made available to the public, a process which engenders improvements in monitoring through competition for top marks amongst service providers.

All such urban water supply and sanitation institutions and their organizational frameworks need to be documented along with their M&E programs. Where public sector agencies such as municipal departments and water boards hold responsibility for water and sanitation, care must be taken to ensure that M&E responsibilities are defined for all urban sectors including lowest income areas, and that sanitation is included.

Urban sanitation is divided between on-site sanitation (latrines and septic tanks) and sewerage. Sewerage is normally the responsibility of municipal water and sewerage departments, while on site sanitation normally falls under departments of health. Unfortunately, health departments seldom assume responsibility for either implementing or for monitoring urban sanitation. Notable exceptions

to this include health departments that monitor sanitation and hygiene practices (e.g. Lesotho) and track water quality and incidences of water-borne illnesses, such as in Tanzania.

Monitoring Networks

The monitoring of water and sanitation is generally better in urban than in rural areas, since targets are more accessible, institutions are better resourced and households are in regular contact through water and sewerage rates collection. A good understanding of the monitoring networks is needed, e.g. who is responsible for data collection, of which sub-sector, where, and with what frequency. The impetus to collect the information and pass it through for analysis and storage needs to be understood.

Data Collected

Reference is again made to the preceding sections on rural water monitoring. In urban centres however, the majority of supplies will be through household connections, yard taps and standpipes. Monitoring would normally include water quality, reliability and hours/day of service.

Data Storage, Analysis and Dissemination
Please see sections 1.3.4 and 1.3.5 in the previous chapter on RWSS.

2.1.5 M&E Sub-systems

There are several subsystems that link to the water sector which both demand and supply information which need to be included in rapid assessments of water sector M&E. As listed above, they include the environment, forestry, local government and municipalities, trans-boundary water resources management, tourism, agriculture/irrigation, hydropower, health agencies, industry and commerce, training and research institutions, civil society and climate change. All are linked in one way or another to achievement of the Africa Water Vision of 2025. Each has its own monitoring requirements, some of which are provided by M&E of the water sector.

The Environment

Most countries have approved environmental strategies or policies that provide the institutional framework, criteria/standards, monitoring network information and even plans that will have to be reviewed under the assessment. The environment and transport/navigation sectors have minimum flow requirements and rely on water sector monitoring to provide information. Likewise, pollution control bodies need flow data and will be monitoring water quality. Deforestation affects runoff, sediment and flooding. The environmental ministry or department will maintain information on deforestation trends which is important to water sector monitoring.

There are numerous other environmentally related to sub-sectors which the rapid assessment must review for their information and M&E networks. These include fisheries, soil and land resources, biological diversity, industry, mining, climate and planning and development. Assessments as to their relevance and caliber/quality need to be made as do recommendations as to how they can best collaborate or be integrated with the water sector M&E networks and systems.

Physical Surveys

Physical and special information is normally collected and held in databases of surveys, land, and statistical departments. The information relates closely to the water sector and includes soil and geological characteristics, topography, land use, roads, administrative boundaries, government services, human settlements and rivers, lakes and wetlands. These databases and departments are normally long-standing and well established. Again, their caliber, shared interests, linkages and potential collaboration and integration with water sector M&E needs to be assessed and recommendations made as to how they could be improved.

Censuses

As previously mentioned, population censuses are important denominators for estimates of water

and sanitation coverage. Often, census areas conform to administrative or electoral boundaries. This makes their use difficult when monitoring or evaluating project areas that are not the same as those of the census. Censuses sometimes include questions that are socio-economic in nature and sometimes related to services provision such as water supply. The rapid assessment should review census methodology and identify constraints and opportunities of applying census data to monitoring water and sanitation coverage.

Meteorological Monitoring Networks

There will be numerous meteorological stations across the country operated by the meteorological and agricultural departments. These will be providing information on rainfall, temperature, wind, solar radiation, evaporation and atmospheric pressure. All are important to water sector monitoring and need to be integrated into the sector's M&E system.

Socio-economic Information

Several ministries and departments will be involved in the collection and use of socio-economic information. These include finance, planning and development, health, statistical offices, agriculture, local government and environment as well as the universities and private sector such as the NGOs. Most countries will have set up a socio-economic database which may be housed within the statistics, surveys or planning departments. The use of GIS databases and mapping is becoming widespread, though still basic in format. Satellite imagery is a welcome addition to the tools available to the water sector M&E system.

Agriculture

Ministries of agriculture are normally a source of information on the amount and quality of water demand and use by irrigation. They will also maintain information on the use of pesticide and fertilizer use which has important connotations for municipal drinking water quality. With depletion of surface waters in both quantity and quality, agriculture turns to groundwater. Most agricultural ministries maintain a network of groundwater

observation stations, especially in the water stressed regions. In view of the high demand for irrigation water, agricultural groundwater monitoring networks are usually more developed than those of water ministries. Both need to be reviewed and assessed. Opportunities for their joint strengthening and even integration need to be identified and recommendations made. The same can be said for hydrological stations which agricultural departments may be operating. Similarly, agricultural departments normally maintain meteorological networks. These are often already integrated with those of the meteorological departments.

Universities and Research Institutes

Universities and research institutions have strong interest in the water sector, especially within civil and environmental engineering, forestry and agriculture faculties. They will need to be contacted to determine their relevance, information requirements and areas of potential collaboration with M&E institutions.

Transboundary Water Resources Management

Most transboundary waters have MoUs or agreements between the riparian countries. Some have commissions, committees or boards actively overseeing execution of the MoUs. The rapid assessment should obtain copies of the MoUs and agreements and investigate as to whether current M&E is meeting the oversight body's needs. They will contain agreed modes of water resource monitoring, the maintenance of databases and the sharing of information as well as the use of the information in shared resource development.

Climate Change

The impact of human activity on the world's climate was all-but-confirmed in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report in 2007, which noted among other findings that the 1995-2006 period ranked among the 12 warmest years in the instrumental record of global surface temperature, and that globally the area affected by drought has likely increased since the 1970s. Yet most ordinary Africans who have witnessed increasingly

frequent warm spells, heavy precipitation events and severe droughts over the last five decades likely needed little additional confirmation. Since Africa is predicted to be one of the regions in the world to be the most vulnerable to the impact of climate change over the next century, it is becoming increasingly important for African countries to develop monitoring systems capable of tracking its effects to inform strategies to adapt to and attenuate them.

In the context of the Rapid M&E Assessment, these efforts – such as the development of National Adaptation Action Plans like those already drafted by Mauritania, Niger and Senegal; improving climate information collection networks at the country and transboundary water basin level; and, developing national action plans on IWRM – should be reviewed and assessed. Given the multi-sectoral nature of climate change, touching on the environment, transboundary water basin management, meteorology and agriculture, climate change monitoring and adaptation measures can be assessed in conjunction with assessments of these and other sectors discussed above.

