Netherlands Commission for Environmental Assessment

Scoping Advice for the Dutch IWRM Support Programme

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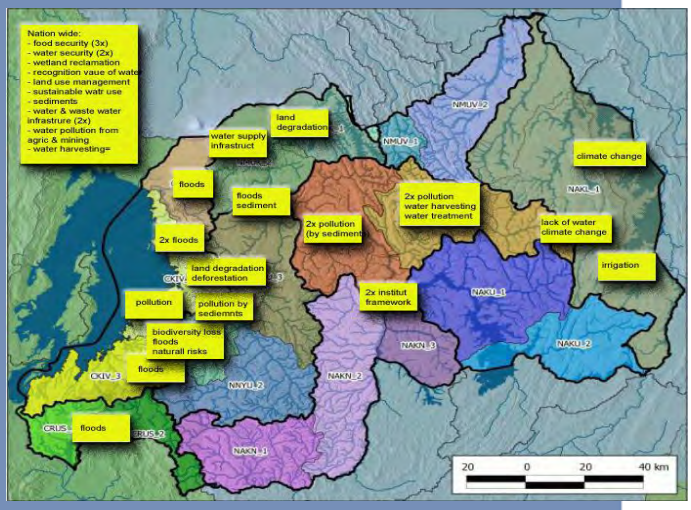
Rwanda



Netherlands Commission for
Environmental Assessment

your reference

your letter

our reference
OS25 -O95/GB/jz
enquiries to
G.J. van Boven
direct phone number
(030) 234 76 13

Date: *30 January 2013*
Subject: NCEA advice on scope for SEA for IWRM support programme

Dear Mr. Oppewal,

In a Terms of Reference, sent by email d.d. 2-11-2012, you requested the Netherlands Commission for Environmental Assessment (NCEA) to provide advice on the scope of an SEA supporting the development of the EKN's support programme for Integrated Water Resources Management (IWRM). The ToR specified the following outputs as expected in the scoping advice:

- Recommendations on issues and set-up of the overall Program, its components and crosscutting issues;
- Recommendations for further steps to be taken by EKN and/or GoR;
- Consistency analysis of objectives, stakeholders and policies;
- Elaborate a report with advice for further preparation and decision-making by EKN.

It is my pleasure to herewith submit our advisory report as requested. I would like to draw your attention to the following:

The Government of Rwanda, through the Rwanda Water Resources Department (RWRD), is steadily developing its policy framework for IWRM. It has indicated to get ready to make the step towards implementation of IWRM, welcoming the support of the EKN in this context. With this high rate of progress being made, it is crucial to align the EKN's support programme as much as possible with the current state of IWRM development in Rwanda. For this reason, we have decided to first set the scope in terms of the current setting of IWRM in Rwanda. Subsequently, we focus on the scope of the support programme itself. We discuss its consistency with the state of affairs of IWRM development in the country, and give recommendations on how to align the two. After this, advice is provided on the scope of the SEA to be conducted, including next steps. This means that this report integrates scoping for IWRM in Rwanda with scoping for the EKN's support programme and scoping for the SEA for that programme.

You will notice that we do not limit our advice to SEA for the EKN's IWRM support programme alone. Given the importance of the National Water Resources Master Plan that is currently being developed, and the legal obligation in Rwanda for it to undergo SEA, the NCEA concludes that an SEA will need to be undertaken for that Master Plan as well. As this is not foreseen by the RWRD,

we recommend the EKN to finance this SEA. To facilitate this undertaking, we have included a ToR for this SEA in this report.

IWRM becomes effective when implemented at the appropriate level, thus allowing for specific catchment-level management solutions. The current focus in Rwanda seems to be more on national policy framework development than on catchment management. The NCEA recommends the RWRD to develop management plans for each catchment, and to conduct SEAs for those plans to allow buy-in of all stakeholders and ensure consideration of social, environmental and economic aspects in catchment level decision making. In this report, we provide recommendations on how the EKN could support catchment level planning and SEAs. Again, to facilitate this work, a ToR has been provided for such SEAs.

With respect to timing, we expect you to be able to start the formulation of the EKN's IWRM support programme as planned, with the arrival of the thematic expert in early 2013. We do recommend you however, to wait for the above mentioned Master Plan before you finalise your programme formulation, so that you can check consistency of your programme with the Master Plan. As the Master Plan will guide IWRM implementation in the coming years, it will be useful to check consistency of your support programme with its final version in order to achieve maximum alignment.

I would appreciate to be kept informed on how you will use this advice in the development of the EKN's IWRM support programme. I would like to end this letter by offering the continued availability of the NCEA to the EKN or the RWRD for any further technical advice or assistance related to SEA for IWRM in Rwanda.

Yours sincerely,

Rudy Rabbinge

Chairman of the NCEA Working Group SEA for EKN's IWRM support programme, Rwanda

CC:

- Rwanda Natural Resources Authority, Mr. E. Nkurunziza, Director General
- RNRA/Rwanda Water Resources Department, Mr. V dp Kabalisa, Head
- Participants to the Kigali Workshop (via the EKN)

Scoping Advice for Dutch IWRM support programme in Rwanda

Advice submitted to the Embassy of the Kingdom of the Netherlands in Kigali, Rwanda, by a working group of the Netherlands Commission for Environmental Assessment in the Netherlands.

the technical secretary

G.J. van Boven

the chairman

Prof.dr.ir. R. Rabbinge

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Appendices

List of abbreviations

EDPRS 2	Economic Development and Poverty Reduction Strategy 2008-2012
EKN	Embassy of the Kingdom of the Netherlands
GIS	Geographic Information System
GoR	Government of Rwanda
IWRM	Integrated Water Resources Management
KR-TIRWM&D	Kagera River Transboundary Integrated Resources Management and Development
LVEMP-II	Lake Victoria Environmental Management Project Phase (II)
LWH	Land and Water Husbandry project
MASP	Multi-Annual Strategic Plan
MINIJUS	Ministry of Justice
MININFRA	Ministry for Infrastructure
MINIRENA	Ministry of Environment and Natural Resources
MIS	Management Information System
NCEA	Netherlands Commission for Environmental Assessment
NWRMP	National Water Resources Master Plan
OECD/DAC	Organisation for Economic Cooperation and Development - Development Assistance Committee
REMA	Rwanda Environmental Management Authority
RIWSP	Rwanda Integrated Water Security Program
RNRA	Rwandan National Resources Authority
RWRD	Rwanda Water Resources Department
SEA	Strategic Environmental Assessment
ToR	Terms of Reference
USAID	United States Agency for International Development
WSAH	Water, Sanitation and Hygiene
WRAM	Water Resources Assessment and Monitoring

1. Introduction

1.1 Background

In 2008, in its new Water Law[1], the Government of Rwanda (GoR) has adopted Integrated Water Resources Management (IWRM) as a guiding principle for sustainable and rational water management. Since then, Rwanda has made important progress in developing its regulatory and institutional framework for IWRM. The Rwanda Water Resources Department (RWRD) at the Rwandan National Authority for Natural Resources (RNRA) is mandated to implement IWRM in Rwanda. In its Multi-Annual Strategic Plan[2] for the period 2012 – 2015, the Embassy of the Kingdom of the Netherlands (EKN) in Kigali, Rwanda, has planned new support for the RWRD in the implementation of IWRM in Rwanda.

Following a Water Scan[3] in 2011 and other formal and informal fact finding instances, the EKN initially identified three main areas for support for IWRM[4]:

- Component 1: Operational water resources and assessment (WRAM) system in place (Nationwide). It will guide management of river basins and catchments (in national and regional contexts) to guarantee reliable and climate-proof supplies of water for irrigation, hydropower and drinking water.
- Component 2: Increased capacity of the Water Resources Department (Nationwide). Based on an institutional assessment (including a training needs assessment), curricula and training courses will be developed for specific target groups at central and district levels to enhance capacity and knowledge on IWRM issues; target groups could come from sectoral ministries, other government organizations and civil society organizations as long as their mandate is relevant to aspects of water resources management.
- Component 3: Rehabilitation and development of catchments and irrigation (West-Rwanda). Restore the Lake Kivu 12.000 ha catchment functions through investments in water infrastructure, terracing, tree planting etc. Based on the Water Resources Management Master Plan and sectorial strategic plans for energy and food security, project plans will be elaborated for an integrated approach to catchment management, marshland development, irrigation and development of hydropower resources.

In February 2013, a new Thematic Expert on IWRM is expected to start at the EKN for a period of at least four years. The Thematic Expert will be responsible for the management and coordination of the EKN's support programme to IWRM in Rwanda. In addition, the EKN will finance the deployment of a full time technical assistant to be based at the Water Department, responsible for IWRM in Rwanda, for the same period of time.

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[1] *Law No. 62/2008 of 10/09/2008 (water resource regulations - water law)*

[2] *Multi Annual Strategic Plan 2012 – 2015, EKN Kigali, 2011*

[3] *The Rwanda Water Scan, August 2011, by Van 't Klooster, Smet and Kente on behalf of the EKN*

[4] *Derived from ToR Scoping Phase for SEA for the development of a IWRM program Rwanda, EKN, 29 Oct 2012*

1.2 SEA in Rwanda, involvement of NCEA and request of the EKN

In order to facilitate the development of, and decision-making for its future support programme for IWRM in Rwanda, the EKN Kigali intends to use Strategic Environmental Assessment (SEA). Not only is SEA a requirement by Rwandan law[5] for any programme that may impact on the environment, it is also a tool considered crucial for sustainable programme development, ensuring sound decision making processes and procedures including all important stakeholders in IWRM and based on the best available information.

In a ToR[6], sent by email d.d. 2-11-2012, the Netherlands Commission for Environmental Assessment (NCEA) was requested to provide advice on the scope of an SEA supporting the development of the EKN's support programme for IWRM. The ToR specified the following outputs as expected in the scoping advice:

- Recommendations on issues and set-up of the overall Program, its components and crosscutting issues;
- Recommendations for further steps to be taken by EKN and/or GoR;
- Consistency analysis of objectives, stakeholders and policies;
- Elaborate a report with advice for further preparation and decision-making by EKN.

1.3 Expert working group and scoping mission

This advice is prepared by a working group of experts of the NCEA. The group represents the NCEA and comprises expertise in the following disciplines: IWRM, cross-sectoral dimensions of IWRM, national and local planning, monitoring, institutional development and capacity building, aquatic ecosystems, wetland management, ecosystem services, natural resource management, socio-economic development, communication and public awareness, SEA design and application. The composition of the working group can be found in Appendix 2.

For the preparation of this advice, the working group visited Rwanda from 3-7 December 2012. During this period, the working group facilitated, with the aid of the RWRD and the EKN, a two-day multi-stakeholder workshop in Kigali that brought together over 40 participants representing some 20 organisations within and related to the water sector in Rwanda. Aim of the Kigali workshop was to gain insight in issues related to water management in Rwanda, discuss consistency between the different current and planned uses, and identify priorities for a support programme by the EKN. In addition, several meetings were organised with specific organisations or programmes. The programme of the mission is outlined in Appendix 3. The workshop programme can be found in Appendix 4. The list of participants has been attached in Appendix 5.

The NCEA wants to emphasize that it has no opinion on the feasibility or acceptability of the EKN's IWRM support programme. Objective of the NCEA is to guarantee that all essential environmental, socio-economic and institutional information has been provided for sound and well-balanced planning and decision-making and through a transparent and inclusive process.

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[5] *Rwanda's Organic Law on the Environment (N04/2005) in Ch4, art 67*

[6] *Terms of Reference for the NCEA working group: see Appendix 1*

1.4 Approach taken by the NCEA

In Rwanda, SEA practice is relatively young and implementation experience needs to be gained. The Rwandan Environmental Management Authority (REMA) published general guidelines and procedures for SEA in 2011. Specific sectoral guidance is not yet available. However, it is considered international best practice to tailor each SEA as much as possible to fit the specific planning process at hand. For this reason the NCEA has developed tailor-made advice for the scope as well as the process and design for this particular SEA in close collaboration with the EKN and the RWRD. For this, the NCEA made use of its own practical SEA experience, the SEA guidelines in Rwanda[7], and international experience like the OECD/DAC SEA guidance[8].

This report differs in character from the usual NCEA scoping reports. This stems from the pro-active nature of this SEA, starting at a moment when the formulation of the programme has not yet formally begun. This requires the integration of scoping for the formulation of the programme, with scoping for the SEA. To allow for scoping for the programme, however, one needs to have a basic understanding of the policy field the programme aims to support: IWRM. The Government of Rwanda, through the Rwanda Water Resources Department (RWRD), is making relatively fast progress in developing its policy framework for IWRM, and is getting ready to make the step towards implementation. It therefore welcomes the support of the EKN. However with this high rate of progress being made, it is crucial to align the EKN's support programme as much as possible with the current state of IWRM development in Rwanda.

For these reasons, the NCEA has decided to structure this advisory report on the proposed SEA as follows:

- first, in Chapter 2, the report sets the scope in terms of the current setting of IWRM in Rwanda;
- building on the previous' chapters findings, Chapter 3 focuses on the possible scope for the support programme itself, assessing its consistency with the state of affairs of IWRM development in the country, and giving recommendations on how to align the two;
- Chapter 4 then provides guidance on the design and process of the SEA for the EKN's IWRM support programme. To optimise the use of the SEA instrument, two additional SEAs are proposed, one for the upcoming National Water Resources Master Plan and one (or more) at a later stage for subsequent catchment plans -allowing for efficient temporal, spatial and technical phasing of SEA for IWRM;
- The report concludes in Chapter 5 with specific terms of reference for each SEA, and looks at implementation and management of the proposed SEA processes.

[7] *General Guidelines and Procedures for Strategic Environmental Assessment, REMA, June 2011*

[8] *OECD DAC Guidelines and Reference Series Strategic Environmental Assessment: Applications in Development Co-operation, www.seataskteam.net.*

2. Scoping part 1 – the setting of IWRM in Rwanda

2.1 State of affairs: IWRM in Rwanda

Rwanda is a small, land-locked, mountainous country in Central Africa upstream of the Congo and Nile river basins. The climate is tropical with relatively low temperatures due to high altitudes. Rwanda has two rainy seasons, one from March till May and one less intense rainy season from September till December. A key issue in Rwanda's development is the high population density.

While water availability currently seems less of an issue than actual access to water, water distribution and sharing issues may become critical in years to come with increasing economic development and population growth. For this reason, the Government of Rwanda adopted Integrated Water Resources Management (IWRM). With IWRM, the GoR intends to achieve the following policy objectives[9]:

1. Reduce water related disaster risks and climate impacts like droughts and floods to protect the economy and society.
2. Protect and conserve water resources of Rwanda in order to enhance its availability for the present and future generations
3. Allocate water resources of Rwanda to the various socio-economic needs on the basis of principles that incorporate efficiency of use, equity of access, and sustainability.
4. Put in place an effective governance framework and develop human and technical capacities for sustainable management of the country's water resources, including transboundary waters.

Based on document study, the Kigali Workshop and additional interviews, the NCEA observes a step-by-step manner in which legislation and related policy documents are being developed, which is logical and consistent with international principles for IWRM. A number of relevant documents is available (for further references, see Appendix 7):

- The *Economic Development Poverty Reduction Strategy 2008-2012* (EDPRS 2) states that 'A high priority of the EDPRS is to ensure sustainable and integrated water resources management and development for multi-purpose use...'
- The *Water Law* covers main principles of IWRM, defines all main water usage, sets out the institutional framework on how to implement IWRM.
- The *National Policy for Water Resources Management* further elaborates the water law and is consequently based on principles of IWRM. It is a well-developed document providing the

[9] *Strategic Plan for Water Resources Management 2013/14-2017/18, Chapter 3: Mission and Objectives, p.14, RWRD, RNRA, MINIRENA, August 2012*

main water-related actors, an overview of dominant water related issues and an overview of implementation steps.

- A *WRM Strategy* and a *WRM Five-year Plan* describing the funding needs for the implementation of the Strategy, were being finalised during NCEA's mission. The GoR has secured funding from its own means for approximately 50% of the necessary budget for a 5 year period, showing its commitment to implement IWRM in Rwanda. Staffing of the Water Department is gradually being increased.