2.1.6 Documentation

Included below is a brief list of useful background documents pertaining to the Rapid Assessment. These provide additional background information on the concepts and sectors discussed above and will make useful reading prior to the commencement of an assessor's first assignment.

- African Development Bank, "African Water Facility: Operational Procedures," AfDB, November 2005.
- AWF, "Summary Report on the Tunis Regional Consultative Meeting, 21-22 Sept. 2006, Tunis," Water Sector M&E Working Group, AWF, Tunis, March 2007.

- Cap-Net, "Integrated Water Resources Management Plans: Training Manual and Operational Guide," Cap-Net, Global Water Partnership, UNDP, March 2005
- EasyInfo, "Technical and Financial Feasibility Studies of the National Water Information Systems in 12 Mediterranean Countries: Executive Summary," EMWIS/SEMIDE, January 2006.
- IPCC Working Group, "Climate Change 2007 Synthesis Report: Summary for Policymakers," Intergovernmental Panel on Climate Change, November 2007.
- Water and Sanitation Program (WSP), "Country-level Sector Information and Monitoring Systems (SIMS) for Water and Sanitation in Africa," Practitioners Workshop, Nairobi, Kenya, March 27-29, 2007
- WSP-Africa, "Getting Africa on Track to Meet the MDGs on Water and Sanitation: A Status Overview of Sixteen African Countries," AMCOW, AfDB, EU Water Initiative, WSP, UNDP, December 2006.
- UNECA, Annual Water Development Report, "Indicators – Measuring the Progress of the Africa Water Vision".

2.2 Rapid Assessment Report Template & Checklist

This section of the Template provides the assessor with descriptions of the assessment report's recommended contents and a checklist of recommended questions to be asked during the assessment to assist the assessor in obtaining and all of the required information..

The Rapid Assessment Report Template and Checklist is to be used in parallel with section 2.1: Rapid Assessment Guidelines of this volume.

Rapid Water Sector M&E Assessment Report Template & Checklist		
Section	Checklist Questions	Notes
Executive Summary	<ul style="list-style-type: none"> Summarize the assessment's key findings and recommendations 	2 pages in length.
Acronyms	Only include acronyms used twice or more in main text.	
1 Country Background	<ul style="list-style-type: none"> Briefly describe the country, its location, urban centres, population and its growth, economy, governance and basic statistics such as GDP and HDI, WPI and ESI. 	½ page in length.
2 National Water Development Strategies and Policies	<ul style="list-style-type: none"> Are national strategies and policies for (a) IWRM, (b) rural WSS and (c) urban WSS approved or under development? If so, the assessor should obtain copies. What are the principal strategies and policies influencing M&E? For example, are the Africa Water Vision 2025 and the MDGs being used as targets and MDG indicators locally accepted and used? Refer to Guidelines Section 1.2.1. Are poverty reduction and gender equality strategies integrated into sector policies? 	1 page + any annexed agreements.
1 Water Sector Overview		Max. 4 pages.
3.1.1 Water Resources and their Use	<ul style="list-style-type: none"> What are the country's principal sources of water? What are its main river basins, lake basins, aquifers, and their sizes? Which are transboundary waters? What is the distribution of rainfall across the country? Report available statistics on the volume of water used and its geographical, basin and/or seasonal distribution under the headings below: <ul style="list-style-type: none"> Irrigation; b) Energy; c) Transport; d) Environment; e) Industrial; f) Domestic Broadly identify where water resources are being used for multiple purposes, e.g. a river that is used for both irrigation and energy production. Describe the multipurpose use of trans-boundary waters where applicable. 	
3.2 Water Supply	<ul style="list-style-type: none"> Provide an overview of urban and rural water supply systems in place. What coverage rates are being reported? Are they accurate and representative? How is water supply being financed, through what mechanisms and what are the existing cost recovery policies and practices? Are there national water supply development programs underway? If so, briefly describe them and their targets. Are there sector reforms (such as SWAp or governance devolution/decentralization) taking place? If so, what are the key reforms being made? What plans are there for future programs and reforms? Are the Vision 2025 and MDG targets being met? What is the potential for their being met in the future? 	

3.3 Sanitation	<ul style="list-style-type: none"> • Provide an overview of on-site sanitation and sewerage systems (rural and urban). • What are the coverage rates being reported? Are they accurate? • What are the technologies being used and what are the ultimate means of waste and wastewater treatment and disposal? • How are industrial and commercial wastewaters managed? • What major investments, programs and reforms are being undertaken and/or planned for the future? • What are the principal means of financing sanitation and sewerage? 	
4 Principal Issues in the Water Sector	<ul style="list-style-type: none"> • List the 10 principal issues facing the sector and provide a brief, one paragraph description of each principal issue. The following are some examples: (1) conflict over distribution of water (including transboundary) between multiple users, (2) ineffective management of groundwater (3) inappropriate governance and institutional arrangements in managing water basins, (4) lack of policy and planning, (5) unreliability of coverage data, (6) depletion of water resources through pollution and environmental degradation, (7) excessive subsidization of water and sanitation services, (8) variability of climate and rainfall coupled with climate change, and (9) growing water scarcity and desertification. 	Max 2 pages.
5 Water Sector Institutional Framework	M&E is covered in the subsequent sections of the assessment report. This section refers to roles and responsibilities in planning and administering the water sector.	Max. 10 pages (including charts).
5.1 Water Resources	<ul style="list-style-type: none"> • Using an organizational chart, such as Figure 1.1 or a matrix, illustrate the principal ministry, boards and councils, its departments, water basin boards and offices, catchment committees and offices, WUAs and CBOs and their roles and responsibilities. Describe linkages whether of a regulatory, advisory or information sharing nature between the various levels and organizations. • How developed is the water resources management organizational matrix and infrastructure? • What is the status of multi-use resource management? Is participatory consultation practiced? Are effective legislation and local bylaws in place? Are they enforced? Is conflict resolution practiced? • What are the principal sources of funding for the IWRM framework? Are they sustainable? 	
5.2 Water Resource Related Organizations	<ul style="list-style-type: none"> • Which other stakeholders are active in the sector? These typically include actors from the following spheres: <ul style="list-style-type: none"> o Environment; b) Local government; c) Energy; d) Agriculture; e) Transport; f) Surveys and statistics; g) Meteorology; h) Universities, research and training institutions; i) NGOs; j) Media; and, k) the private sector. • How do these perform as stakeholders of the sector? What are their roles or interests? • Describe their relationship to the principal IWRM institutions in the form of an organizational chart or matrix. 	

5.3 Rural Water Supply and Sanitation	<ul style="list-style-type: none"> Which organizations are working in RWSS? They will likely include the lead water ministry and its departments, regional water boards, the health ministry, local government and its district offices, NGOs, CBOs, water management or user committees, and the private sector including commercial pipe manufacturers, pumps and plumbing distributors, latrine masons and septic tank installers. Describe these organizations and their primary roles using organizational charts. In particular, describe the roles of the water ministry, local government and health ministry in sanitation. The roles of related institutions such as finance, environment, and community development should also be mentioned. Describe in broad terms the strengths and weaknesses of these organizations, their capacity to implement programs and their sustainability. 	
5.4 Urban Water Supply and Sewerage/ Sanitation	<ul style="list-style-type: none"> As in the preceding section, describe the sector's stakeholders and their roles in the form of an organization chart or matrix. Responsibility for urban water and sewerage is typically held by a lead ministry such as that of water, local government or housing. Traditionally, within towns, municipalities and cities, the councils and assemblies manage the sector. Sector reform has brought in regulation of commercial water utilities through independent regulatory bodies (such as the NWSC, Zambia). Describe the sector's financing mechanisms List and describe the roles of stakeholders in sewerage and sewage treatment. Which organizations are involved in on-site sanitation (e.g. latrines, eco-san and septic tanks), and what are their roles? These will likely include the health departments of town and municipal councils and assemblies, peri-urban authorities, NGOs, and local government. As in the preceding section, broadly describe the above institutions strengths and weaknesses, their implementation capacities and their sustainability 	Max 2 pages.
6 IWRM M&E		Max. 10 pages.
6.1 Institutions and Framework	<ul style="list-style-type: none"> Which regional and global organizations are active in water resources M&E in the country? What are their relationships and what is the nature of the M&E work they undertake with national organizations? Are there international transboundary basins such as OMVS or NBI functioning in the country? What role do they play? Is there a structured IWRM M&E framework? If so illustrate it in an M&E organizational chart showing institutions, their relationships and their roles 	See section 2.1.1 of the Guidelines.
6.2 Basin Monitoring Networks	<ul style="list-style-type: none"> Review the resources, facilities and capabilities of national and transboundary RBOs. In matrix format briefly describe the facilities available to each basin in terms of human resources, river gauging, meteorological stations, rainfall, water quality and groundwater observation and quality. What are the principal strengths and weaknesses of these basin offices? If the information is available, what would be required to make them fully operational? Is information available for each basin on the multiple uses of water resources? If so, briefly summarize them. Has the M&E information been used in resolving multi-use conflict in the past? 	See Table 2.1 and section 2.1.2 of the Guidelines.

6.3 Data Analysis, Storage and Dissemination	<ul style="list-style-type: none"> • What is the quality and timeliness of data being collected in each basin? • What indicators are being used? • What performance criteria are being used? • Is the data verified and are there quality checks on its collection? • How is the data managed/collated, analyzed and prepared for dissemination? Is the data collected regionally or centrally before or after analysis? • Is an MIS or DBMS available, functional and used? Provide comment on the strengths and weaknesses of data storage and management. Is the MIS or DBMS readily accessible at the basin and levels? • Is the information prepared in a user-friendly format and fed back to regional basin levels? How is the information used? • Has resource mapping been carried out and are inventories of resources available for each basin? 	<p>See section 2.1.2 of the Guidelines.</p> <p>Table 2.2 of the Guidelines can be used in reporting.</p>
7 Rural Water Supply and Sanitation M&E		Max. 10 pages
7.1 Rural Water Supply M&E		Max. 10 pages.
7.1.1 Institutions and Monitoring Networks	<ul style="list-style-type: none"> • Which institutions are collecting data on RWSS? Note that there are often different institutions undertaking M&E for water vs. sanitation. • Is there a structured M&E framework for the WSS sub-sector? If so, illustrate it in an org. chart. 	<p>See section 2.1.3 of the Guidelines.</p> <p>Table 2.3 of the Guidelines can be used to record observations and comments about surveys and data collection being undertaken. Each survey or data collection initiative should be described using separate tables.</p>
7.1.2 Indicators and Sampling for Data Collection	<ul style="list-style-type: none"> • An overall assessment should be made of the M&E data collection approaches and methods being used in the country. Strengths and weaknesses should be identified and recommendations made for improvements. • The assessment should note whether data is disaggregated by gender. 	
7.1.3 Data Storage and Analysis	<ul style="list-style-type: none"> • In each case, how is the data collated, stored and analyzed? • What is the quality of analysis, storage and access? • Describe the data management chain. • Are there one or several databases and institutions storing the data? Are they coordinated? Is the data and information harmonized between them? 	
7.1.4 Information Dissemination & Use	<ul style="list-style-type: none"> • How is data used, by whom, for what purposes and to what effect? I.e. is the information used in sector management, planning and development? Is it used to assess sector performance and progress towards targets? • In what form is the data/information processed and published? On what platform (e.g. reports, website, or survey documentation)? • Is data dissemination pro-active and targeted? How and to whom? Is it used by regional and global organizations interested in sector progress and performance? Does it reach those who need it most including the media, libraries, universities, research and training institutions, the public and the private sector? • Is there a two-way flow of information both to the central organization and back to the data collectors and providers? 	