1. The NCEA concludes that Rwanda has made swift and consistent steps in the development of an IWRM policy framework at national level, following internationally acknowledged principles of IWRM, showing commitment to the process by allocating significant staff and budgetary means to the process.

Aside from this progress in the development of the policy and institutional framework for IWRM, Rwanda has started making IWRM operational:

- The strategy is at present being translated into a comprehensive *National Water Resources Master Plan*, to be finalised before October 2013. The Master Plan process fully integrates and operationalises the principles of IWRM[10]. The Master Plan is developed by an international and local team of consultants (SHER)[11]. See also 2.3.
- The same consultant is developing a *Management Information System (MIS*) for water resources management.
- The Rwanda Integrated Water Security Program (RIWSP), supported by USAID, has recently developed a capacity needs assessment[12], as well as a staffing plan[13] for the water department. These two documents provide great detail and illustrate which relevant knowledge and know-how is present in each governmental organisation involved in water related issues. The staffing plan shows how the RWRD will develop. At present the department has about 18 employees and 3 directors will be selected soon.
- Several programmes and projects have initiated activities in local catchments, which contain (elements of) IWRM principles. These programmes however do not fully cover the country, do not always seem to be coordinated from an IWRM perspective, or have only just recently started. These include national projects, such as the Land and Water Husbandry (LWH) project, supported by the World Bank, RIWSP, and regional programmes, such as, among others, the Kagera River Transboundary Integrated Resources Management and Development (KR-TIRWM&D) and the Lake Victoria Environmental Management Project Phase (II) (LVEMP-II).

[10] *Consultancy services for development of Rwanda national water resources master plan (Progress report -1), SHER Ingénieurs-Conseils s.a., October 2012*

[11] *Terms of Reference for the development of the National Water Resources Master Plan (NWRMP), RWRD, 2011*

[12] *Capacity Situation Analysis and Capacity Development Needs Assessment of Integrated Water Resources Management Sub-Sector in Rwanda (draft final report), RIWSP/Centre for Resources Analysis Limited, April 2012*

[13] *Organisational Review and Five-Year Staffing Plan for the Integrated Water Resources Management Department of the Rwanda Natural Resources Authority, RIWSP/Centre for Resources Analysis Limited, October 2012*

During the Kigali workshop, it became evident that the need for IWRM as the approach for water management in Rwanda is broadly acknowledged by a variety of government and non-government stakeholders, from within and outside the water sector. This is timely, as for the time being Rwanda only faces localised water-related problems. Given the rapid pace of economic development and the high rate of population growth, water demands for food security, public water supply, energy production, among others, are and will be increasing. By acknowledging this at an early stage, Rwanda has time to pro-actively start managing equitable access to water for all different users.

2. The NCEA observes that Rwanda has not only made swift steps, but has also timely recognised the need for IWRM to anticipate possible future conflicting water demands. IWRM is already relatively well established in legal and policy documents. In the coming period focus ought to be on making IWRM further operational if the GoR wants to make effective use of this momentum.

2.2 Risks related to the IWRM implementation process

Document study but especially discussions with RWRD and with consultants at SHER and RIWSP also highlighted some risks associated with the present IWRM operationalisation process:

- The RWRD is a young department: it exists since 2010, while it was only recently staffed with young professionals with limited operational experience;
- The elements that constitute an IWRM approach are mostly developed by hired consultants in relatively isolated teams;
- Staff of the RWRD, but also other departments, have only limited involvement in this process. Consequently, there is limited transfer of knowledge and skills, thus producing little ownership of the end products (including for example the MIS);
- The high pressure to achieve targets within short periods of time may hamper effective learning and feedback to adjust and improve both policy and practice for IWRM;
- Key sectors are invited in the process, especially at national level, but the pace of development also here leads to limited ownership of IWRM among relevant sectors. It is questioned whether all sectors are aware of and understand their legal roles and responsibilities within IWRM;
- Very little of the IWRM policy and institutional framework is operational yet, or is so far visibly implemented at catchment level. Commitment and ownership thus still have to be developed among (local) stakeholders such as districts authorities and others.
- The NCEA sees a risk of ambitious policy makers running too far ahead of actual field implementation, possibly ignoring the fact that acceptation and implementation of IWRM takes time.

3. The NCEA concludes that there is a risk that IWRM practice does not develop at the same pace as the policy framework. Learning and transfer of knowledge and skills require more time and attention if capacity is to be built. In order for IWRM to become operational, a sense of ownership will need to be shared by the different actors, both at national and decentral levels. These processes need time, while currently pressure is at achieving targets.

2.3 The National Water Resources Master Plan

The Master Plan planning process merits special attention as the Master Plan is expected to be an influential document when adopted. The objectives of the Master Plan are to:

- Quantify available water resources (surface & ground, in time and space, including water balance per (sub)catchment with monthly resolution);
- Quantify water resources demand by sector and catchment;
- Identify surplus and deficit areas in time and space;
- Propose a management plan for optimal and rational utilization;

The Master Plan process will produce two main outputs:

- A Master Plan with a 30 year time horizon describing the main development options for each level 1 catchment (and some level 2 sub-catchments)[14].
- A Management Information System (MIS), containing all collected data, including a GIS. The consultants presently working on the Master Plan see this instrument as an important output as it provides a tool for the implementation of IWRM measures.

According to the inception report[15] the Master Plan would also provide:

- Operation and maintenance plan for the entire monitoring, analysis and management decision system and infrastructure;
- Plan for legal, institutional and organizational strengthening;
- Plan for knowledge transfer and capacity building;
- Implementation plan for the water resources management system and infrastructure;
- Detailed cost estimates.

4. The NCEA concludes that if all of the above elements will be developed as foreseen, the Master Plan will become the main document guiding IWRM implementation in the next five years and will therefore be of key importance to the Water Department as its key reference point for IWRM practice.

2.3.1 The information base of the Master Plan

Although the Master Plan process is very comprehensive and will generate a significant amount of relevant information, it will for a large part be based on existing information, which is often limited, old, or collected from an unreliable source or method. As a result, the water supply and demand data, including the water balances at (sub)catchment level, will be indicative only.
For now, such indicative data will be sufficient to provide an overview of potential development opportunities and constraints. Eventually however, these indicative data will not have enough reliability for detailed planning of interventions at catchment level. Indeed, the developers of the plan warn to be careful as they also estimate the reliability of the present information base to be

[14] *Level 0 catchments are the Nile and Congo basins, subdivided in 9 sub-basins at level 1.*

[15] *Consultancy services for development of Rwanda national water resources master plan, tender number 021/rnra/2011-2012, inception report, SHER Ingénieurs-Conseils s.a., October 2012*

very low. In this light the master plan, soon being the only document at hand suggesting concrete measures at catchment level, may become the reference point for all IWRM work for the next 5 years, while these measures are being identified from a weak information basis.

5. *The NCEA concludes that the reliability of the information base for the IWRM master plan will be limited. While this seems sufficient for general planning at national level, decision-making should take into account that for catchment level planning, more detailed information will be needed through an up-to-date monitoring system.*

6. *Furthermore, the NCEA concludes that further detailed catchment assessments are an absolute necessity before any final planning decision can be taken at catchment level.*

2.3.2 Master Plan Methodology

The Master Plan development process has a strong hydrological focus and reasons from the perspective of water as a harvestable resource. It identifies water users, roughly divided into consumptive users (taking water) and in-stream users (example: fisheries & navigation). Environment is in this view considered as a water user requiring a minimal flow.

The inception report[16] does mention groundwater dependent ecosystems – mainly wetlands but also some water bodies in valley floors – that may lose their biodiversity and ecological function if groundwater flow is not maintained. Furthermore, the report indicates that "non respect of environmental demand and quality parameters may further have major social and economic consequences". However, this issue is not further elaborated and not reflected in the methodology.

Therefore, the approach runs the risk of overlooking important water related environmental/ecosystem[17] services on which people depend. Especially regulatory services such as flood buffering, surface water storage, sediment removal, and water purification service will be largely missed. Also local water related production services providing livelihoods to the rural poor may not be taken into account.

Irrigation development is considered in terms of amount of water needed. Irrigation development as planned by the agriculture department would also involve large scale wetland conversion. This conversion may significantly influence the hydrology of a river system as it affects the water storage, release and infiltration capacity of a river basin, leading to more extreme peak flows (and

[16] *Consultancy services for development of Rwanda national water resources master plan, tender number 021/rnra/2011-2012, inception report, SHER Ingénieurs-Conseils s.a., October 2012*

[17] *Worldwide, different terminology is used for slightly different but highly similar concepts. The millennium assessment uses the terminology 'ecosystem services', while in the water sector, 'environmental services' is more commonly used. In this report, the NCEA will means the same thing with both terms.*

potential downstream floods) and more reduced base flows (and potential downstream draught). It is unclear whether these hydrological changes are taken into account.

7. The NCEA concludes that the current master plan development process may overlook important water related environmental/ecosystem services. As a result, some uses may be neglected, potentially creating conflicts, which IWRM ought to avoid and manage. This may be solved by a participatory planning process at catchment level (see also paragraph 3.3).

2.3.3 Master Plan Validation Process

The Master Plan process is divided into two phases:

- Phase 1 (diagnostic phase): inventory supply and demand, per (sub)catchment and sector and water resources potential; will take place between the end of May 2012 and March 2013, with the presentation of the draft Diagnostic Report.
- Phase 2 will take place between May 2013 and October 2013. It includes: mapping of water users, water demand analysis, opportunities & threats analysis, water governance, allocation and conservation.

The draft Master Plan, which is foreseen for June 2013, will be subject to a validation process involving the various relevant departments. As the plan itself appears to be developed in relative isolation by the consultants, this validation process seems an important step in ensuring how ownership will be felt by the RWRD after finalisation. Whether the validation process will be effective is not yet clear.

The Master Plan will suggest measures to be taken to maintain equilibrium between supply and demand. The inception report states: "the options are overwhelming and should be considered on the basis of their economic, social and environmental merits". It is not completely clear whether the plan will consider various alternative options or that it will provide one best option. Various scenario's will be used.

8. The NCEA concludes that the master plan validation process would merit the use of SEA as a tool to provide independent information to the decision making process and allow for the required ownership by the RWRD and other parties.

2.4 From conclusions to recommendations

In the previous paragraphs, the NCEA has drawn several conclusions when it comes to IWRM in Rwanda. In this paragraph, the NCEA provides recommendations on how to act upon those conclusions. These recommendations are meant to inform the combined SEA and planning process for the EKN's IWRM support programme, as they provide points of departure for support to IWRM in Rwanda.

On the policy and institutional framework for IWRM (paragraphs 2.1 - 2.2), the NCEA concluded:

1. … that Rwanda has made swift and consistent steps in the development of an IWRM policy framework at national level, following internationally acknowledged principles of IWRM,

showing commitment to the process by allocating significant staff and budgetary means to the process;

2. … that Rwanda has not only made swift steps, but has also timely recognised the need for IWRM to anticipate possible future conflicting water demands. IWRM is already relatively well established in legal and policy documents. In the coming period focus ought to be on making IWRM further operational if the GoR wants to make effective use of this momentum;
3. …that there is a risk that IWRM practice does not develop at the same pace as the policy framework. Learning and transfer of knowledge and skills require more time and attention if capacity is to be built. In order for IWRM to become operational, a sense of ownership will need to be shared by the different actors, both at national and decentral levels. These processes need time, while currently pressure is at achieving targets.

Recommendation 1: *Based on the above conclusions, the NCEA recommends the Water Department for the coming period to prioritise learning and gaining practical experience, to engage in step-by-step 'learning by doing' with different partners and in continuous evaluation of lessons learnt. This way, Rwanda will invest in shared ownership of relevant IWRM policy documents and implementation capacity among all stakeholders at central and decentralised levels with the ultimate goal of making IWRM operational in Rwanda.*

On the Master Plan, the NCEA concluded (paragraph 2.3):

4. … that if all of the proposed elements will be developed as foreseen, the Master Plan will become the main document guiding IWRM implementation in the next five years and will therefore be of key importance to the Water Department as its key reference point for IWRM practice;
5. … that the reliability of the information base for the IWRM master plan will be limited. While this seems sufficient for general planning at national level, decision-making should take into account that for catchment level planning, more detailed information will be needed through an up-to-date monitoring system;
6. …that further detailed catchment assessments are an absolute necessity before any final planning decision can be taken at catchment level;
7. … that the current master plan development process may overlook important water related environmental/ecosystem services. As a result, some uses may be neglected, potentially creating conflicts, which IWRM ought to avoid and manage. This may be solved by a participatory planning process at catchment level (see also paragraph 3.3).
8. … that the master plan validation process would merit the use of SEA as a tool to provide independent information to the decision making process, and allow for the required ownership by the RWRD and other parties.

***Recommendation 2**: Following the above conclusions, the NCEA recommends the Water Department to apply Strategic Environmental Assessment (SEA) to improve the decision making process of the Master Plan. The SEA would allow the stakeholders to consider the different alternative options. Focus of the SEA could be on:*

- *Governance: appropriateness of the proposed institutional arrangements, in particular in relation to the required flexibility for planning at catchment level, effective linkages between the MIS and planning at catchment level, representation of different sectors and levels of government and other stakeholders to ensure buy-in in IWRM processes.*
- *Contents: quality of the information base, gaps in information and consequences for decision making; are social and environmental sustainability addressed in an appropriate manner?*
- *The NCEA sees two options for such an SEA:*
    - *Ideally, the SEA would start as soon as possible in 2013, allowing for maximum alignment to the Master Plan development process;*
    - *Alternatively, the SEA could support the validation process of the Master Plan, starting with its draft report (due in June 2013) up to its final approval (due in October 2013).*

Further recommendations on how to undertake such an SEA, and how it relates with the SEA for the EKN's IWRM support programme, are provided in Chapters 4 & 5.

***Recommendation 3**: the NCEA advises the Water Department to invest in catchment assessments and planning as a means to elaborate and implement the Water Resources Master Plan and to avoid the risk of hasty implementation of the Master Plan.*
In support to catchment assessments, the NCEA recommends to introduce the methodology of ecosystem services assessment as a means to identify land and water related development constraints and opportunities at catchment level. It also provides a mechanism to identify all relevant stakeholders, thus providing the means to have an all-inclusive participatory process. Such a catchment assessment may include social, ecological and financial valuation of ecosystem services. International examples are available and may provide input in the process (see chapter 5.3).

***Recommendation 4**: in connection to recommendation 3: SEA provides the legal mandate for such catchment assessments. So far, the Water Department has not planned for any SEA; yet, Rwandan law stipulates that "any programme, plan and policy that may affect the environment must be subjected to environmental assessment". When used in a pro-active manner SEA can inform the catchment planning process on environmental, social and economic sustainability of alternative options. The NCEA therefore concludes that SEA would be required for the catchment plans. Further advice on the management and the Terms of Reference for such SEAs can be found in Chapters 4 & 5.*

3. Scoping part 2 – EKN's IWRM Support Programme

In this chapter, each of the three proposed components of the EKN's IWRM support programme will be discussed regarding progress made in Rwanda and possible added value of the EKN's support programme. The chapter concludes with a fourth paragraph providing the way forward with regards to the SEA for the EKN's IWRM support programme. Advice on SEA management and design and ToRs for the SEA's will follow in chapter 4 and 5.

3.1 Component 1: Monitoring system

The complete component title and description in the NCEA's ToR reads as follows[18]:
" Component 1: Operational Water Resources Assessment and Monitoring (WRAM) in place (nation wide). This WRAM system is planned, developed and operational in 15 districts. It will guide management of river basins and catchments (in national and regional contexts) to guarantee reliable and climate-proof supplies of water for irrigation, hydropower and drinking water" . [19]:

Data collection

Rwanda faces an extreme shortage of reliable data on all aspects of water management. Little is known at the various catchment levels.

- Surface water levels are measured at 41 stations, not all in perfect working order. Data are sent by sms and automatically stored in a centralised web-based database[20]. Validation is currently taking place of the correct formulas to calculate discharges based on these water levels. Other basic information such as precipitation and evaporation is still missing (main data available at the meteorology department of the Ministry for Infrastructure, (MININFRA)).
- Groundwater levels are unknown and very little or no data collection seems to be taking place.
- Presently a significant effort is being made by the Master Plan team to collect all available data (including land-use, water-use, etc.). Where data are lacking the team works with proxy indicators.

While the RWRD is responsible for the coordination of water resources assessment and monitoring, it is likely that data collection is taking place at other governmental institutions that could be of use to the RWRD. Water is part of nearly all the sector development plans of Rwanda and mandates are often shared. MININFRA for example is responsible for water supply and sanitation and also has a meteorological department. At the same time several projects have already started or been carried out within the field of water resources management (the earlier mentioned RIWSP project), irrigation (the LWH project) or WASH programmes.

[18] *Description derived from NCEA's ToR, see Appendix 1*
[19] *Description derived from NCEA's ToR, see Appendix 1*
[20] *source: hydrologist of RWRD*

1. When it comes to data collection, the NCEA recommends to:

- *Identify the initial basic surface water parameters that are a necessity in order to understand the basic surface water run off and make initial catchment water balances;*
- *Explore at a later stage the knowledge and information available on the hydrology and ground water system of the catchment areas;*
- *Identify at all national governmental and local levels what kind of data collection is already taking place. Verify whether all relevant stakeholders are involved and no opportunities to avail of data are being missed (e.g. information from mining department and knowledge institutes, including possible regional knowledge institutes);*
- *Also identify how the data, being collected at the RWRD, could assist the other governmental Institutions related to water management. Data sharing and showing benefits to others will enhance involvement and engagement by other relevant stakeholders;*
- *Look into possible solutions for sustained data sharing between organisations. Verify which ways of data sharing are possible and check which technological or institutional options will be the most optimal, also in the long run.*

Note: Verify to what extent the present Management Plan process covers the above steps in order to avoid duplication of efforts.

Data management

The Master Plan team of SHER consultants is currently designing a Management Information System (MIS). This MIS has all potential to become a good central system for data storage, management, assessment and monitoring, and could therefore function as the WRAM foreseen by the EKN.

As stated in the previous section there are doubts whether the MIS will include all relevant water related services such as flood buffering, water storage, sediment removal, purification, and production services for local livelihoods.

The consultancy assignment does not foresee in the actual implementation of the MIS for day-to-day use. Implementation and capacity development is not part of their ToR, neither is transfer of skills and knowledge to the RWRD staff on how to run, fill and maintain the MIS. Another uncertainty is how the data flow from all the stakeholders will be continuously added to the MIS.

2. In relation to data management, the NCEA recommends to;

- *Not invest in the development of a new WRAM system but work with the MIS that is being developed;*
- *Verify if the MIS consists of all relevant data;*
- *Focus on making the MIS and possible linkages operational, once the Master Plan is completed. Ideally this is taken up as soon as possible as the MIS is being designed and filled 'as we speak';*
- *Keep investing in updating and checking the relevance of the MIS ensuring its full integration in IWRM decision-making. Based on the Master plan, plan logical moments to assess and improve the MIS. Trying to do all at once will be a challenge and can lead to a slow down in the current development of the monitoring system.*

Data Assessment

Data assessment should assist decision makers in coming to the best possible decision taking all aspects (be it economic, social or ecological) into account. In order for technicians and engineers to give a good advice for the decision makers there is usually a need to model the water system. The NCEA has also noticed this desire in Rwanda. It is also understood that each model is just a representation of reality and is therefore never 100% realistic. While gaining experience in river basin modeling will be helpful during future more advanced IWRM, simple calculations within an excel spreadsheet can often be enough in an early stage of IWRM, in order to give sufficient input for the initial decisions that need to be taken.

3. On data assessment, the NCEA recommends to:

- *At regular intervals, identify the main information needs for decision makers (the catchment plan will play an important role in this, see par. 3.3);*
- *Assist the RWRD in the definition of criteria for choosing the basic technologies needed to give sufficient advice on these main information needs. Take into account simplicity and user friendliness;*
- *Verify within the staffing plan of the RWRD whether related expertise is foreseen, such as; GIS expertise or basic modelling skills or specific skills needed for the MIS operation and/or data assessment.*

4. With regard to the EKN programme component 1, the NCEA advises:

- *To asses, as a first SEA step, the necessity for a separate component on MIS development. If redundant, the EKN could decide to develop a programme with two components rather than three: capacity development and catchment management;*
- *Focus on MIS will not be lost: the capacity development component could focus on the implementation of the presently designed MIS;*
- *Further refinement of the MIS at catchment level can be linked to the catchment management component, where more detailed information is an absolute necessity for reliable catchment planning.*

3.2 Component 2: Capacity Development

The complete component title and description in the NCEA's ToR reads as follows:
Component 2: Increased Capacity of the Water Resources Department (nation wide). Based on an institutional assessment (including a training needs assessment), curricula and training courses will be developed for specific target groups at central and district levels to enhance capacity and knowledge on IWRM issues; target groups could come from sectoral ministries, other government organizations and civil society organizations as long as their mandate is relevant to aspects of water resources management [21]

[21] *Description derived from NCEA's ToR, see Appendix 1*

As for component 1, the NCEA observes that in the field of capacity development for IWRM, a significant amount of work has been and is being carried out as well:

Institutional Framework

The institutional framework is being developed in a consistent, step-by-step manner: the water law, WRM Policy, WRM Strategy, WRM 5-Year Plan, Master Plan. The documentation as well as the interaction at the Kigali workshop show that many government organisations, NGO's, knowledge institutions and private sector are foreseen to be involved in IWRM. Several questions remain:

- How will this institutional framework become operational at both central and decentralised levels? The Master Plan will provide an institutional framework derived from the Water Law. It is unclear whether this framework will be of generic and prescriptive nature or that it will allow for differentiation per catchment. The first would be unfavourable for effective catchment planning, but would allow for generic capacity development. The latter would allow addressing localised problems at the appropriate level, but would also need a focussed capacity development effort.
- How to properly coordinate the diversity of organisations and activities involved (for example the new catchment committees and the districts)?
- Do all actors know of, understand and fulfil their legal roles and responsibilities in IWRM?

Rwanda Water Resource Department

The RWRD is mandated to coordinate and implement IWRM. The Department is young and only recently staffed. In August 2011, the EKN mandated the Rwanda Water Scan[22], providing insight in institutional and capacity needs for IWRM in Rwanda. This led, among others, to the decision to finance a full-time expert on IWRM to be deployed at the RWRD. This person will be internationally recruited and is expected to start early 2013[23].

Since the Water Scan, a more in-depth capacity development needs assessment has been carried out by the RIWSP project fairly recently, in April 2012[24]. In addition, October 2012, using the capacity needs assessment as a basis, the RIWSP project published an organisational review and five-year staffing plan[25] for the RWRD. This report explains quite extensively the current situation and the future expected needs. All in all, the NCEA considers the current level of needs assessment as generally sufficient for the time being to start implementing capacity development activities. Several points of attention do come up:

- Since the capacity needs assessment and staffing plan are already available, the consistency with the Master Plan remains to be assessed;
- The consequences of both capacity needs assessment and Master Plan at decentral levels will need to be assessed;

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[22] *The Rwanda Water Scan, August 2011, by Van 't Klooster, Smet and Kente on behalf of the EKN*

[23] *Terms of Reference for Consultancy Services: Technical Assistance to the Integrated Water Resources Management Sub-Sector of Rwanda, by Clarissa Smulders for the EKN*

[24] *Capacity Situation Analysis and Capacity Development Needs Assessment of Integrated Water Resources Management Sub-Sector in Rwanda (draft final report), RIWSP/Centre for Resources Analysis Limited, April 2012*

[25] *Organisational Review and Five-Year Staffing Plan for the Integrated Water Resources Management Department of the Rwanda Natural Resources Authority, RIWSP/Centre for Resources Analysis Limited, October 2012*

- For effective implementation of IWRM measures, the support and active involvement of other sector departments, local governments, direct stakeholders and the general public is needed. The RWRD needs to coordinate this support, and as such can be considered as process manager of IWRM in Rwanda. A further assessment of capacity needs to fulfil this role as process manager is required;
- A strategy for communication and process management would be needed to guide actual implementation of coordination tasks. Currently, such strategy, or staff skilled to develop one, are not existent at the water department.

Transfer of skills & knowledge

The above mentioned assessments identify needs at all levels. The RWRD employees feel a high urgency to start and deliver quickly. At the same time there is hesitation due to a lack of hands-on experience. A lot of experience is currently being gained by consultants through the development of the different elements of the IWRM system, such as the Master Plan and the MIS, yet this experience is not efficiently shared with staff at the RWRD. Also, as already observed, the focus of the Master Plan process is on collection and processing of technical / hydrological information. Less attention is paid to the process of implementation and maintenance of a monitoring system, including the capacity needed.

The work related to both Master Plan and RIWSP is implemented under the RWRD. It is unclear if their consistency is checked across sectors. The ministries of infrastructure, energy, and agriculture have, among others, great stakes in the water sector. These have all developed their own strategic policies and plans and may include relevant capacities from which the effective implementation of IWRM would benefit.

The NCEA considers this a risk as it hampers effective learning and concludes that a more effective transfer of skills of knowledge, through sharing of and gaining hands-on experience, should be considered a priority. This may become an important role for the expected Technical Assistant whom the EKN will finance for the RWRD.

5. The NCEA recommends to develop a capacity development component based on existing initiatives, looking for quick wins, with special attention to capacity for process management at RWRD and to operational capacity at decentralised levels. Include a communication strategy, targeted at different audiences. Look at different modalities for transfer of skills and knowledge (e.g. twinning, help desk/pool of experts, coaching modalities, others) which allow quick learning by doing, making IWRM gradually operational in a sustainable manner.

3.3 Component 3: Catchment Management

The complete component title and description in the NCEA's ToR reads as follows:
Component 3: Rehabilitation and development of catchments and irrigation (West Rwanda).
"Restore the Lake Kivu 12.000 ha catchment functions through investments in water infrastructure, terracing, tree planting etc. Based on the Water Resources Management Master Plan and sectorial strategic plans for energy and food security, project plans will be elaborated for an integrated approach to catchment management, marshland development, irrigation and development of hydropower resources. Investments in new irrigation systems with due regard for technical, social and environmental impact. This will result in 1000 ha for sustainable irrigation"[26]

Catchments in Rwanda

Part of the Master Plan development process includes identification and subdivision of catchments in Rwanda in four levels. The Master Plan will then include IWRM analyses of each catchment (Level 1) and in some cases detailed studies and additional monitoring is being carried out at Level 2 or 3. In Rwanda the following main catchment levels are identified[27]:

- Level 0 – Nile Basin and the Congo basin
- Level 1 – there are 9 Level 1 catchments (2 for the Nile and 7 for the Congo)
- Level 2 – there are 20 Level 2 catchments (5 for the Nile and 15 for the Congo (proposed division, not yet formalised)
- Level 3 – even smaller catchments of about 100 km2 (proposed division, not yet formalised)

Management at catchment level

The NCEA observed that the principle of catchment based IWRM is generally supported, also by other sectors. The Kigali workshop provided a clear signal from other sector departments that they are waiting for the RWRD to define the playing field and boundaries for their development planning. Institutional arrangements and clear information about availability of water (now and in future) are a first priority.

At present Rwanda has a clear national set up and implementing organization for IWRM, as described in the Water Law. Such administrative boundaries do not necessarily follow catchment boundaries, as a catchment can include several smaller areas of various districts. This is a common issue within IWRM, which needs special attention during IWRM implementation.

The Water Law foresees management at catchment level through catchment committees that are to be set up. These committees will have the responsibility to identify and anticipate on water related issues. It remains unclear who will have final decision taking authority in case of a conflict of interest related to water management: the district or the catchment committee. It also remains to be seen whether the set-up as proposed by the Water Law allows for sufficient diversification of institutional arrangements for each catchment, depending on specific issues in that area. For

[26] *Description derived from NCEA's ToR, see Appendix 1*
[27] *Consultancy services for development of Rwanda national water resources master plan (Progress report -1), SHER Ingénieurs-Conseils s.a., October 2012*

effective IWRM, tailor-made solutions at catchment level tend to be the most sustainable, also when it comes to institutional arrangements.

6. The NCEA recommends assessing the options for interaction between catchment committees and District authorities, possibly starting in one or two catchments to find out workable modalities. In order to decide on this, a more detailed study of the Water Law and the local institutional framework is advisable as a next SEA step. See also the next recommendations on catchment approach, and chapter 5 on the ToR for the SEA for the EKN's IWRM support programme.

Catchment approach

It is clear that the Master Plan will provide further institutional arrangements for water management at catchment level. Furthermore the plan will provide indicative information on water demand and water availability. At catchment level the information needs to be further detailed; for management planning a participatory process involving all relevant stakeholders has to be designed. Although it is not sure yet whether catchment plans will actually be made, it is obvious that a catchment based approach is needed.

Two alternative models for such a catchment approach have been suggested:

- A pilot approach: to be able to develop experience and capacity in the implementation of IWRM and its Master Plan, one or two catchments are chosen as pilot areas. In a later stage the lessons learned can be applied to other catchment planning processes (approach suggested by the EKN);
- A blanket, nation-wide approach with activities starting simultaneously in all catchments in a coordinated manner. This would entail deploying 2-person teams providing technical expertise at catchment level 1. By guaranteeing regular exchange, to be coordinated by the RWRD, the 9 catchment teams (18 people) can learn from each other and discuss observed differences in each individual catchment (approach suggested by the RWRD).

Both approaches have advantages and disadvantages. A pilot approach would suggest that a blueprint catchment approach can be developed, while it is obvious that development constraints and opportunities are widely different between catchments. A blueprint does not fit with a bottom up approach addressing local constraints and opportunities. On the other hand does a blanket approach require significant initial investments in staff and capacity, something which may not be available from the onset.

Obviously, intermediary approaches can be envisaged. Apart from the choice between pilot or blanket approach, the ownership of the catchment planning process can also provide alternative approaches. Three pathways can be distinguished:

- Centrally led, top down implementation.
- Decentralised, bottom up implementation, possibly with a role for the districts.
- A mixed format based on some form of catchment committee.

As long as the Master Plan has not been defined, alternative pathways remain theoretical. It is as yet unclear how much room the water law and master plan will provide for alternative pathways.

7. The NCEA recommends using SEA to define and assess options for an approach at catchment level. See also chapter 5.1 for further guidance on this SEA. In a later stage SEAs for individual catchment plans are recommendable (see 5.3).

Selection of a catchment by the EKN

As discussed above, catchment management can be done through a pilot approach or using a blanket approach. If the pilot approach is selected, the EKN can select one or more catchments to fund pilots for catchment management. But also if the blanket approach is chosen, the EKN could still decide to fund management of selected catchments only, while the RWRD attracts other donors to shoulder management of the remaining catchments (using the Division of Labour[28] instrument to avoid duplication of efforts). The question would then be which catchment(s) to select.

In the Master plan special features, characteristics and activities (water use and discharge) will be identified per catchment. Basic water balances will be made based on the data in the MIS. At the same time, indicative predictions are expected (summer 2013) for each catchment for the years 2020, 2030 and possibly 2040.

8. The NCEA advises the EKN – if they want to consider financing the developments in a certain catchment, be it as a pilot or as part of a blanket approach – to wait for these Master Plan catchment outcomes. This means that the formulation of the EKN's IWRM support programme can start as planned, but final decisions on aspects regarding catchment management need to be checked for consistency with the Master Plan.

The Kigali workshop as well as the EKN prioritised West Rwanda as a possible selection area, and specifically the Kivu catchment (see also Appendix 6 for more on workshop outcomes).
The criteria applied by EKN for the pre-selection of the Kivu catchment are not yet clearly defined, besides having other EKN programmes/projects in this area. Workshop participants focussed on the perceived urgency of problems in these catchments, with a dominant role for floods, pollution and sedimentation. Other criteria for catchment selection can be to learn about, for example:

- Water data (such as water balance calculation)
- Water use management (such as design and implementation of a possible permit system)
- Socio-economic reasons (access to water for the poor, relying on water services for their livelihoods)
- Process management (such as decision making processes (Institutional framework) or multi stakeholder approaches
- Emergency/disaster risk management (in flood prone areas)
- Pragmatic reasons, such as quick wins (projects that yield quick, tangible results help to convince and motivate people to adopt similar approaches) or combining Dutch development programmes (eg food security and IWRM, or energy and IWRM)

[28] *The Division of Labour is further discussed in, among others, the Rwanda Water Scan, August 2011, by Van 't Klooster, Smet and Kente on behalf of the EKN*

9. If the EKN decides to start working in selected catchments, whether in a pilot approach or as co-funding agency of a blanket approach, the NCEA recommends the EKN to make the selection criteria for which catchment(s) to start working in explicit, in order to create understanding and support for its choice. This also allows future Dutch activities or other donors to complement the EKN's support programme in an effective manner. Before deciding on a catchment, discuss extensively, with multiple stakeholders, if and why that catchment is chosen.