7.2 Rural Sanitation M&E		Max. 5 pages.
7.2.1 Institutions and Monitoring Networks	<ul style="list-style-type: none"> Refer to 7.1.1, which can be used as a guide to reporting on institutions and monitoring networks in rural sanitation. 	See section 2.1.3 of the Guidelines. Table 2.3 of the Guidelines can be adapted and used to assess rural sanitation surveys and data gathering initiatives. Use one table each.
7.2.2 Indicators and Sampling for Data Collection	<ul style="list-style-type: none"> What is the definition of adequate sanitation used locally to describe adequate sanitation? Does it conform to the definition used by the JMP in assessing progress towards the MDGs? Within that table, provide an estimate of the percentage of latrines and toilets which are shared by more than one family. Is data collected disaggregated by gender? 	
7.2.3 Data Storage and Analysis	Refer to Section 7.1.3, which can be used to report on data storage and analysis in this sub-sector.	
7.2.4 Information Dissemination & Use	Refer to Section 7.1.4, which can be used to report on information dissemination and use in this sub-sector.	
8 Urban Water Supply and Sanitation M&E		
8.1 Urban Water Supply M&E		Max. 5 pages.
8.1.1 Institutions and Monitoring Network	This section relates to M&E of urban water supply. Refer to sections 7.1.1-7.1.4 above, which relate to rural water supply. They can be used to guide the approach used and the questions to be asked about urban water supply with the understanding that they will need to be adapted to the very different nature of organizations working in urban areas. These are used in the less wealthy and peri-urban residential areas. As suggested in Section 7.2.2, the local definition of adequate sanitation should be provided and compared to that used by the JMP and MDGs.	See section 2.1.4 and Table 2.3 of the Guidelines
8.1.2 Data Collection		
8.1.3 Data Storage and Analysis		
8.1.4 Information Dissemination & Use		
8.2 Urban Sanitation M&E		Max. 5 pages.
8.2.1 Institutions and Monitoring Network	Refer to Sections 7.1 and 7.2, which relate to RWSS. These can be used to guide the approach used and the questions to be asked about urban sanitation. They will need to be adapted to reflect the different organizations responsible for urban sanitation and sewerage. Distinction should be made between on-site sanitation and sewerage. In most instances, sewerage and septic tanks are available to the more wealthy and commercial areas of towns and cities. On-site sanitation refers primarily to latrines and eco-sanitation.	See section 2.1.4 and Table 2.3 of the Guidelines
8.2.2 Data Collection		
8.2.3 Data Storage and Analysis		
8.2.4 Information Dissemination and Use		
9 M&E Subsystems		Max. 8 pages.
9.1 Environment	<ul style="list-style-type: none"> What M&E systems and capacities do the related organizations possess? Are there opportunities for sharing M&E data, especially in the subsectors of i) pollution control and ii) deforestation? 	

9.2 Physical Surveys	<ul style="list-style-type: none"> • What data can be useful to the water sector? • Is it M&E data? If so, how can it best be used? 	See section 2.1.5 of the Guidelines	
9.3 Censuses and Socio-economic Surveys	<ul style="list-style-type: none"> • Is census data used in water and sanitation M&E? • Report on the quality of census data and its relevance to sector M&E. For example, are the timelines for the census the same as those of WSS M&E or do interpretations have to be made and what is the quality of these interpretations? • Are the boundaries used in the census the same as those used for monitoring WSS? That is, do they cover the same populations or are there unacceptable differences that are being overlooked? <p><i>Censuses and socio-economic surveys are of direct relevance to the water supply and sanitation sub-sectors in that they provide the baseline for population. Household surveys often include questions related to water supply and sanitation.</i></p>		
9.4 Meteorological Surveys	<ul style="list-style-type: none"> • Obtain information on meteorological stations, surveys and reports. Is there data collection which can be utilized by the water sector? These will likely be found in the form of rainfall statistics. What is the quality of this information? • How can this data be integrated into the water sector's monitoring systems? 		
9.5 Agriculture	<ul style="list-style-type: none"> • How extensive are these monitoring networks? Describe them. • How reliable is the information and how can it be integrated or at least used by the water sector? <p><i>The ministry of agriculture and its statistical department will likely be gathering data on river flows, groundwater levels and ground cover and soils in river basins across the country.</i></p>		
9.6 Universities and Research Institutions	<ul style="list-style-type: none"> • Which universities, training institutions and research establishments are working in the water sector? • Do they provide or utilize M&E data? • How can the water sector better relate, serve and draw upon these institutions? 		
9.7 Transboundary Waters	<ul style="list-style-type: none"> • Identify those river basins that have transboundary waters. Obtain copies of agreements between riparian countries using the shared waters. • Do transboundary committees exist with representation by riparian states? Are they active? • What monitoring systems have been established? • What information is being shared between riparian countries? What is the quality and timeliness of the data? How can such data be better integrated into the sector's M&E system? 		
9.8 Climate Change	<ul style="list-style-type: none"> • What measures are being undertaken and tools are being used to monitor the impact of climate change on domestic and transboundary water resources? • If climate change monitoring is being undertaken, is it the responsibility of one particular ministry or organization, or is a multi-sectoral approach being taken? Which ministries or organizations are involved in these activities? • If the country has an IWRM Action Plan, to what extent does it address climate change adaptation? 		
10 M&E Issues, Conclusions and Recommendations			Max 5 pages.
10.1 Issues	<ul style="list-style-type: none"> • Describe the main issues confronting the development of effective water sector M&E systems. 		
10.2 Conclusions	<ul style="list-style-type: none"> • Describe the main conclusions emanating from this assessment regarding M&E capacity and needs. 		
10.3 Recommendations	<ul style="list-style-type: none"> • Outline a series of recommendations based on the findings from the rapid assessment. Recommendations should focus on target areas and means for system improvement through future M&E capacity building initiatives in the focus country. 		
Appendices			

PART 3

Terms of Reference For Assessors

3 Terms of Reference For Assessors

3.1 Overall Responsibilities

Assessors will be required to prepare themselves prior to undertaking each rapid assessment by reviewing all available documentation and undertaking orientation and training for the assignment. They will then arrange for and undertake rapid assessments in ___ pre-selected countries, prepare separate reports on these rapid assessments, including diagnostic assessments and related recommendations, and attend a workshop to discuss and compare the results of your and similar assessments undertaken across Africa.

3.2 Review, Orientation and Training

The review of available documentation will focus on this AWF initiative, the selected countries, their water sector and its M&E systems. Assessors will be provided with a set of background documentation and be required to search the Internet and use their own contacts to identify additional relevant documentation. Orientation and training will take place in [insert location] over a period of five (5) working days from [insert date] to [insert date].

The first two days of orientation will be spent in reviewing the assessor's country's water sector's institutional structure, roles and responsibilities of primary and affiliated institutions, policy environment, budgets, financing mechanisms and activities of donors, monitoring and evaluation systems (data collection, survey methods, indicators, data collation and analysis, storage, report preparation and dissemination).

The subsequent three days of training will focus on the Rapid M&E Assessment (RM&EA) itself and the use of the Template in the selected countries. It will include guidance on preparation for the assignment, selection and making of appointments, itinerary, identification of a contact person in-country, time efficiency, essential versus courtesy visits, information gathering, information verification, diagnosis and preparation of recommendations and report preparation. The training will include the assessor trainees' preparation of mock

assessment of the country in which the training is taking place. In view of limited availability of time this mock assessment will necessarily be brief and focus only on M&E systems rather than the sector's institutional background.

3.3 Preparation

During and immediately following the orientation and training the assessor will prepare for their in-country assessments. Using the background information they have acquired they will prepare an outline institutional framework for each country. This will be used to assist in identifying which institutions and individuals are best placed to provide the required information during in-country visits. The template's guidelines can be used to assist in identifying the key institutions, organizations and agencies to interview. Where needed and feasible assessors will identify a "local contact person" who can assist them in sourcing documentation, identifying interviewees and setting up appointments. This local contact is to assist on an informal basis before and during each in-country assignment. S/he will also be useful in obtaining missing information following your assignment should gaps be identified. Prior to each visit the assessor will have acquired a broad understanding of the sector, its M&E systems and its strengths and weaknesses.