3.4 Way forward: summary conclusion

In the above paragraphs 3.1-3.3, the NCEA has provided nine recommendations regarding the way forward for the development of a programme by the Netherlands Embassy in support of IWRM in Rwanda. The proposed way forward can be summarised as follows:

- Rather than working out an IWRM Support Programme with three components as originally foreseen by the EKN, the NCEA expects that the programme can focus on two components, namely:
    - Component 1: Institutional and capacity development building[29]
    - Component 2: Catchment management[30]

  This expectation will need to be verified during the SEA for this Water Support Programme (see 5.1).

- When it comes to the approach for this SEA, the NCEA proposes a multiple focus which includes:
    - SEA for the EKN's support programme for IWRM
    - SEA for the WRM Master Plan
    - SEAs for catchment plans

  In the next chapter, the NCEA provides concrete guidance on how to manage the SEA, as well as how to shape its process and design. Finally, in chapter 5, Terms of Reference for each SEA will be provided.

[29] *See recommendations 1-5 in paragraphs 3.1and 3.2 of this report*
[30] *See recommendations 6-9 in paragraph 3.3 of this report*

4. Scoping part 3 - Guidance for the SEA to be carried out

4.1 SEA in Rwanda

SEA is obligatory under Rwandan law[31]: "any programme, plan and policy that may affect the environment must be subjected to environmental assessment". This obviously applies to a water sector (support) programme, to the development of a master plan for water resources management, as well as to plans at catchment level, but to the NCEA's knowledge SEA has not been planned for by the water department.

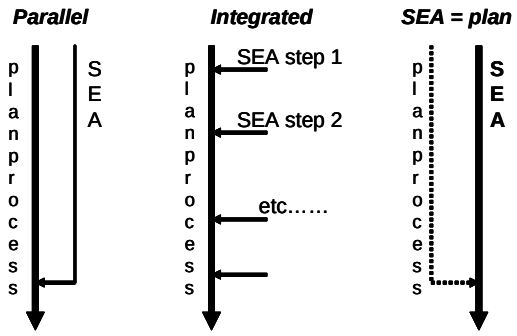
EKN's choice to use SEA to better define its potential role in the implementation of IWRM in Rwanda provides the opportunity to show the value of SEA for planning processes. To apply SEA to such a donor support programme rather than a government's own plan, policy or programme (PPP) does not happen very regularly, but is in fact consistent with not only international standards[32] but also with Rwanda's own intentions. Recently, in June 2011, general SEA guidelines[33] have been published by REMA. These guidelines do not yet contain clear procedural arrangements on roles and responsibilities for SEA but they do envisage SEA requirements for development finance organisations.

To provide more clarity on ways forward in this specific case for IWRM support programme development, this advice will include an SEA format design.

The NCEA sees this SEA as an opportunity for EKN but also RWRD and REMA to gain experience in SEA application to different levels of planning, allowing for procedures to be further defined for Rwandan SEA practice in general ("learning by doing").

4.2 SEA process and design

The future EKN's water-sector support programme envisages strengthening the implementation of IWRM in Rwanda. The two are therefore strongly interlinked. An SEA for the development of EKN's support programme will therefore also need to look into elements of Rwanda's own IWRM policy and programme, as these elements will inform the corresponding components of the EKN's support programme.



[31] *Rwanda's Organic Law on the Environment (N04/2005) in Ch4, art 67*

[32] *DAC Guidelines and Reference Series: Applying Strategic Environmental Assessment; good practice guidance for development cooperation, OECD-DAC, 2006*

[33] *General Guidelines and Procedures for Strategic Environmental Assessment, REMA, June 2011*

As a consequence, the SEA design that the NCEA proposes in this chapter, will not be a clearly defined, one report exercise, such as in an SEA that is conducted parallel to a plan process (see figure). Rather, the SEA will be integrated[34] into plan development; a continuous process aimed at providing maximal support to both the development of the EKN's programme ánd the implementation of IWRM policy in Rwanda. In some instances the SEA and plan process may even be one and the same. To effectively do this, the SEA will be diversified in process, multi-phased, with differing focus and ownership for each process.

Characteristics of the proposed SEA process are (see also recommendations in Ch 3):

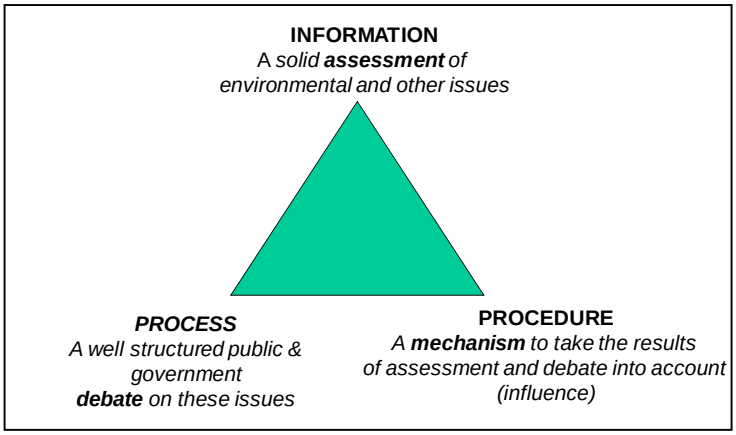
- A **diversified** process: three main SEAs which can provide relevant information for decision making are identified:
    a. SEA for the EKN's IWRM support programme, aimed at defining the outline of EKN's contribution to the implementation of IWRM in Rwanda;
    b. SEA for the WRM Master Plan: SEA supports the validation of the Master Plan;
    c. Catchment planning: SEAs at catchment level can provide information on for example planning alternatives, criteria for sustainability, identification of relevant stakeholders, identification of gaps in information, etc.

- **Ownership** of the Planning and linked SEA process can differs with each process:
    a. For the SEA for the EKN's IWRM support programme, the planning and SEA processes will be owned by EKN, while the RWRD will provide relevant and necessary input. NCEA can review or coach the SEA.
    b. For the SEA for the WRM master plan, the planning process is owned by RWRD while the SEA can jointly be owned by RWRD and EKN. REMA can play a role in overseeing[35] the SEA, with possibly a role for NCEA.
    c. At catchment level, planning process may be owned by a yet to be defined official entity at catchment level; the SEA could be owned by RWRD or the plan owner, REMA can oversee the SEA.

- **Multi-phased:** each SEA will have different dynamics in time. While the SEA for the EKN's IWRM support programme may be a series of limited inputs during the entire lifetime of the programme (coaching), the SEA for the Master Plan has to be an intense and rapid intervention in order to provide timely information for decision making on the Master Plan (quick and dirty). At catchment level, each catchment plan would in due course require an SEA, but timing depends on the level of ambition, the implementation capacity, and the selected mode of implementation (pilot versus blanket approach) of catchment planning.

[35] *At this stage, the role of REMA has not yet been cleraly defined. Therefore, it is still inclear what 'overseeing' will include. This will be defined jointly by the different actors once it has been decided to take on this SEA.*

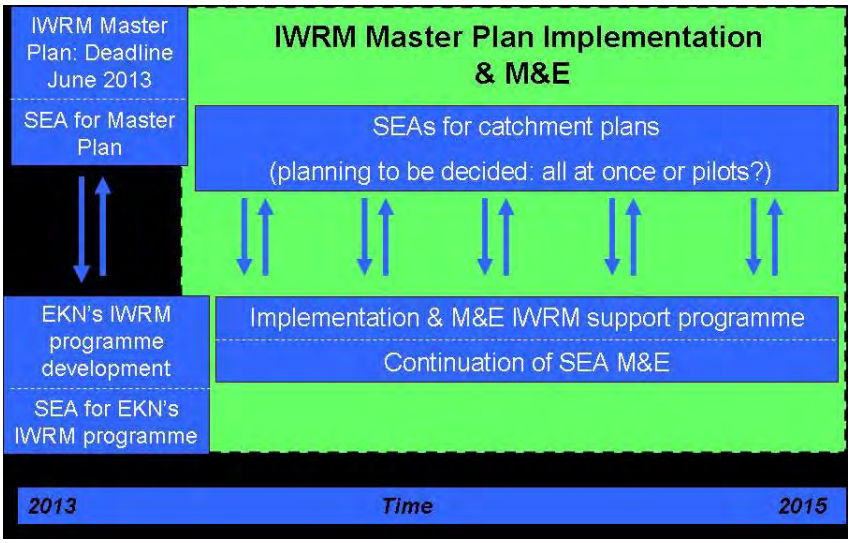
- The **focus** of each SEA will differ. Three main areas are relevant in assessment processes:



a. Good quality **information** on social and biophysical environment, needed to come to an informed decision. Focus is on scientifically valid methods for data collection.
b. A **process** guaranteeing that views and interests of stakeholders are taken into account. Focus is on stakeholder identification and participation/dialogue.
c. A **mechanism** that makes sure assessment results are taken into account in decision making and which guarantees these decisions are taken in a transparent manner. Focus is on the institutional capacity to deal with the assessment and decision making process.

SEA for IWRM at a glance

Summarising the above, SEA for Rwandan IWRM could look like the scheme below. The scheme shows that SEA will not lead to any delays in the implementation of IWRM in Rwanda.
In this context and set-up, SEA will help achieve coherence and sustainability of IWRM and its on-going and future support processes. In the next chapters the NCEA will provide draft ToR for each SEA.



4.3 Implementation and management of the SEA process

The proposed overall SEA process is pro-active, transparent and independent. For each of the SEAs, guidance on how to implement and manage the SEA will be provided by the NCEA in the next chapter to this advisory report:

- next steps to undertake for the overall SEA for the EKN's support programme for IWRM are outlined in the ToR in par. 5.1.
- a ToR for the SEA in support of the Master Plan, can be found in 5.2.
- an outline for ToR for SEAs in support of catchment planning is provided in 5.3.

Note: as decisions on whether to develop catchment plans, and how, are still to be taken, these ToR for SEAs for catchment plans are not yet in a detailed enough stage for execution. The ToR can be finalised once the decisions on catchment planning have been taken. The NCEA is available to provide further assistance if so required.

5. Terms of Reference for SEA

In the following paragraphs, terms of reference will be provided for the SEAs. The NCEA expects these ToR to be used as individual guidance documents for each specific SEA. At times, therefore, some information from the previous chapters has been repeated in order to make the ToR understandable as 'stand-alone' documents.

5.1 ToR for SEA for the EKN's IWRM support programme

Introduction

The Rwanda Water Resources Department (RWRD) is making significant progress in the formulation and operationalisation of its IWRM policy. The EKN intends to support the RWRD in the further development and implementation of IWRM in Rwanda. The initial intention was to provide support on three components, i.e. (i) water resources assessment and monitoring (WRAM), (ii) capacity development, and (iii) (pilot) watershed rehabilitation.

It is observed that RWRD through its Master Plan process is already developing a water resources management information system (MIS), highly comparable to a WRAM system. To avoid duplication of efforts, the focus of attention of EKN could therefore better lie on assuring the quality of the MIS system presently under design and supporting the RWRD in developing the capacity (institutional, staff and equipment) to implement and operate this MIS.

The consequence is that likely, the EKN's IWRM support programme can be reduced to two main components:

1. **Institutional and capacity development for IWRM in Rwanda**
2. **IWRM implementation at catchment level**

However, the MIS is presently under design and not operational yet. The assessment of its quality and functionally could result in gaps that would need to be addressed and which could be taken up by the EKN in its IWRM Support Programme. Whether this would merit a separate component or not depends on the nature of these gaps and needs to be determined. Therefore the following sequence of SEA steps is proposed to guarantee maximal coherence between the Rwanda IWRM policy, the Master Plan process and the EKN support programme:

- **Formulate EKN Support programme**: the SEA process will be integrated into the EKN support programme formulation process, so that this formulation process becomes 'SEA-proof'. This joint SEA/formulation process for the EKN water sector support programme has to be carried out parallel to the Master Plan process. While the formulation can start right away, for optimal coordination the final decision on the EKN's IWRM support programme should ideally be based on a finalised and formally accepted Master Plan. During the implementation of the support programme the SEA process can be continued to inform the programme whenever strategic choices need to be made. Some flexibility in the formulation (such as phasing: starting with capacity development component while waiting with the catchment level

interventions, for example) would allow for this alignment with the Master Plan without necessarily compromising the timing of the formulation of the EKN support programme;
- **Master Plan quality assurance**: Start, in close collaboration with RWRD and earliest as possible, an SEA for the Master Plan to inform decision makers during the validation process of the potential consequences of choices made by the master plan (see 5.2: ToR SEA for Master Plan).
- **SEA for catchment planning:** depending on the choices made during programme formulation, start an SEA process at catchment level (see also 5.3: ToR SEA for Catchment planning.

While they interact, these SEAs are distinguished as separate as the plan decisions differ for each. During the process the role of EKN changes from initiator and owner of both planning and SEA process when its own support programme is concerned; via initiator, facilitator and funding agency of the SEA process of the Master Plan, the SEA and plan being owned by the water department; to co-initiator and funding agency for SEA at catchment level, while the plan and SEA process are probably owned by a newly installed catchment planning agency/committee. See also step 6 (assessment, decision-making and management) in the ToR below.

ToR for an SEA for EKN's IWRM support programme[36]

Screening

1. Reach consensus on the need for SEA and its link to planning.

The RWRD will become co-owner of the support programme as it is aimed at the implementation of its IWRM policy. EKN and RWWD have to agree on the approach described in this document.

2. Find stakeholders and announce start of the plan process

A first step in the process of stakeholder identification and announcement of the process has been made by the Kigali workshop, part of this scoping mission. This workshop brought together a good number of stakeholders. As not all relevant stakeholders were present at the workshop, EKN has to find ways to inform and involve all remaining relevant stakeholders. As a starting point the appendix to this report contains two lists of relevant stakeholders: (i) the attending organisations of the Kigali workshop[37] and (ii) a progress report by SHER consultants providing an overview of institutions involved in data collection for the Master Plan[38].

Scoping

3. Develop a shared vision on problems/objectives/alternatives

The Kigali workshop showed broad acceptance of the Rwanda policy objectives on IWRM. Also on the issues that presently need to be addressed with priority, the participants rather unanimously request the RWRD to:
- Define institutional arrangements for water management and develop the necessary capacity;

[36] *For the list of 10 SEA steps used here, also see Appendix 9*

[37] *See Appendix 5*

[38] *Consultancy services for development of Rwanda national water resources master plan (Progress report -1), SHER Ingénieurs-Conseils s.a., October 2012*

- Provide information on present and future water availability for sectors, logically organised per catchment, which allows for sector planning.

The master plan is expected to provide the institutional arrangements; the EKN is planning to provide support in institutional development and capacity building and is in this respect in line with the outcomes of the Kigali workshop. Also the need for catchment-level planning is acknowledged by EKN as a second component in its proposed support programme. With respect to the availability of data and the management information system (MIS) to inform catchment planning and management the outcome of the master plan process is fundamentally important. An approximate set of data on water demand and availability will be included in the MIS, but its quality remains to be assessed .

As a next step, based on the outcome of the SEA of the Master Plan, assess the validity of the MIS under the Master Plan, and advice on either reducing the EKN support programme to 2 components (1 institutional and capacity development for IWRM, and 2 catchment-level assessment and planning), or maintaining the original WRAM component.

4. Do a consistency analysis: new versus existing objectives

The Master Plan is presently analysing the consistency and consequences of national sector policies for each catchment. An SEA for the Master Plan has to verify the quality and completeness of the information (see the ToR for this SEA in the next section).
Additionally, a consistency check should be carried out for:

- Linkages with the EDPRS II, once known in its final form (early 2013);
- Other programmes implemented by EKN; both the energy and the food programmes are expected to have relevant linkages to the water sector support programme;
- Other donor programmes; at the moment of writing the USAID water sector programme is the most prominent;
- Other government initiatives affecting water resources;
- Other government policies/programmes with stated environmental objectives, such as National Environmental Action Plan, National Sustainable Development strategy, etc.

The consistency check should investigate ways to:

- look for the potential of the programmes to reinforce each other;
- ensure mainstreaming of existing environmental objectives into new plans;
- avoid duplication of efforts;
- avoid contradictory activities;
- allow for catchment specific approaches/solutions.

5. Set ToR for the technical assessment, based on scoping results

As proposed earlier, the EKN water sector support programme is likely to have two main components. A number of choices need to be made for final programme formulation, for which the SEA has to provide information:

Institutional development and capacity building for IWRM in Rwanda

Needs assessment per sector: USAID has produced a capacity needs assessment and staffing plan for the water department. Assess whether the needs assessment is complete: are all relevant sector departments and agencies included? If not, provide additional information on IWRM capacity needs within these departments or agencies.

Central versus decentralised capacity needs: the needs assessment has been carried out before the Master Plan has defined the institutional arrangement for water management at catchment level. Check consistency between needs assessment and the Master Plan; in case of inconsistencies, define capacity development needs for proper implementation of the decentralised water management tasks.

Coordination mechanisms: for a management information system to be effective exchange of information between relevant parties in water management is fundamentally important. Of equal importance is exchange of information at catchment level. Catchment plans can only be made if sector plans for each catchment are developed and assessed in a coordinated manner.
The water law and Master Plan provide a possible coordination mechanism at central and decentralised level through a water sector coordination committee and a catchment committee. Define:

- the data exchange needs for an MIS to be effective;
- the coordination needs for a catchment plan to become a document shared and owned by all relevant stakeholders;
- and to suggest alternative ways in which coordination and exchange mechanisms could be established within the boundaries set by the Water Law and Master Plan.

Communication: In support of the coordination task as described above, explore ways of improving communication capacity at RWRD allowing for improved packaging and transfer of information to relevant parties and for development and implementation of a communication strategy As yet, no capacity exists at the RWRD to do or coordinate this.

Learning by doing: following the recommendation 1 in section 2.4 regarding learning, investigate ways for more effective transfer of knowledge and skills, including:

- traditional training and teaching;
- coaching, learning by doing, 'on-the-job' learning;
- exchange (cross-visits, buddy/mentoring systems, consultants working at WD or WD staff at consultants' offices, etc).

IWRM implementation at catchment level

Catchment planning approach. Assess the advantages and disadvantages of two alternative approaches to IWRM implementation at catchment level:

- Blanket approach in which a catchment planning process is started simultaneously by the deployment of WD staff in key districts of each catchment. The approach is based on the notion that each catchment is unique, requiring a unique plan, but that the methodology to come to a catchment plan is similar; mutual learning and exchange among WD staff enhances the process, or;

- Pilot approach in which a catchment planning process starts in one or a limited number of catchments. The notion here is that a catchment planning methodology has to be developed on a learning by doing basis. Once defined the approach can be upscaled to the entire country.

Assessment criteria are: appropriateness of methodology; quality of catchment plans; availability of staff; capacity of staff; time span in which catchment plans can be available for all catchments; urgency of issues, funding requirements, logistical feasibility.

Catchment selection criteria. When a limited number of catchments will be selected, it must be clear on what criteria this selection is based. The SEA is asked to define a set of criteria in close collaboration with EKN and RWRD, and assess the choice of catchments based on these criteria. Criteria can be based on, but are not limited to, urgency of issues. Suggestions for criteria have been made in section 3.3 (page 20).

6. Assessment, decision making and management of the SEA

Since the SEA will inform the planning and decision making of EKN on the implementation of its support programme, the SEA process is owned and managed by EKN.

For the programme itself this lies somewhat different as the programme intends to support the implementation of IWRM in Rwanda, a formal task of RWRD. Ownership of the plan consequently is a shared responsibility of both EKN and RWRD; how this translates into decision making on the programme remains to be defined by the two parties.

It is expected that most of the SEA coordination and implementation will be done by the newly appointed Thematic Expert at EKN, when needed supported by the NCEA secretariat or their experts. During the formulation missions for the EKN's support programme, further SEA expertise can be mobilized as well. The NCEA proposes the following roles in this planning and SEA process:

Proposed Management set up for the SEA for the EKN's support programme		
Plan owner	EKN	EKN programme operates in support of RWRD
SEA owner	EKN	Voluntary SEA (Rwanda requires SEA for loans for development projects[39]).
SEA Oversight	NCEA & REMA	Tbd: independent review or coaching (which ever EKN prefers).
SEA Funding	EKN	
SEA Time frame	1: March – October 2013 2: 2013 –2017	Formulation phase Implementation phase

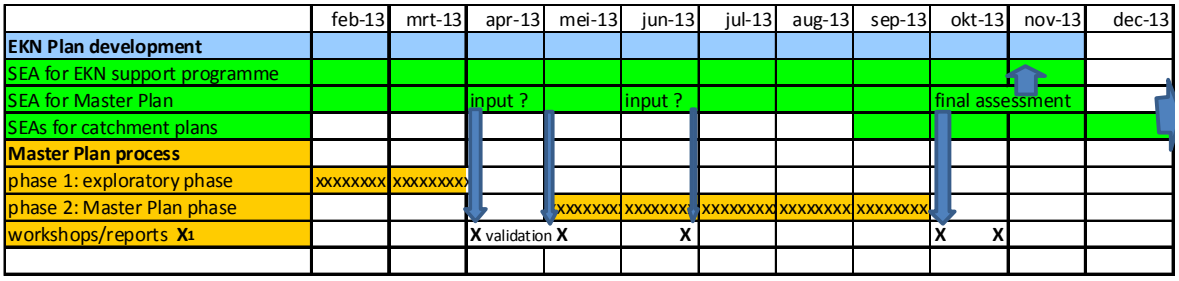
With respect to the role of NCEA it needs to be determined whether the NCEA will have the formal role of independent reviewer, or will moreover act as a process coach. Given the little experience with the SEA process in Rwanda the role of NCEA as a coach is most probable. Coaching can also

[39] *General Guidelines and Procedures for SEA, section 3.2.5, p.15*

include forms of review, but these would not be independent. Independent review usually is related to contested decisions for which an independent international panel is called upon. The need for independency would then be conflicting with involvement in the process as a coach. This is not the case for this particular planning process or SEA.

Time frame

The figure below depicts some of the relations between various processes. With respect to timing, the formulation of the EKN's IWRM support programme can start as planned with the arrival of the thematic expert in early 2013. However, it is recommended to wait for that Master Plan before programme formulation is finalised, so that consistency of the EKN's IWRM programme with the Master Plan can be checked in order to achieve maximum alignment.
While formulation can start as soon as desired, this consistency check of the EKN IWRM support programme with the Master Plan can only take place when the Master Plan is available. This is projected for October 2013[40]. Exact timing of the Master Plan development process remains a bit unclear. This issue is addressed in more detailed in the ToR for the SEA for this Master Plan, in paragraph 5.2.



X1 : N.B. In its planning the consultant does not distinguish between workshop or report

[40] *Source: SHER Ingénieurs-Conseils (October 2012). Consultancy services for development of Rwanda national water resources master plan. Progress Report – 1. Page 54.*

5.2 ToR for SEA for the Water Resources Master Plan

Introduction

The Water Resources Management Strategy is at present being translated into a comprehensive National Water Resources Master Plan (Master Plan), available in draft in June 2013. The Master Plan process fully integrates and operationalises the principles of IWRM. An impressive amount of work is being carried out by an international team of consultants and a similarly impressive amount of information will become available.

The objectives of the Master Plan are to:

- Quantify available water resources (surface & ground, in time and space) (including water balance per (sub)catchment with monthly resolution);
- Quantify water resources demand by sector and catchment;
- Identify surplus and deficit areas in time and space;
- Propose a management plan for optimal and rational utilization;

The initial 20 year time horizon with monthly and seasonal resolution will, according to the inception plan, be expanded to 30 years, considering intermediate situations in years 2020, 2030 and 2040.

According to the ToR the Master Plan[41] should include surface and groundwater management plans; rainwater harvesting plan; monitoring plan; institutional and organisational strengthening plan; operation and maintenance plan. However, in the view of SHER consultants, the presentation of these 'sub' master plans is not appropriate from an integrated water resources management point of view. A water master plan should maintain the holistic nature of IWRM and aim at the optimum allocation of available resources in each catchment or, when needed, transferred between catchments. In general these resources also have interdependencies (surface-groundwater interactions) that cannot be dealt with in separate studies. Therefore a different set of plans is proposed:

- Operation and maintenance plan for the entire monitoring, analysis and management decision system and infrastructure;
- Plan for legal, institutional and organizational strengthening;
- Plan for knowledge transfer and capacity building;
- Implementation plan for the water resources management system and infrastructure.
- Detailed cost estimates.

Planning

The planning process is split up in three phases:

1. Inception phase: 1 month – May 2012
2. Diagnostic (or exploratory) phase: 10 months. This phase will be concluded with a full account report around March 2013.

[41] *ToR for the development of the National Water Resources Master Plan, section IV, p.39-44*

3. Master plan phase : 5 months. This will include workshops with relevant stakeholders to present and discuss the draft MP

Note: the exact planning for these last two phases remains a bit unclear. The inception report foresees "Exploratory reports workshops" by the end of March and end of April 2013, and "Master Plan workshops" in June, September, October 2013. The RWRD also speaks of a validation process starting in June 2013 (personal comment Head of RWRD). However, according to the consultants' inception report, the actual Master Plan will only become available in August and September 2013. This seems contradictory and needs to be clarified (see also SEA task 1 on the next page).

ToR for an SEA on the Master Plan

To address some of the risks associated to the Master Plan an SEA is recommended as a tool to provide independent information to the validation and decision making process. In close collaboration with RWRD and earliest as possible, an SEA for the Master Plan should be started addressing the potential consequences of choices made by the Master Plan. Focus of the SEA should be on:

- contents: quality of the information base, gaps in information and consequences for decision making; are social and environmental sustainability addressed in an appropriate manner?
- governance, i.e. the appropriateness of the institutional arrangement. in particular in relation to the required flexibility for planning at catchment level, effective linkages between the MIS and planning at catchment level, representation of different sectors and levels of government and other stakeholders to ensure buy-in in IWRM processes.

1. Planning & process management

As observed above, questions remain regarding the exact timing and steps in the process of developing the Master Plan. If an inclusive process (allowing all relevant stakeholders to learn of, appreciate and share insights on the Master Plan) is not secured during the Master Plan development process, risk may be that stakeholders will not understand, support and ultimately, take responsibility for elements of IWRM implementation, as laid out in the Master Plan. This would render IWRM unsustainable in the longer run. In addition, the SEA itself will be less effective if it is not well integrated into the planning process of the Master Plan. It is therefore important for both the SEA and the Master Plan planning process, to get clarity on the exact planning of the process.

SEA task 1:

a. Clarify the exact phasing of the Master Plan development process, in terms of planning of all steps, participating stakeholders, and objective of the steps;
b. Assess the feasibility of two options for the SEA time frame:
    a. Ideally start pro-actively with the SEA, as soon as possible in 2013, allowing to inform the Master Plan development process on development constraints and opportunities;
    b. Alternatively, do the SEA reactively, to assess the social and environmental consequences of the draft Management Plan as presented for validation. This would bring the scope of the SEA on the validation phase;

c. Describe the pros and cons of each option (in terms of quality of process, quality information, potential influence of SEA, feasibility in time and capacity, etc).

c. Decide on way forward. Note that international best practice would suggest pro-active SEA as it allows for better integration in the Master Plan development process. That is what the NCEA would recommend. The re-active option would however still be a ' SEA proof' alternative;
d. Suggest proper alignment of SEA steps as identified in the next pages to that way forward. Note that NCEA would be available to advise if so required

2. Reliability and representativeness of data

The master plan process is comprehensive and will generate a significant amount of relevant information. Given major gaps in available information, the water supply and demand data, including the water balances at (sub)catchment level will be indicative only. They will be sufficient to provide an overview of potential development opportunities and constraints, but will not have enough reliability for detailed planning of interventions at catchment level. For catchment planning more refined information may be needed. This is acknowledged by the consultant drafting the Master Plan. An MIS is being developed for data collection, management and assessment purposes.

SEA task 2:

a. Assess the quality and reliability of the availability of water data. Indicate where a cautious approach in the use of the available data is necessary;
b. Assess the quality and reliability of water supply and demand per catchment;
c. From a catchment planning and management perspective, identify gaps in information and define additional data collection or verification needs for realistic catchment planning purposes. Note: these needs may differ per catchment!;
d. Assess validity of MIS and appropriateness for WRM monitoring and management purposes at catchment level. Assess which measures are proposed (and under implementation) for improvement. Provide recommendations on how to deal with gaps in knowledge or methodological challenges.

3. Master Plan methodological issues

The master plan is based on the identification of water users, roughly divided into consumptive users (taking water) and in-stream uses (example: fisheries & navigation). Environment is in this view considered as a water user requiring a minimal flow. This approach runs the risk of overlooking important water related environmental services on which people depend. Especially regulatory services such as flood buffering, surface water storage, sediment removal, and water purification service will be largely overlooked. Also local water related production services supporting the rural poor in their subsistence may be overlooked.

SEA task 3:

a. Propose a list of important water related ecosystem services provided by surface and groundwater systems of Rwanda;

b. Assess the way in which these services are represented by the Master Plan; can all relevant ecosystem services be recognised in the Master Plan;
c. Assess whether proposed measures will have an impact on ecosystem services. Are these impacts accounted for in the Master Plan? (For example: irrigation development can be considered in terms of amount of water needed, but large scale (wet)land conversion may have serious consequences for river hydrology.);
d. Water quality represents an important aspect of the availability of water resources. Assess whether interactions between water quality and quantity have been addressed appropriately by the Master Plan;
e. Provide suggestions for aspects that need to be taken into account and for which additional information needs to be collected; and provide advice on how to deal with potential gaps in water resources monitoring and further water management planning.

4. Alternative development options and scenarios

The Master Plan will suggest measures necessary to maintain equilibrium between water supply and demand. The inception report states that the options are overwhelming and should be considered on the basis of their economic, social and environmental merits. It is not completely clear whether the plan will consider various alternative options or that it will provide one best option. It is important that various alternative options will be presented for decision makers to consider their respective consequences. Supposedly various scenarios are used, with time horizons at 2020, 2030 and 2040.

SEA task 4:

a. Check whether various alternative options or scenarios are provided by the Master Plan;
b. Describe the proposed water management measures and identify potential alternative measures when not provided by the plan;
c. Assess the proposed measures to manage water supply and demand on their potential social and environmental consequences in qualitative terms. Assessment criteria include poverty, access to water and water related services (including gender differentiation), maintenance of water related ecosystem services;
d. Provide a semi-quantified overview of potential impacts by comparing the alternatives and/or the different scenarios. If possible differentiate for different time horizons.

5. Transboundary effects

With respect to transboundary issues the Master Plan team will study, when available, existing conventions on the use of shared water resources and, where no conventions are available, will take account of established international principles for the management of shared water resources.

SEA task 5:

a. Assess whether proposed water management measures have a “no regret” character from an international river basin perspective. This relates to water quantity as well as water quality, and also requires verifying whether measures correspond with binding international agreements and commitments.

6. Institutional arrangements

The Master Plan will provide an institutional assessment based on five functions that the institutional structure has to carry out: (i) strategy development, (ii) development planning, (iii) development implementation, (iv) development management, and (v) monitoring.

SEA task 6:

Each catchment in Rwanda has different biophysical characteristics and as a result provides different development opportunities and constraints. This implies that different stakeholders and different representative sector departments will have to be involved. A rigid institutional framework with fixed statutory representations may hamper the effectiveness of water management at catchment level.

a. Assess whether the proposed institutional framework provides enough flexibility to allow for catchment-wise differentiation in catchment management planning and implementation. Flexibility related to the type of stakeholders involved at catchment level and working procedures.

Consistency between sector polices is needed for effective water resources management planning. The Master Plan process is designed as a participatory process in which all departments and agencies play their respective roles. The Master Plan process is, however, in the hand of consultants working in relative isolation. It needs to be assessed whether and up to what level all relevant sector policies are addressed by the plan, all departments feel ownership over the plan, and are willing to implement its recommendations.

b. Make an overview of relevant sector departments and agencies: national and de-central, nation wide or in a selection of catchments, depending on time and SEA option chosen (see SEA task 1 above) and assess whether they have contributed to the workshops and validation process and whether their interests have been properly taken into account in the Master Plan.