Assessors will be responsible for scheduling, preparing their itineraries, travel arrangements and setting up appointments. These should be arranged at least two weeks prior to each visit and an itinerary/work plan submitted to AWF for approval and confirmed prior to departure.

3.4 In-Country Assessment

In-country rapid assessments will be undertaken in the [insert #] selected countries. Based on the template's Guidelines, the assessments and subsequent reports will closely follow the table of contents provided in Part B of the template.

Following the approval of the assessor's schedule and work plan, interviews will be conducted with

sector and sub-sector personnel over a period of seven days (including one rest non-working day) in each country. The information gathered will be analyzed and form the basis of the assessment report. Key information will be verified through third party contacts from both government and non-government sources such as international organizations and NGOs involved in the sector.

3.5 Report Preparation

A report on each country's assessment will be separately prepared using the Template's table of contents (Part B) as a guide. The reports will include a diagnosis (strengths, weaknesses, opportunities and challenges) of each country's sector status providing:

- i An overview of the country's progress towards and potential of reaching the Africa Vision 2025 and MDGs;
- ii The sector's stage of development ,such as progress towards SWAp and performance assessment,
- iii Description and evaluation of the status of the sector's central M&E system

- iv Analysis of the status of all sub-sectors' M&E systems;
- v Recommendations for potential directions and initiatives for the sector M&E system's development. Suggestions will also be offered regarding key contacts and potential consultants who could play significant roles in M&E development in each country.

3.6 Reporting Workshop

A 20 minute summary presentation will be prepared by the assessor in PowerPoint format on his/her findings for each country assessed. It will be presented at a reporting workshop following the conclusion of the Africa-wide M&E assessment. The workshop will be held to draw comparisons between the approximately 30 countries assessed. A comparative overview will be drawn up including a summary sheet highlighting stages of M&E development and gaps and opportunities in each country. Finally, the participants will outline an indicative work plan with schedule and budget for each country assessed for strengthening their countries' water sector M&E systems.

ANNEX A

Sample Rapid M&E Assessment Report
(Congo-Brazzaville.)

Annex A Sample Rapid M&E Assessment Report (Congo-Brazzaville.)

Introduction

The following section provides a provisional sample Rapid M&E Assessment Report similar to those that will be produced for countries in Africa weak M&E systems. The report has been included in order to provide a rough illustration of the expected outputs of a Rapid Assessment using the Rapid M&E Assessment Template and associated TORs.

Rapid Assessment Report: Congo-Brazzaville

This report was produced over the course of one week in May 2008, which included the Consultant's five-day mission to Brazzaville as a part of the Pan African Water M&E Assessment assignment and two subsequent days of analysis and writing. The length of the report is similar to that of future reports on countries in similar situations to that of the Congo. Though it does not follow precisely the same format as the template for the Rapid Assessment of Water Sector M&E designed by the Consultant, it contains most of the content requested in the Template. Exceptions include full illustrations of the Congo's water sector institutional architecture; information on available water resources in the country and explanations of all of the national water sector development strategies; policies and underlying legislation (though electronic or soft copies of most such documents were made available by local officials upon request). A list of officials met during the mission was generated but has not been included herein for the sake of brevity.

Institutional Arrangements Water Resources

The following institutions are the primary organs responsible for water resources management in the Congo under its 2003 Water Code and subsequent legislation.

The Ministry of Energy and Water (MEH) is responsible for energy and water policy and program development and oversight. It is led by a cabinet in charge of three directorates – Orientation and Control, Planning and Studies,

and Cooperation and Communication – two Directorates General – Energy (DGE) and Water (DGH) – and seven agencies and crown corporations: National Electricity Company (SNE), National Agency for the Regulation of Electricity (ANERE), The National Rural Electrification Agency (ANER), the Water and Electricity Sector Development Fund (FDSEE), the National Water Distribution Company (SNDE), the Water Sector Regulation Agency (ARSE) and the National Rural Water Agency (ANHR). The DGH is composed of three agencies: Water and Sanitation, Water Resource Management and Regulation and Control.

The MEH's efforts are complemented by the work of the Directorate General of the Environment (DGE) under the Ministry of Tourism and Environment, which is responsible for the management and sustainable development of the country's forest, fauna and fishery resources. The DGE implements the Law on the Protection of the Environment, which is currently undergoing revision, and validates environmental impact studies conducted for planned industrial projects.

Further, the Ministry of Scientific Research (MRS) was created in 1994 to collect and analyze surface water, groundwater and meteorological data emanating from the Congo's hydrological, hydrogeological and climatological monitoring networks. The MRS, through its Directorate General of Scientific Research and its Hydrological and Meteorological Services Unit, is in the process of developing a water resources monitoring database with technical assistance from France's Institut de recherche pour le développement (IRD) and conducts research on water resources in the Congo. The MRS is an active member of the International Commission of the Congo-Oubangui-Sangha Basin (CICOS).

CICOS was created under the auspices of the Economic and Monetary Community of Central Africa to facilitate cooperation between member states for the sustainable management and development of the Congo River Basin. Member states include Cameroon, the Central African Republic, Congo-Brazzaville and the D.R. Congo.

Lastly, the National Civil Aviation Agency's (ANAC) Meteorology Directorate (DM) collects and disseminates meteorological data with support from the Agency for the Security of Aerial Navigation in Africa in Madagascar (ASECNA). Data is sent every three hours to the Regional Telecommunications Centre at Maya Maya International Airport outside Brazzaville, while monthly summary reports are sent in hard copy to the ANAC for treatment, storage and dissemination through periodic (ad hoc) reports.

Urban and rural water supply

The Congo's urban water supply depends predominantly on the services provided by the publicly owned SNDE, which is responsible for the generation and distribution of potable water in the Congo's four major cities, 15 secondary towns of more than 5000 people and some peri-urban areas. The SNDE also collects and stores data related to the quality and quantity of potable water distributed through its network that can only be considered as rough estimates of actual figures. SNDE's water quality control capacity is very limited. Beyond the challenges posed by the need to rehabilitate the Congo's water distribution and treatment network, the SNDE is also challenged by the retirement of skilled personnel, a lack of technical and business administration specialists, and a lack of appropriate equipment. Initial efforts to privatize the SNDE in recent years fell through due to continuing questions over the scope and quality of the SNDE's water distribution network.

The ARSE is the agency within the MEH responsible for overseeing and coordinating the liberalization of the Congo's water sector (as per Decree No 2008-66), including the privatization of the SNDE. It is intended to ensure adherence to contracts between the state and service providers (though none currently exist), track performance indicators (currently under development with support from counterpart institutions in D.R. Congo and Burkina Faso) and to ensure water tariffs are both fair and equitable to all income groups.

While playing a coordinating role at the urban and peri-urban level, the MEH's , only recently

created, aims to support the development of water and sanitation infrastructure in rural areas and small towns of 2,000-5,000 people. It is funded primarily through the national budget and is seeking the support of former development partners such as UNICEF, GTZ, AFD, JICA, UNDP and the WHO to help implement its National Rural Water Infrastructure Development Programme (PMEHER), which aims to pick up where previous development programs left off prior to the war and provide an estimated one million rural Congolese with access to water.

Urban and rural sanitation

Serious resource shortfalls have limited improved sanitation coverage to 19% in urban areas and 21% in rural areas according to the latest figures from the JMP. This can be compared to overall figures reported in the Congo's 2005 ECOM, which sampled 5000 households and was conducted using the World Bank's QUIBB method. The survey indicated that 51.8% of Congolese households have a "healthy" sanitation system. The vast majority of these in both urban and rural areas are covered latrines and only 6% use flush toilets.

The primary institutions responsible for urban sanitation in large cities are municipal governments, such as the City of Brazzaville. Its Directorate of the Environment and City Cleanliness is responsible for sanitation sector studies and regulation; the construction and management of municipal works projects, including rainwater evacuation systems; and, the treatment of industrial wastewater. In lieu of a citywide sewerage transportation and treatment system, which does not yet exist, the City is developing a plan to treat household waste extracted from individual septic tanks.

The Directorate of Hygiene within the Ministry of Health and Population (MSP) is responsible for water quality monitoring and reporting. However, it lacks the financial, technical and human resources to carry out its mandate effectively. When tests are conducted – approximately every six months for the SNDE network and on a project basis for semi-urban areas within 100km

of Brazzaville – the DHG applies the WHO's Water Quality Directives (in the absence of a set of national water quality norms). Supporting the work of the DHG is the Service de génie sanitaire (SGS), which conducts studies on household hygiene conditions on a project basis and sends its reports to the DHG and the MSP. The SGS focuses on the quality of sanitation infrastructure.

Data Collection and Management Systems

Most relevant ministries suffer from serious shortfalls in funding and capacity to collect, analyze and disseminate data through their sectors' decentralized structures, and each department with a database uses its own methods for collecting, storing, and disseminating this information. Most records are only available in hard copy. The country's past civil wars have played a large part in destroying the equipment and systems necessary to facilitate the operation of effective monitoring systems and prevented the collection of any relevant data through most of the 1990s and the first few years of this decade. As a result, current figures related to access to water and sanitation are only rough estimates and population figures are based on projected growth rates since the 1984 census. Nevertheless, some data collection and management systems do exist and collect hydrological, hydrogeological, meteorological and environmental data despite serious capacity constraints. Below is a summary of relevant estimates:

- Access to water (urban and peri-urban): 62.1%
- Access to water (rural): 11%
- Access to sanitation (urban and rural): 51.8%

Water resources data is collected and analyzed primarily by the GRSEN. Hydrological data is collected through a network of five surface water monitoring stations (down from 40 prior to the civil war) that measure water height, flow and water quality (physico-chemical) but lack limnographs. Five additional stations located in northern Congo are scheduled for rehabilitation by the end of 2008. Data is collected every quarter, down from monthly prior to the war. Groundwater monitoring

is limited to a handful of stations in Brazzaville. The GRSEN is in the process of planning a surface water, groundwater and climatological database that will store available water resources data (1949-1982; partial data from 1983-1992; little data from 1993 to present). Data is currently stored in hard copy and on a computer using Excel but will eventually shift to HYDRASYS software once fully operational. Data sharing partnerships are already in place with SCEVN – which monitors river levels and the presence of liquid and solid discharge through a network of seven monitoring stations – and ANAC for climatological and additional hydrometric data, and the intention is to provide all relevant institutions with access to this database (ministries responsible for public works, energy/mines, health, transport, forests, agriculture and education as well as other research centres). The operationalization of this unified water resources database depends significantly on available financing, which is currently extremely limited.

In addition to the development of their water resources database, the GRSEN is also focused on producing backdated annual hydrological reports. It is currently producing the report for 1983, followed by subsequent years up to 1992.

While there exist no mechanisms to measure or control pollution in the Congo, the DGE collects information on the state of the environment (water, soil, forests, industry, transportation, energy, etc) and publishes reports on an irregular basis.

With respect to urban and peri-urban water supply monitoring, SNDE relies largely on the under-resourced Laboratoire de bromatologie of the DHG for water quality testing and notifications regarding deficiencies not caught by the SNDE's own mini-laboratories. The DHG's laboratory is capable of measuring most physico-chemical water quality indicators but field-testing is only done on an ad hoc basis due to a lack of financing. All of their equipment has been donated by the WHO, however some of it has broken down and cannot be repaired locally, and their supply of testing chemicals is currently limited to three months. The lab currently does not possess any computers but state the need for at least three.

The SNDE's water consumption and quality monitoring network is plagued by the lack of automatic counters at the household (consumption) and industrial (production) level. However, an inventory was conducted recently and water meters have been ordered based on its results. In the absence of meters, access figures are calculated on the basis of water pumped minus estimates of losses and consumption per capita. In addition, the SNDE notes that an estimated 30% of water produced is lost to leakage. The SNDE's information management system is "embryonic" according to officials: hard copy archives are "nearly non-existent" and no GIS system is in place to enable the monitoring of breakdowns. However, the SNDE recognizes the need to develop a centralized information and knowledge management system. Figures covering the 2000-2003 period cover performance indicators such as water produced, amount of treatment chemicals consumed, number of household connections, revenues, expenses and investments, but these can only be considered as rough estimates.

Rural water supply monitoring is now the responsibility of the ANHR, which is still in its infancy. Nevertheless, the ANHR has developed a plan under the auspices of the re-invigorated *Projet hydraulique humaine* to conduct an inventory of rural water points and monitoring stations and begin their strengthening and expansion. No such inventory has been conducted since the early 1990s.

Given the severe weakness and/or absence of waste water disposal and treatment works in the Congo's major cities, there is no monitoring system in place to track access or quality indicators regarding basic sanitation. Some studies, such as the 2005 ECOM paint a broad picture of access to various types of sanitation infrastructure and services.