Management of the SEA

As explained in the ToR in section 5.1 for the SEA for the EKN's IWRM Support Programme, this SEA for the Master Plan forms a crucial step to inform the development of the EKN's support programme for IWRM. As such it is considered as feeding into the SEA for the EKN's IWRM support programme. Here, the SEA focuses on the Master Plan, which has a different owner than the support programme. This has implications for SEA management. The NCEA proposes the following set up:

Proposed management set up for SEA for the Rwanda Water Resources Management Plan		
Plan owner	RWRD	Development outsourced to SHER Consultants
SEA owner	RWRD/EKN	
SEA Oversight	REMA / NCEA	Tbd, NCEA is available upon request
SEA Funding	EKN	
SEA Time frame	Option 1: remaining planning period: asap - October 2013 Option 2: limited to validation process, probably June-October	To be determined: see Planning & process management, and SEA task 1, above

5.3 ToR for SEAs in support of catchment planning

Introduction and planning

At the moment of writing little is known on the institutional set up that will govern planning and management at the level of the 9 level-1 catchments in Rwanda. The Master Plan will, based on the Water Law, provide the organisational structure. The Water Law refers to the creation of river basin committees with the task "to formulate orientations and propositions concerning the planning and the management of the waters of under-basins or aquiferous" (art 20). Furthermore article 21 refers to "*the creation, as needed, in each hydrographic under-basin or each aquiferous ….., a hydrographic under-basin committee or an aquiferous committee." Its task is "to propose the initial version of the local master plan and management of the under-basin waters or the considered aquiferous (art 22)".*

Despite the uncertainty, it is evident that some sort of catchment planning and management authority will be created. Given its mandate this entity will own the catchment planning process. It may also own the SEA process, but this obviously has to be decided in a later stage.

Additional uncertainties remain. Firstly, the Water Resources Master Plan is expected to be finalised in October 2013. Furthermore, the EKN still needs to define its intentions for support at catchment level. Will it go for a pilot approach in one or a limited number of catchments or will it support a nation-wide approach in a larger number of catchments (see section 5.1)? Consequently, no detailed ToR for a catchment level SEA can be defined at this stage. Once the time is there to elaborate this detailed ToR, the NCEA will be available for guidance if so required.

ToR for an SEA on a catchment plan

For the time being, guidance for the SEA process design can be derived from the 10 crucial SEA steps, based on international best practise[42]. Further relevant input into the Catchment SEA can be obtained from the proposed SEA of the Master Plan.

Screening:

1. Reach consensus on the need for SEA and its link to planning.
2. Find stakeholders and announce start of the plan process

   Rwandan law is clear about the need for environmental assessment when a plan has potential impacts on the environment. A water resources management plan at catchment level will have to deal with the distribution of water and related services over present and future users. It will identify water management options, probably supported by physical interventions, thus necessitating SEA to assess the environmental and social consequences of the plan.

Scoping

3. Develop a shared vision on problems/objectives/alternatives

4. Do a consistency analysis: new versus existing objectives
5. Set ToR for the technical assessment, based on scoping results

A pro-active SEA can be used to identify stakeholders, for example based on an inventory of water related ecosystem services, that are invited to discuss the development opportunities and constraints of a catchment. To ensure buy-in, the NCEA would recommend this approach. In Figure 1 (see 'in conclusion' below) an example is given of a stepwise approach to pro-active SEA focussed on identification of development constraints and opportunities, or a re-active SEA focussed at identifying impacts of alternative catchment plans.

Depending on the issues at hand in a specific catchment, various sector policy documents may be relevant. In principle the Master Plan has already addressed the consistency between sector policies, but as stated earlier, further refinement of the information base at catchment level is an absolute necessity. The same applies to a further detailed analysis of the consequences of sector policies at catchment level.

Assessment

6. Assess the impacts of alternatives and document this
7. Organise (independent) quality assurance of documentation

At the end, this ToR contains an example from South Africa how a catchment assessment, based on an inventory and valuation of ecosystem services, provides information for planners. The status of ecosystem services defined whether there was room for further development or whether the status of a service would already require management interventions.

Oversight on the process, including quality assurance, is a formal task of REMA. NCEA can play a role in coaching the process on procedure as well as contents. Alternatively, it could be asked to review its quality, whichever role is preferred by the SEA owner and/or REMA.

Decision making

8. Discuss with all stakeholders the alternative to prefer
9. Motivate the (political) decision in writing

Monitoring

10. Monitor the implementation and discuss the results

Linking the SEA monitoring requirements with the monitoring activities under the EKN capacity development support programme provides an effective mechanism to guarantee the necessary follow up to the SEA process.

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[42] *OECD-DAC Good Practice Guidance in Applying SEA in Development Co-operation, see also Appendix 9.*

Management of the SEA

Since, as explained above, several planning questions still need to be answered, it is not possible to provide very detailed management information for this SEA. In principle, the NCEA proposes the following set up:

Proposed management set up for SEA for catchment plans		
Plan owner	expected: Catchment Committee	To be defined by Master Plan
SEA owner	Lead agency	To be determined: plan owner or RWRD
SEA Oversight	REMA	Ministerial Order on SEA still to be developed
SEA Funding	EKN Programme and/or local	A funding mechanism for SEA may be considered under existing EIA modalities[43]

Obviously, the relevant actors mentioned in this table will need to agree on their respective roles and responsibilities. When the time comes, these details can be further refined and defined. If so required, the NCEA is available for further guidance on these issues.

For REMA, this set of SEAs for catchment plans would provide a good opportunity to gain experience in its role as responsible party for SEA oversight in Rwanda. If required, NCEA would be available to support REMA in the form of technical assistance or coaching using these concrete SEAs as hands-on learning cases.

In conclusion: some examples from practise

An SEA at catchment level can have two formats:

- The SEA pro-actively identifies development opportunities and constraints, including linked stakeholders, and informs the planning process. The SEA can describe the present and expected future status of ecosystem service provision under an autonomous development scenario (do nothing) and define limits of acceptable change, thus setting the boundaries for catchment planning.
- The SEA re-actively assesses the consequences of planned catchment development on the ecosystem services of the catchment area and its stakeholders, and identifies alternatives, mitigation or compensation measures when consequences are unacceptable.

Below two flowcharts of the above mentioned formats that were developed for the irrigation and drainage sector of the World Bank[44], but which can be generalised for IWRM purposes.

[43] *REMA/UNDP - General Guidelines and Procedures for SEA, June 2011, page 15*

[44] *Abdel-Dayem S., J. Hoevenaars, P. P. Mollinga, W. Scheumann, R. Slootweg, F. van Steenbergen (2004). Reclaiming Drainage. Toward an Integrated Approach. IBRD Agriculture & Rural Development Department, Report No. 1., and Slootweg, R., J. Hoevenaars & S. Abdel-Dayem (2007). Drainframe as a tool for integrated strategic environmental assessment: lessons from practice. Irrigation and Drainage Management 56, S191-S203.*

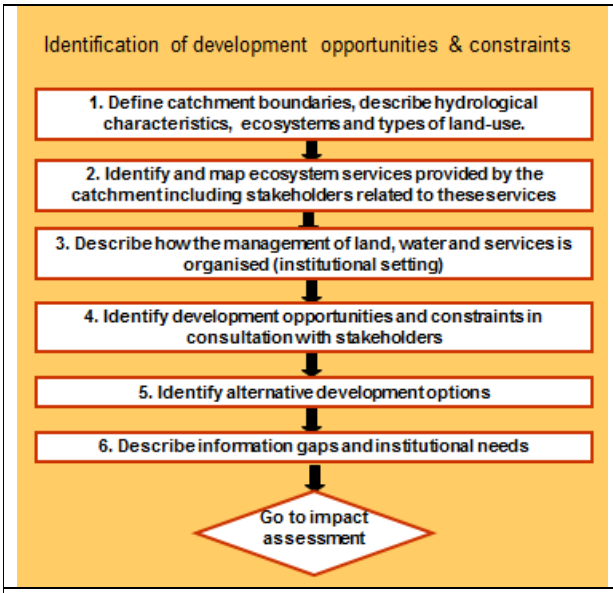

Figure 1: Analysis of development opportunities and constraints through pro-active SEA.

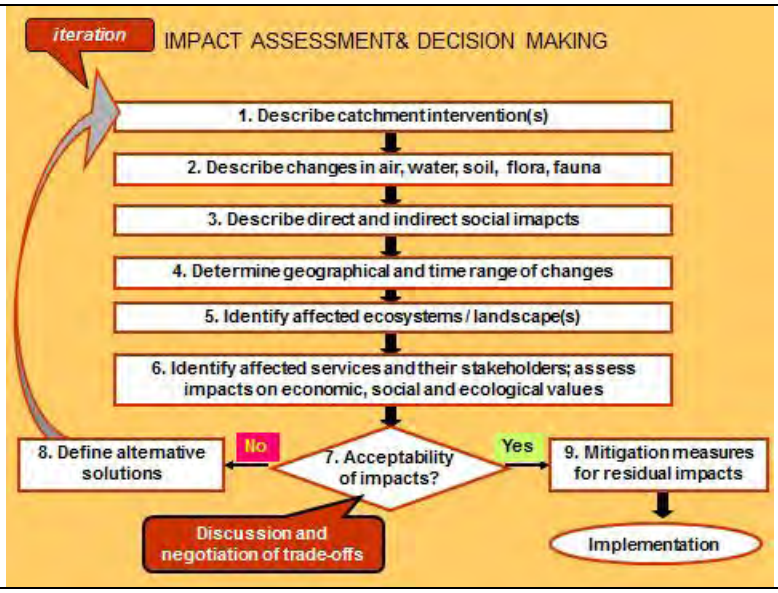

Figure 2: Re-active impact assessment of proposed measures and definition of alternatives and/or mitigation/compensation measures.

An example from South Africa on Strategic Catchment (SCA) assessment provides a good example of the pro-active SEA methodology. The SCA followed a four-step approach[45]:

1. For reasons of transparency and to encourage cooperation a Catchment Forum Group was formed consisting of local specialists as well as interested parties, 20 persons in all. Feedback meetings ensured continued stakeholder interaction and decision-making.
2. Hydrological units were defined that contain both the surface and sub-surface drainage systems of specific land areas, and ecosystem services were defined in a landscape assessment.
3. A status quo assessment of the catchment units provided information on the current environmental sustainability of the catchment areas.
4. Strategic land use planning and management interventions were developed in response to the observations from the present status of each catchment unit. This information should be used to proactively inform strategic and sectoral planning.

[45] *Slootweg, R., P.L.H. van Beukering (2008). Valuation of Ecosystem Services and Strategic Environmental Assessment: Lessons from Influential Cases. Reports of the Netherlands Commission for Environmental Assessment.*

Slootweg, R., Rajvanshi, A., Mathur, V.B. & Kolhoff, A. (2010). Biodiversity in Environmental Assessment: Enhancing Ecosystem Services for Human Well-Being. Ecology, Biodiversity & Conservation Series - Cambridge University Press, U.K. (9 chapters, 487 pages).

The balance between supply of, and demand for, environmental goods and services in each Catchment Unit is determined based on a key set of environmental goods and services demanded by people in the catchment. Each catchment was then rated RED, ORANGE or GREEN. Green catchments are in good condition and currently developed within environmentally sustainable limits. They are generally environmental opportunity areas under proper management and proactive action. Orange catchments are in moderate condition and are nearing unsustainability. These catchments are being stressed by current land use, and environmental quality is declining. A combination of remedial, management and proactive action is required. Red catchments are in poor condition and already unsustainable. These catchments are under stress and the environmental quality has already declined significantly. Remedial and management action is required.

The Status Quo Report is presented in four poster-like pages:

- Page 1 – Pictorial Catchment View:
- Page 2 – General Catchment Information: summary of the Sustainability Status Quo including different land covers, catchment population, levels of engineering services, key environmental services and their value; positive and negative environmental aspects of the catchment. (see figure 3 below).
- Page 3 – Environmental Sustainability Status Quo contains colour coded indicator information for the catchment: RED: ORANGE: GREEN: When comparing different Catchment Units, this page is very useful.
- Page 4 – Implications & Interventions / Guidelines: provides the implications for land use planning and management, including key environmental opportunities and constraints, legal and other implications for current development scenarios.

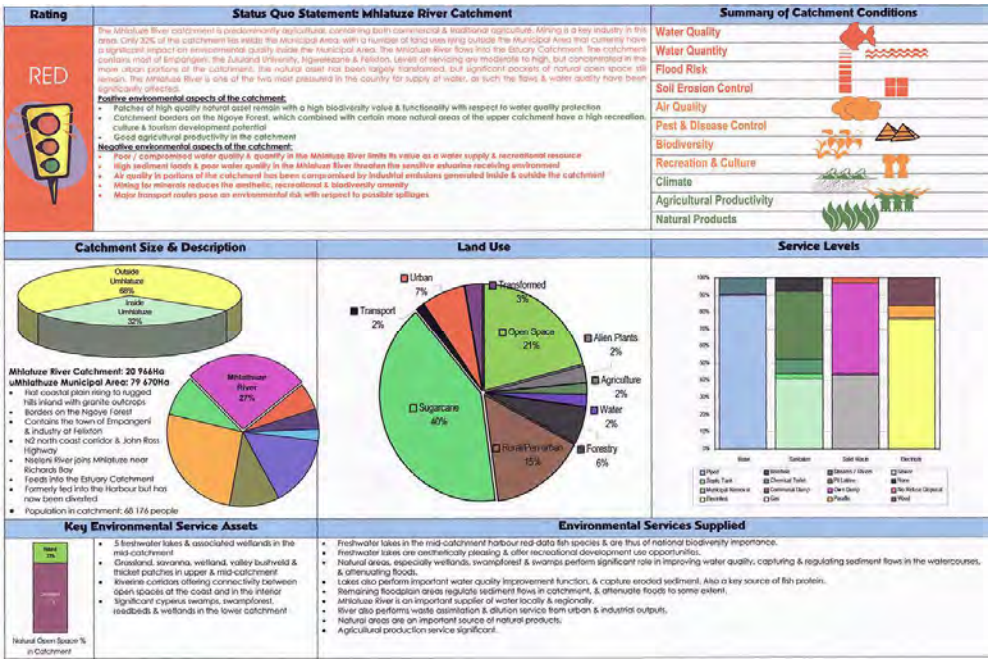

Figure 3: Communication-oriented output of the strategic catchment assessment to inform planners and decision makers: Status Quo Report page 2 (A3 size).

APPENDICES

Scoping Advice for Dutch IWRM support programme
in Rwanda

(appendices 1 to 9)

APPENDIX 1

ToR with request for advice by the EKN in Rwanda

29 October 2012

Terms of Reference

Scoping Phase for Strategic Environmental Assessment

for the development of a

Integrated Water Resources Management Program Rwanda

The Embassy of the Kingdom of the Netherlands in Kigali, Rwanda

1. Introduction

Rwanda's economic and population growth, rapid urbanization and its limited land resources have made the Government of Rwanda (GoR) aware of the need to manage its water resources in terms of sustainable use, allocation, equitable distribution, quality and quantity. Erratic rains and dry spells have led to the realization that water resources can no longer be taken for granted and need to be managed properly, adapted to climate change. GoR has therefore adopted the principles of IWRM and is in the process of developing policies and institutions to implement these principles.

In its MASP for the period 2012 – 2015 EKN Kigali has planned new support for IWRM in Rwanda. In order to facilitate its preparation process and decision-making, EKN Kigali looks at the SEA tool to develop a comprehensive approach and framework for its future IWRM Program in Rwanda.

Paragraphs 2 and 3 of this TOR give the background and overall planning of GoR and that of EKN Kigali, including the role of SEA. Paragraph 4 concerns the terms of reference for the scoping phase of such a SEA.