With respect to hygiene, the DHG plans to create a national electronic database on water quality, but this remains only an idea in the minds of DHG officials and external partners. The current system used to collect and store water quality data is

based on regular monitoring of the SNDE-managed water supply and ad-hoc field studies in villages and towns within 100km of Brazzaville. Hard copy reports are issued to relevant partners, including the SNDE, for action on identified shortfalls, and the reports are sometimes collated into an annual hard copy report. Officials indicate that most household and industrial wastewaters and effluent are deposited directly into the environment without treatment, and the DHG lacks the capacity to assess both wastewater quality and its impact on the environment.

As noted above, the DM collects agro-meteorological data. It operates a network of 18 functioning synoptic stations (see graphic), some of which are being fitted with solar panels, 10 climatological stations, 212 rainwater monitoring stations, 2 radio transmission stations (operated by ASECNA), 1 air pollution measurement station, 1 radar station and 1 'MSG.' Data is typically transmitted by phone and is disseminated domestically through bi-weekly bulletins and national television and worldwide through the Regional Telecommunications Centre at the Maya Maya International Airport. CLIMSOFT, Excel and other in-house software programs are used by ANAC to manage their data, which is considered reliable following a single treatment by ANAC following its arrival from the regions.

With regards to transboundary water basin monitoring, CICOS plans to create an Information System for the Congo Basin (SIBCO) that will collect and publish information on the state of water resources and the situation concerning transportation on shared waterways. Feeding this information system will be the planned Congo-HYCOS network of hydrological monitoring stations throughout the basin as well as an environmental decision-making support system making use of satellite imagery. The SIBCO network is currently in its inception phase, and CICOS is receiving financial and technical support from GTZ as well as the European Commission to support its development. In the future, this system will also be fed by national focal points that will collect information from relevant member state-level institutions, such as the MEH and MRS in the Congo.

Congolese socio-economic data is collected through periodic national censuses and studies managed by the National Centre for Statistics and Economic Studies (CNSEE) within the Ministry of Planning. Prior to the last census conducted in 2006, censuses were conducted in 1984 and 1996. The results of the latter were deemed invalid due to the possible political manipulation of results and difficulties in surveying all households during a civil conflict that dominated the latter half of the 1990s. Current population projections are therefore calculated based on estimations derived from the 1984 census. The most current and reliable socio-economic data stems from the 2005 ECOM. The CNSEE intends to carry out this survey at least every five years to track progress towards meeting the MDGs and Congo's PRSP objectives. The CNSEE process and analyzes its data using SYSPRO and SPSS software and their reports are available in hard copy, CD-ROM and on CNSEE's website.

Finally, the Ministry of Agriculture does not conduct independent monitoring of water resources, and officials from the Ministry note that the absence of significant irrigation systems in the country due to sufficient rainfall precludes the need for irrigation monitoring. If necessary, the Ministry can access water resources data from SCEVN or the MRS but maintains its own rough estimates of agricultural production and more accurate statistics on livestock holdings derived from periodic agricultural censuses.

Conclusion and Recommendations

Having only brought to an end in 2003 a decade-long series of devastating civil wars that destroyed much of the country's basic infrastructure and pre-existing water monitoring networks, the Congo does not possess many of the prerequisites needed for a functioning water sector M&E system. Undermining the rehabilitation, reach and growth of water sector M&E systems is the following non-exhaustive list of factors:

- A relatively unstable security environment outside of the Brazzaville and Pointe-Noire, the two largest cities, which severely limits reconstruction efforts in the southern half of

the country. Security is of particular concern in the south of the country, causing officials to acknowledge that reconstruction/sector development activities will have to focus largely on the more accessible and secure northern region over the short to medium term.

- Limited technical and regulatory expertise due in part to the absence of appropriate training facilities in the country and a long-standing freeze on public sector hiring.
- A publicly-owned urban water utility (SNDE) that lacks the capacity to accurately track water production and consumption, set appropriate tariff rates and provide a reliable supply of potable drinking water to urban and peri-urban residents.
- The absence of stable sector financing.

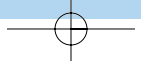
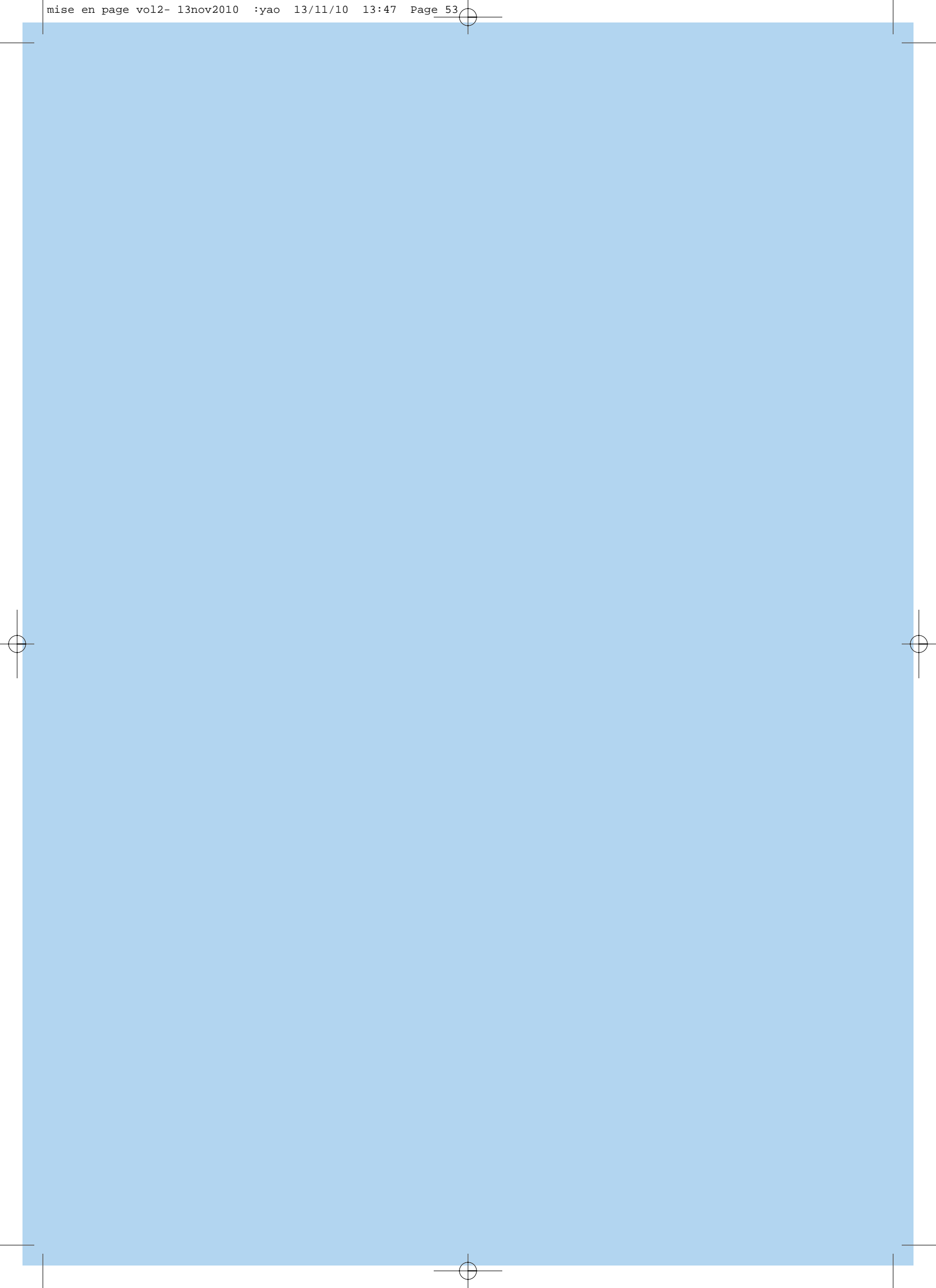
While some sub-sector institutions have developed action plans for rebuilding pre-war infrastructure or frameworks for the development of water resources databases, urban and rural WSS and water resources M&E systems are therefore currently either weak or non-existent.