2. SEA for IWRM in Rwanda

2.1. What is the subject of the SEA and what is the stage of planning?

The preparation of the IWRM Program of the Embassy of the Kingdom of the Netherlands (EKN) will be subject of the SEA. This Program is intended to be divided into three components: (1) a working Water Resource Assessment and Monitoring (WRAM) system, (2) Capacity building of Rwandan institutions and (3) Watersheds and irrigation in West-Rwanda, the Lake Kivu watershed. The first two aim for nationwide interventions while the third focusses on a particular geographic region. This scoping phase for the SEA is expected to give guidance for further steps.

2.2. What are the key issues that need to be addressed?

There are several issues that could be addressed, such as:

- Low institutional capacity for planning and implementation;
- Lack of hydrological/hydrometrical data;
- Soil degradation and erosion through intensive agriculture;
- Lack of food security through unreliability of rain fed agriculture because the changing rain seasons through climate change.

2.3. Who are the stakeholders for IWRM?

- EKN is the developer and financer of the intended Program. EKN will select the proper agency(ies) to execute the (different components of the) Program.
- Government institutions: REMA, DWR, MINIRENA, MINAGRI, MININFRA, EWSA and MINECOFIN.
- National institutions: Rwandan Water Authority, National Water Consultative Commission, Water Interministerial Commission (not working yet)
- IWRM related projects: RIWSP and NELSAP (Kagera River)
- Knowledge institutions: SNV, NUR Butare (WREM)
- District: District government, District Basin Committee[1]
- Sector and village level governments

[1] Proposed institutional WRM structure in the Water Law.

2.4. What are the decisions to be taken in the planning process and when will these be made?

In this scoping phase relevant issues, data, possible partners, decision-making bottlenecks and possible locations have to be assessed. A framework and approach should be suggested to EKN. After this phase EKN will choose how formulation and implementation of the Program will continue, guided by the SEA: this is planned to start in early 2013 with the arrival of the new Water Expert at EKN.

2.5. Spatial and time horizon?

The Program components have different spatial horizons. Components 1 and 2 have a national character and therefore relate to entire Rwanda. The third component relates to the spatial horizon of Western Rwanda specific to the level 2 water catchment[2] of Lake Kivu (CKIV); precise locations yet to be selected. The implementation period is at least three years from 2013 until the end of 2015, conform the MASP 2012-2015 of EKN.

3. The intended EKN IWRM Program

3.1 Background

Until recently water management in Rwanda has been approached from a pragmatic, service-oriented perspective. Main sectorial water users such as agriculture, energy from hydro-power and drinking water supply work without coordination with other sectors. Now as Rwanda has high targets to increase food production, to generate more energy and a growing demand for water, water-using sectors understand that they have to collaborate. The Rwandan Natural Resources Authority (2010) has a directorate on water resources management that is mandated to take up this coordinating role make IWRM an integral part of the development agenda in Rwanda, thereby supported by recently adopted IWRM Policy and Strategic Master Plan documents.

Water governance in Rwanda is hardly developed; the multiple water interests are not effectively managed at national and decentralized level. Equitable and effective participation of the various stakeholders is still absent. Monitoring systems to collect data on use, water quality and quantity that should inform the management process are limited. This information and documented experiences are also required for reliable and effective water governance at local and national level.

The country outcome for the implementation of Integrated Water Resources Management (IWRM) is that "*Water resources are sustainably and rationally managed and meet the country's needs for socio-economic development*". In consultation with the GoR and other partners in Rwanda, the Rwanda Water Scan, carried out in August 2011, identifies several ideas for support by the Netherlands.

3.2 EKN preparations and planning

For the period of 2012-2015 a differentiation is foreseen in the MASP between the first two years (2012-2013) and the second period of two years (2014-2015). The main focus in the first two years will be on supporting policy- and institutional development with specific objectives as follows:

- Institution development through policy advice, capacity development, learning for improved performance and sustainability, preparation of a IWRM Master Plan;
- Government capable in preparing investment plans for the water sector, including studies and proposals for (Dutch) investments in the water sector, in particular related to food security and energy;
- Identification of IWRM activities.

[2] All the different level water catchments can be found in the (progress report of the) Rwanda Water Resource Master Plan of SHER.

For the whole period, objectives and possible interventions need to be formulated in close cooperation with the GoR and other donors (e.g. USAID). Outputs of EKN supported activities need to be defined further, but are expected to include:

Component 1: Operational WRAM system in place (Nationwide)

- This WRAM system is planned, developed and operational in 15 districts. It will guide management of river basins and catchments (in national and regional contexts) to guarantee reliable and climate-proof supplies of water for irrigation, hydropower and drinking water.

Component 2: Increased capacity of the Water Resources Department (Nationwide)

- Based on an institutional assessment (including a training needs assessment), curricula and training courses will be developed for specific target groups at central and district levels to enhance capacity and knowledge on IWRM issues; target groups could come from sectoral ministries, other government organizations and civil society organizations as long as their mandate is relevant to aspects of water resources management.

Component 3: Rehabilitation and development of watersheds and irrigation (West-Rwanda)

- Restore the Lake Kivu 12.000 ha watershed functions through investments in water infrastructure, terracing, tree planting etc. Based on the Water Resources Management Master Plan and sectorial strategic plans for energy and food security, project plans will be elaborated for an integrated approach to watershed management, marshland development, irrigation and development of hydropower resources.
- Investments in new irrigation systems with due regard for technical, social and environmental impact. This will result in 1000 ha for sustainable irrigation.

4. Terms of Reference

The EKN requests advice on the scope of an SEA for the to be developed IWRM program. EKN sees in NCEA a capable organization to perform this assignment. Goal of this SEA scoping exercise is to obtain pragmatic advice for EKNs approach to prepare and implement an IWRM Program in Rwanda: steps of the preparation process (including further SEA steps), which issues to consider, a possible setup, timeline and framework for its planning and implementation. EKN expects from the SEA that it will be consistent with Rwandan policies and its institutional framework. Also, that it will be a transparent, inclusive process in line with SEA and IWRM principles, and that it will be guiding based on relevant data, analysis, expertise and lessons learned.

The SEA is expected to produce a comprehensive advice for the entire Program, including the links and synergy between the components.

4.1. Make an inventory of basic information through desk study

Key issues for information gathering:

- Examples of functional WRAM's from other countries;
- Water use and allocation mechanisms;
- Institutional capacity of steering districts and catchments committees;
- Further policy development.
- Data availability (relating to hydrology, meteorology, land use, land suitability and land occupation, pollution, economic activity and other related fields);
- Biodiversity of wetlands;
- Impact on Lake Kivu;

Attention for cross-cutting issues such as gender, sustainability, climate change adaptation, environment, as well as governance.

4.2. Study and analyze consistency with related legislation and plans

The GoR has legalized the Rwandan Water Law in 2009 and is an important part of all the new IWRM policies that are created. The GoR have several policy documents that have a direct or indirect impact on IWRM, these are Rwanda vision 2020, EDPRS 2013-2018, Strategic Plan for Water Resources Management 2013-2018, the Rwanda Water Resources Management Master Plan[3], Strategic Plans for Energy, Forests, Land-Use, Agriculture, Infrastructure and Sanitation. Next to these national plans the districts, sectors and villages all have their own plans which they have to evaluate with the GoR. It is important to maintain consistency between these sector plans, policies and stakeholders on the one hand and the IWRM Program on the other hand.

4.3. Outline further steps in decision making

- How to involve government at central, district, sector and/or village level
- Which steps and expertise are necessary and available where
- Assess how cooperation should look like in a comprehensive framework
- Who are other relevant actors and how should they be involved

4.4. Assess institutional capacity needs

There is an assessment performed by UNESCO-IHE on behalf of USAID for the RIWSP. This can be used as a basis for further development of a specific assessment. Capacity building is an important part of the Water Program on national, district and local level. The SEA should cover answers to the question: if and how capacity is available and/or can be obtained to sustainable maintain the gains of this program.

4.5. Consult stakeholders

Stakeholders during this exercise are: GoR institutions (see 2.3), projects related to IWRM projects in Rwanda (RIWSP[4], and KR-RIMP[5]), knowledge institutions and supporting institutions like GEF, World Bank and USAID.

4.6. Approach and outputs of the SEA scoping exercise

At the beginning of the process EKN expects a draft work plan of NCEA. This plan shall be discussed together with EKN on both content and time planning. In the approach there will be a multi-stakeholder workshop (organized together with EKN) and a desk study which are supposed to be performed within 2-3 weeks by a team consisting of three or four persons. Through this the following outputs are expected:

- Recommendations on issues and set-up of the overall Program, its components and cross-cutting issues;
- Recommendations for further steps to be taken by EKN and/or GoR;
- Consistency analysis of objectives, stakeholders and policies;
- Elaborate a report with advice for further preparation and decision making by EKN.

4.7. Management of the SEA scoping exercise

The duration of the SEA scoping is two months from mid-November until mid-January. EKN proposes that the NCEA Working Group contains an SEA expert with experience in IWRM and a IWRM expert, the team to be led by a technical secretary of NCEA. The technical secretary will be the contact with EKN. Precise time breakdown will be set by the NCEA Working Group in consultation with EKN (see 4.8). A visit to Rwanda by the team is now foreseen for Week 49, the first week of December 2012. The budget should cover consulting fees and travel expenses, including travel to and within the region.

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[3] This is a progress report to achieve the Rwanda Water Resources Management Master Plan.
[4] Rwanda Integrated Water Security Program funded by USAID and executed by WinRock, Care, WorldVision, UNESCO-IHE and Florida International University.
[5] Kagera River - Rwanda Integrated Management Plan funded by WorldBank, GEF and SIDA and executed through NBI/NELSAP.

4.8. Time Frame

Time	Activity	Responsible	Where
Oct	Screening TOR	NCEA	Netherlands
Oct	Stakeholder analysis	EKN	Rwanda
Oct/Nov	Assessment of plans, policies, or projects planned/implemented with relevance for IWRM in Rwanda	EKN	Rwanda
Oct	Organize expert team, prepare draft work plan	NCEA	Netherlands
Nov	Desk study and analysis	NCEA	Rwanda
Nov/Dec	Multi-stakeholder workshop	NCEA, EKN	Rwanda
Dec '12/Jan '13	Prepare and submit report by 15 January 2013	NCEA	Rwanda, Netherlands
Jan '13	Water Expert arrival and moving to next planning stage	EKN	Rwanda

5. Bibliography

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SHER Ingénieurs-Conseils s.a., 2012. Consultancy services for development of Rwanda national water resources master plan (Progress report -1).

UNESCO-IHE, Venneker and Wenninger, 2012. RIWSP Review of the National Hydrological Service in Rwanda.

Van 't Klooster, Smet and Kente on behalf of EKN, 2011. The Rwanda Water Scan.

World Bank, 2012. Restructuring Paper on a proposed project restructuring of the Lake Victoria environmental Management Project II.

APPENDIX 2

Project Information and Working Group Composition

Proposed activity: Preparation of an Integrated Water Resources Management (IWRM) support programme by the Embassy of the Kingdom of the Netherlands in Rwanda. A Strategic Environmental Assessment will be prepared in an integrated way as part of this programme.

Categories: DAC/CRS: 14010 Water sector policy and administrative management

Project number: OS25-095

Progress: The planning process is in the preparatory phase. The EKN is expected to develop its IWRM programme in the course of 2013. Start of the preparation of the integrated plan / SEA is foreseen for early 2013.

Composition of the working group of the NCEA:

Mr R. Rabbinge – Chairman
Ms P. Dobbelaar – expert on IWRM
Mr R. Slootweg – expert on ecology

Technical secretary:

Ms G.J. van Boven

APPENDIX 3

Programme NCEA Scoping Mission

SEA for the Dutch IWRM programme in Rwanda

Date	Time	Activity	Who
Sunday 2/12/12	10.00 - 19.00	Travel Amsterdam - Kigali	NCEA Working Group (WG)
Monday 3/12/12	9.00 11.00	Briefing at EKN Briefing at Water Department	WG, EKN, RWRD WG, EKN, RWRD
	PM	WG workshop preparations	WG
Tuesday 4/12/12	9.00 - 16.30	Multi stakeholder workshop (Hotel Umubano)	WG, EKN, RWRD, multiple stakeholders
Wednesday 5/12/12	8.30 - 14.00	Multi stakeholder workshop (Hotel Umubano)	WG, EKN, RWRD, multiple stakeholders
	16.30	Meeting at RWRD with Vincent de Paul Kabalisa and Monitoring team	WG, RWRD
	19.00	Working dinner with RIWSP/Coen Voorhuis	WG
Thursday 6/12/12	8.00	WG work session: initial analysis of findings, preparing structure of advice	WG
	15.00	Meeting with SHER/Egbert Hamel	WG, EKN
	19.00	Dinner with Fred Smiet (EKN)	WG
Friday 7/12/12	8.00	WG debriefing preparations	WG
	11.30	Debriefing EKN & RWRD	WG, EKN, RWRD
	PM	WG meeting: planning & task division	WG
	20.25	Travel Kigali - Amsterdam	WG

WG = Working Group NCEA
EKN = Embassy of the Kingdom of the Netherlands
RWRD = Water Department

APPENDIX 4

Programme Kigali workshop 4-5 December

This multi-stakeholder workshop was organised in the context of a Strategic Environmental Assessment for the development of an IWRM support programme by the Embassy of the Kingdom of the Netherlands (EKN) in Rwanda.

Day 1 (Tuesday, 4 December 2012): Setting the context for IWRM in Rwanda

Time	Activity	Resource person
Session 1: Setting the context (9h00 – 12h30)		
9h00-10h30	Opening remarks	KABALISA, Head of RWRD
	Tour de table: introduction of participants	Participants
	Introduction to IWRM in Rwanda	KABALISA, RWRD
	EKN's intentions with support to IWRM in Rwanda	Fred SMIET, EKN
10h30 – 11h00: Coffee/ Tea break		
11h00 – 12h30	Introduction SEA & NCEA	Gwen VAN BOVEN, NCEA
	Presentation of NCEA Working Group Cross-sectoral approach IWRM principles Discussion	 Roel SLOOTWEG, NCEA Paula DOBBELAAR, NCEA
12h30 – 13h30: Lunch		
Session 2: Joint Fact Finding (13h30 – 16h30)		
13h30 – 14h45	What are the main water issues from a cross-sectoral perspective? (Q&A: tapping participants' knowledge)	Roel SLOOTWEG, NCEA
14h45 – 15h15: Coffee/ Tea break		
15h15 – 16h30	What are the main water issues from a IWRM perspective? (Q&A: tapping participants' knowledge)	Paula DOBBELAAR, NCEA

Day 2 (Wednesday, 5 December 2012): Ways forward

8.00 – 8.30: pre-workshop meeting: WD, EKN, NCEA

Time	Activity	Resource person
Session 3: Analysis of issues (9h00 – 12h30)		
8h30 – 9h00	Recap of Day 1	NCEA
9h00 – 12h30	Working Groups: further analysis of issues	RWRD & NCEA
	10h30 – 11h00: Coffee/ Tea break	
	Plenary restitution; Facilitated discussion	RWRD & NCEA
12h30-13h00	Conclusions	RWRD, EKN, NCEA
13h00 – 14h00: Lunch		

APPENDIX 5

List of workshop participants

First Name	Last Name	Email Address	Company
Aimée	MPAMBARA	ampambara@usaid.gov	USAID
Alexis	BYAMANA	byamana1@yahoo.com	Helpage Rwanda
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Philippe	KWITONDA	kwitonda.philippe@gmail.com	RNRA - IWRM department
Reveniue	HARINDINTWALI	harireve@yahoo.fr	Rwanda Agricultural Board
Simon	THUO	simonthuo@gmail.com	USAID (RIWSP) / RNRA
Vincent de Paul	KABALISA	kabalisa@hotmail.com	RNRA - IWRM department

APPENDIX 6

Kigali workshop outcomes

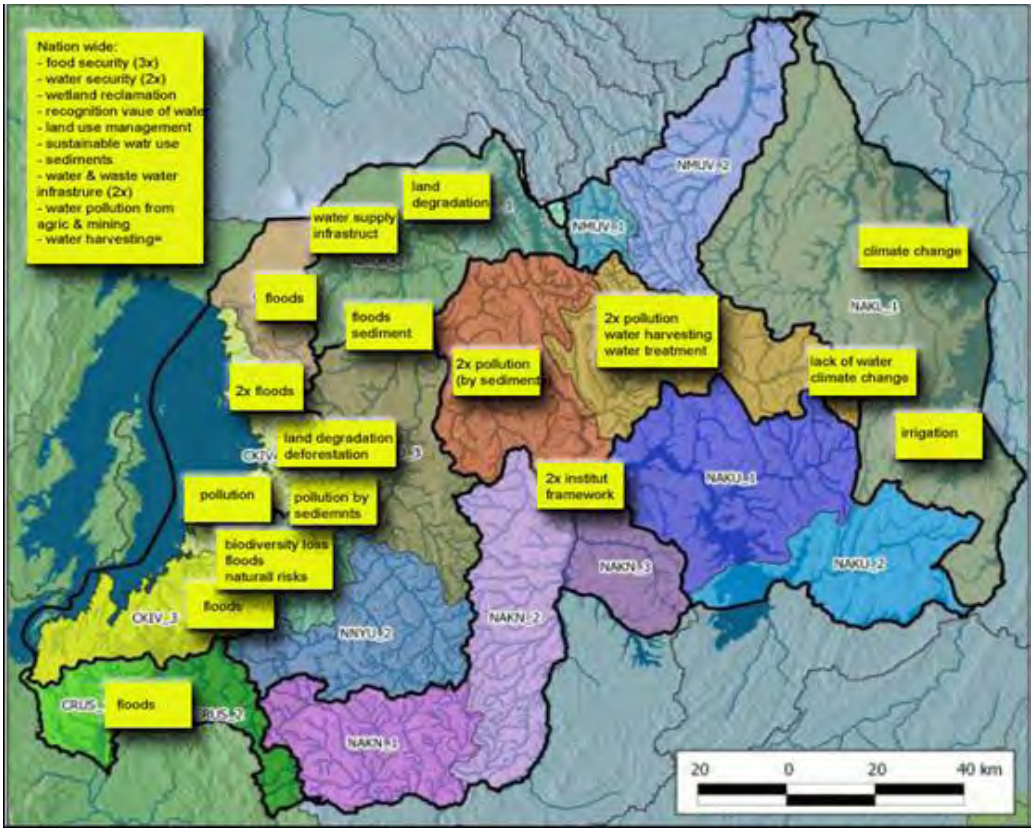
Day 1- Setting the context for IWRM - Identifying services & issues

After introductory presentations and plenary discussions on IWRM, on ecosystem services, and on Strategic Environmental Assessment, a list was made of main services en water issues in Rwanda.