Nevertheless, many senior sector officials are cognizant of the importance of such systems and are looking for partners who can assist in the development of appropriate M&E mechanisms in parallel with or following the rehabilitation of WSS infrastructure. Furthermore, the Congo developed a PRSP in 2003 with assistance from development partners that serves as a framework for addressing sector-related MDGs. Building upon the PRSP were subsequent studies, including the 2005 ECOM and a DHS, which provide the most relevant data from which sector strengthening efforts can be built.

Taking each of these positive factors and the weaknesses noted above into account, donor-financed water sector M&E initiatives in the Congo's would likely be most effective in the short to medium term if they were to provide basic but focused support for the development of M&E systems in parallel with efforts to reconstruct

essential water supply and sanitation infrastructure. Such efforts can include the installation of basic surface water, groundwater and potable water monitoring meters while their associated water exploitation and distribution networks are being constructed or rehabilitated. But they can also include sector strengthening activities such as bringing representatives from all relevant institutions together to clarify roles and responsibilities and to identify M&E priorities.

As a country having only recently emerged from a devastating civil conflict that caused much of its previous sector infrastructure to be destroyed or looted, the coming years represent an opportunity for the Government of the Republic of Congo and its development partners to establish basic but well-functioning WSS and water resources M&E systems from the ground up alongside the reconstruction of associated basic WSS infrastructure, the Government's priority in this sector for the foreseeable future.



Endnotes

- i Sharm el-Shiekh Commitments for Accelerating the Achievement of Water and Sanitation Goals in Africa (2008) Assembly/African Union/Draft/Decl.1 Rev.1, July.
- ii See Table 1.1 in the main report for a list of country rankings according to these categories.
- iii The title for this initiative (MedWIP) may change in the future, as it will serve the forthcoming Mediterranean water strategy defined in the framework of the Union for the Mediterranean.
- iv Details of M&E development in fragile states are not included in this report. See section 1.2 in the main report for further detail.
- v The report on Water and Sanitation SIMS in Uganda by WSP-Africa (Thomson and Ofumbi, 2006) provides useful background information and analysis of SIMS in Uganda.
- vi "Truly regional" in this case refers to an Africa-driven (as opposed to donor or internationally-driven) organization with the reach, credibility and support to engage in water sector M&E that covers the entire continent.
- vii 'Rapid' means that the assessment should take no longer than two weeks of in-country work.
- viii 2005, African Water Facility, "Operational Program for 2005-2009", AfDB Tunis.
- ix The shared Africa Water Vision 2025 is for an Africa where:
- 1 There is sustainable access to safe and adequate water supply and sanitation to meet the basic needs of all;
 - 2 There is sufficient water for food and energy security;
 - 3 Water for sustaining ecosystems and biodiversity is adequate in quantity and quality;
 - 4 Institutions that deal with water resources have been reformed to create an enabling environment for effective and integrated management of water in national and transboundary water basins, including management at the lowest appropriate level;
 - 5 Water basins serve as a basis for regional cooperation and development, and are treated as natural assets for all within such basins;
 - 6 There is an adequate number of motivated and highly skilled water professionals;
 - 7 There is an effective and financially sustainable system for data collection, assessment and dissemination for national and trans-boundary water basins;
 - 8 There are effective and sustainable strategies for addressing natural and man-made water-resources problems, including climate variability and change;
 - 9 Water is financed and priced to promote equity, efficiency, and sustainability;
 - 10 There is political will, public awareness and commitment among all for sustainable water –resources management, including the mainstreaming of gender issues and youth concerns and the use of participatory approaches.
- x A census was undertaken in 2006 to update these numbers.
- xi Access in this case is defined as those whose primary source of drinking water comes from protected wells and public or private taps. According to the 2005 ECOM survey, a further 20.3% use river water and 3.6% use rainwater. Only 26.5% of the population receives water directly from the SNDE. Contrasting figures stemming from the UNICEF's 2005 DHS indicate that 58% of the population uses improved drinking water.
- xii This figure is an estimate provided by the Congo's MEH. Officials note that it is only a very rough estimate due to outdated census figures and uncertainty over the number of functioning water points, each of which is estimated to serve between 100 and 300 people.
- xiii According to the 2005 ECOM survey, 45.7% of households use covered latrines, while only 6.2% use flush toilets. These comprise the definition of sanitation facilities judged as "healthy." A further 7.8% use the outdoors. The ECOM summary report did not differentiate between access to rural and urban sanitation.

- xiv The purpose of AMESD “is to launch a program that will allow all African stakeholders -policy makers, the private sector, civil society -led by African RECs to improve the management of their environment through a more timely and efficient use of relevant data and analysis, including from remote sensing and ICT.
- xv Data concerning key socio-economic indicators was collected using the World Bank’s QUIBB method, a tool developed by the World Bank in collaboration with the UNDP, UNICEF and the ILO to provide countries with a mechanism to rapidly produce key statistical indicators and to reinforce their capacity to use these indicators to develop and monitor projects and programs more effectively..
- xvi Exceptions include the AFD, whose efforts in the sector are focused on the strengthening of urban rainwater management infrastructure; UNICEF, WHO and Doctors Without Borders, who are building basic water and sanitation infrastructure and promoting good hygiene practices in the Pool Region; and, GTZ.