Water issues & priorities	
Total pollution (including 5x sediments	15
floods	7
Institutional framework	6
Recognition of value of water	6
Waste water treatment (sewage)	6
water supply infrastructure	6
Land degradation / deforestation	5
Irrigation needs	2
Loss of biodiversity (uncertainty about)	2
Natural risks / climate change	2
Wetland reclamation	2

According to the participants, main water related services in Rwanda include biodiversity, food production, transport, domestic use, sanitation, mining (process water), hydropower, recreation, water storage, industry, construction, fisheries, climate regulation.

Using coloured stickers on issues, participants were asked to indicate priorities that would require urgent attention (see table). Also, participants were asked to note two main issues on post-its and to try and localise these issues based on a map with catchment areas (see map below).



Roles within IWRM

Working in pairs, the participants discussed each other's roles within IWRM. It became clear that all participants have a formal role to play within IWRM, which makes good cooperation essential for the implementation of IWRM. For example: data *collection* takes place at various organisations, while data *sharing* is at present not organised.

Day 2 – Ways forward

During the second day, 3 parallel working groups took place based on the 3 main issues identified by the EKN for their support programme: monitoring, institutional/capacity development, and catchment planning. Each group was led by a representative of the RWRD and one of the NCEA. Participants were able to chose themselves which workshop to join.

Working group 1 – Monitoring

Various discussions within this group lead to the following main conclusions:

- Monitoring tools are partly available but in different institutions
- The tools are not enough (not enough models, manpower, limited parameters eg sediment)
- There is no central monitoring
- There is a water thematic working group (it would be good to enforce this group, elaborate/extend this group and define technical issues to be solved)
- We share information with water department (SEWA, EWASA, MINAGRI…ect..)
- What is needed? Models (surface, ground and flood), manpower, implementation, capacity building

Working group 2 – Institutional framework

During the first day it was stated that while Rwanda is making progress in developing the institutional framework for IWRM, it is not yet operational. This became the focus of discussions in this group: what is the current situation, what would be required?

At central level:

- staffing is becoming available but needs practical experience;
- staff needs more tools and practical skills – learning by doing (knowledge transfer);
- not all actors are aware of role and responsibilities (central & decentralised level) – statutory versus community needs;
- information packaging for (inter)national actors.

At decentralised level:

- capacity and staffing issues;
- define composition of management structure based on catchment characteristics.

The group discussed furthermore:

- how to marry the proposed management structure (following catchment boundaries) with the water law (administrative/district boundaries)?
- to gather information on not directly water related issues and combine these (deforestation, erosion, etc.);
- existing and upcoming monitoring framework;
- transboundary issues, for now: focus on information rather then process.

Working group 3 – Catchment choice and approach

Using the map produced on the first day, group 3 discussed more in-depth issues per catchment (see the table 1 below for results). Subsequently, the working group was asked which catchment the EKN ought to start working in, if it would decide to start in selected catchments. The group selected CKIV as most important, followed by NMUK. CKIV knows a lot of industrial activity, flooding problems and transboundary problems with DRC It consists of around 7 districts. There are no other big IWRM projects; the USAID project is in south and east of the country.

The group concluded by discussing how to start with IWRM at catchment level? What kind bottom up approaches would be possible?

- first of all we analyse the exact priorities per catchment;
- district level is most important; they have joint action forum which coordinates all stakeholders in development. Effective IWRM requires integration in district action plans;
- at lower levels IWRM it concerns the cells, sectors and then district. It needs to be clarified who is really in charge: the chef de village; water user associations? These are farmers mainly;
- what are going to be the biggest challenges during implementation of the water law?
    - the managers of the water user associations do not have sufficient capacity; lack of management skills;
    - data collection and data management;
    - mismatch between administrative units and catchments; so there is a coordination issue.
- multi stakeholder forums are present but at district level. Would be better to organise that on catchment level; a sort of catchment JAF (joint action forum);
- Nile/Kivu catchment: Gishwati has a district overarching task force to improve coordination between districts. Could be an interesting example.

Workshop closing

The overall workshop concluded with presentations of the working groups' results. The following observations were made:

- more evidence for catchment selection is required. The criteria used might not be complete. The criteria can be subdivided into economic, social and ecological, and can include pragmatic reasons as well;
- management aspects need to be properly addressed also from the perspective of those three categories of criteria;
- two discussions: should we go for a sub-catchment or should we go for the two main basins (Nile/Congo)?

Catchment	Flooding	Waste water	Pollution	sedimentation	Irrigation	Industry, economic activity
NAKL NAKU	-	-	+ Fertiliser goes from east to the west	+	+	Mining is there (Colomba, Tantalite,casterite)
NNYL	+	++ no treatment	++ Urban drainage (domestic) and industrial pollution	+	+ rice irrigation	Food processing Same mining activities (also gold) Some coffee, rice
NAKN NNYU (Poorest in the country)	+	- besides the cities no real issue	+ Coffee	+ erosion	++ rice	Coffee Rice
CKIV CRUS	++	++ Tea factories Cement factories Domestic waste water (Kamembe and Bukavu refugee camps)	++ See to the left	+ erosion	++ rice	+ Rice Mining Coffee
CKIV (densely populated)	++++ (people deceased)	-	+ Agriculture Tea and coffee	++ Carstic rock system	+ hill side rain fed irrigation	++++ Mining Irish potato Beverage industry Fishing
NMUK (lava region)	+	-	+ Fertiliser	- However there is erosion	-	+ Mining Cement production Potato, tea, organic pesticide
NMUV 1	Water scarcity instead of flooding	-	-	-	-	+ Livestock, rice

Table1: issues per catchment, + and - indicating importance of issue

APPENDIX 7

List of available information

Date	Nr	Format	Title	By
Embassy's plans & related information				
2011		PDF	Multi Annual Strategic Plan 2012 – 2015	EKN Kigali
2011		Excel	Annex 2: Monitoring Framework and Result Chains (Including Nr 4: Water Resources Management)	EKN Kigali
May 2012		Word	Memo Sustainability Advice on the priority sector Water in Rwanda	DME/MW
May 2012		Word	Annex 1: Sustainability Assessment (SA) of the Multi-Annual Strategic Plan (MASP) for Rwanda – Water sector, based on Sustainability assessment Framework	Wiert Wiertsema (Both Ends) and the SA Working Group
Aug 2011		PDF	The Rwanda Water Scan.	Van 't Klooster, Smet and Kente on behalf of EKN
Jul 2012 Sep 2012		Word	Notes of two NCEA visits to Rwanda	NCEA, Gwen van Boven
Apr 2012		PDF	Terms of Reference for Consultancy Services: Technical Assistance to the Integrated Water Resources Management Sub-Sector of Rwanda	EKN Kigali / Clarissa Mulders
Oct 2012		PDF	ToR Scoping Phase for SEA for the development of a IWRM program Rwanda	EKN Kigali
Nov 2012		Word	SEA Information overview	EKN Kigali/Koen van Swam
		Word	Terms of Reference for the development of national water resources masterplan	EKN Kigali
Information related to IWRM in Rwanda				
Oct 2012		Word	Organisational Review and Five-Year Staffing Plan for the Integrated Water Resources Management Department of the Rwanda Natural Resources Authority (Final report)	Rwanda Integrated Water Security Program (RIWSP), Centre for Resource Analysis Limited, Charles Twesigye-Bakwatsa
Sep 2008		PDF	Law No. 62/2008 of 10/09/2008 (water resource regulations ~ water law)	MINIJUS
Dec 2011		PDF	Water resources management Sub-sector strategic plan (2011 – 2015)	MINIRENA
Dec 2011		PDF	National Policy for Water Resources Management	MINIRENA
Apr 2012		Word	Capacity Situation Analysis and Capacity Development Needs Assessment of Integrated Water Resources Management Sub-sector in Rwanda (draft final report)	Rwanda Integrated Water Security Program (RIWSP), Centre for Resource Analysis Limited, Charles Twesigye-Bakwatsa
May 2012		PDF	Capacity Situation Analysis and Capacity Development Needs Assessment of Integrated	Rwanda Integrated Water Security Program (RIWSP),

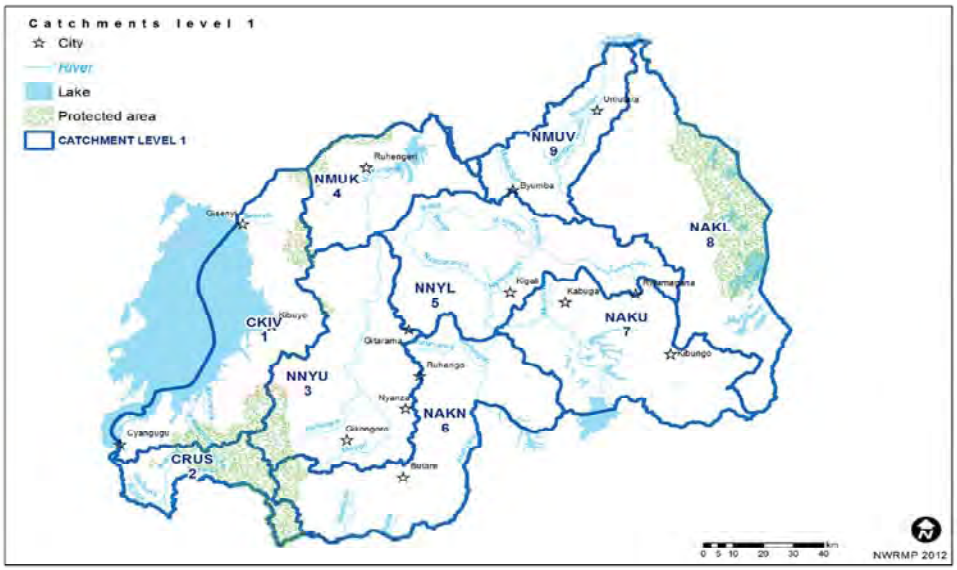
			Water Resources Management Sub-sector in Rwanda (Final report)	Centre for Resource Analysis Limited, Charles Twesigye-Bakwatsa
Oct 2012		PDF	Consultancy services for development of Rwanda national water resources master plan (Progress report -1)	SHER Ingénieurs-Conseils s.a.
Jun 2012		PDF	Consultancy services for development of Rwanda national water resources master plan (Inception report)	SHER Ingénieurs-Conseils s.a.
Aug 2006		PDF	Bill N°…….. of ……. on fixing rules of use, conservation, protection and management of water resources	Government of Rwanda
2012			RIWSP Review of the National Hydrological Service in Rwanda	UNESCO-IHE, Venneker and Wenninger
May 2009		PDF	Demystifying Integrated Water Resources Management (pres at IMAWESA Stakeholder Consultation Meeting Kigali)	*IMAWESA* / Prof. Bancy M. Mati
Jul 2008		PDF	Report training workshop on concepts and principles of integrated water resources management (IWRM)	KIST
2012			Restructuring Paper on a proposed project restructuring of the Lake Victoria environmental Management Project II	World Bank
May 2011		PDF	Integrated water resources management and Impact at the community level in Rwanda	Stephanie Ogden in Water Resources Impact
Nov 2011		PDF	Integrated Water Resources Management in Rwanda (Presentation at IWW Amsterdam)	Dr J.J. Mbonigaba Muhinda & Fred Smiet
Feb 2010		PDF	National Policy & Strategy For Water Supply and Sanitation Services	Government of Rwanda, Ministry of Infrastructure
Oct 2012		PDF	Countrywide water supply status and projects to increase access to at least 70%	Government of Rwanda
Aug 2012		Word	Strategic plan for water resources management 2013/14 – 2017/18	MINIRENA
Apr 2012		Word	Implementing Rwanda Water Policy	GWP Rwanda
Background information Rwanda				
Apr 2005		PDF	Loi organique n°04/2005 du 8 avril 2005 Rwanda Protection, sauvegarde et promotion de l'environnement	MINIJUS
Nov 2008		Word	N° 003/2008 of 15/11/2008 Ministerial Order relating to the requirements and procedure for environmental impact assessment	MINIJUS
		PDF	Environment and Climate Change Analysis for Rwanda	Sida Helpdesk for Environmental Economics
Apr 2011		PDF	Mission to Integrate Environment & Climate Change in the Indicative Cooperation Programme between Belgium and Rwanda (2011-2014)	Jean Hugé for KLIMOS

			Report & Recommendations	
Jul 2012		PDF	Environment and Climate Change Fund (FONERWA) Design Project	Government of Rwanda
2006			Applying Strategic Environmental Assessment. Good Practice Guidance for Development Co-Operation	OECD
2009		PDF	Bi- Annual report	Government of Rwanda
2008		PDF	Community development policy (Government of Rwanda)	Ministry of Local Government of Rwanda
Nov 2012		PDF	Strategic Plan for the Transformation of Agriculture in Rwanda – Phase III (Preliminary draft)	Government of Rwanda, via EKN Kigali/Koen van Swam
May 2010		PDF	Environment sub-sector strategic plan 2010 – 2015	REMA
		PDF	National Environment Policy	Government of Rwanda
Feb 2012		PDF	Rwanda's National Energy Policy and Strategy	Government of Rwanda
Feb 2004		PDF	National Land Policy	Government of Rwanda
Jan 2011		PDF	National Social Protection Strategy	MINALOC
2009		PDF	Rwanda Vision 2020	Government of Rwanda
Aug 2012		Word	Five-year plan for the environment and natural resources sector – 2013/14 – 2017/18 (Final draft)	MINIRENA
Sep 2012		Word	Five year strategic plac for the environment and natural resources sector – 2013 – 2018 (Final version)	MINIRENA
Information on SEA, examples of methodologies and presentations				
Mar 2009			Integrated Water Resources Management and Strategic Environmental Assessment – Joining forces for climate proofing	NCEA, R. Slootweg
Dec 2011			Advice on ToR for SEA Vivir con el Agua (Bolivia)	NCEA
			SEA Training Manual Ghana	EPA Ghana
2012			SEA Better Practice Guide	Maria do Rosário Partidário

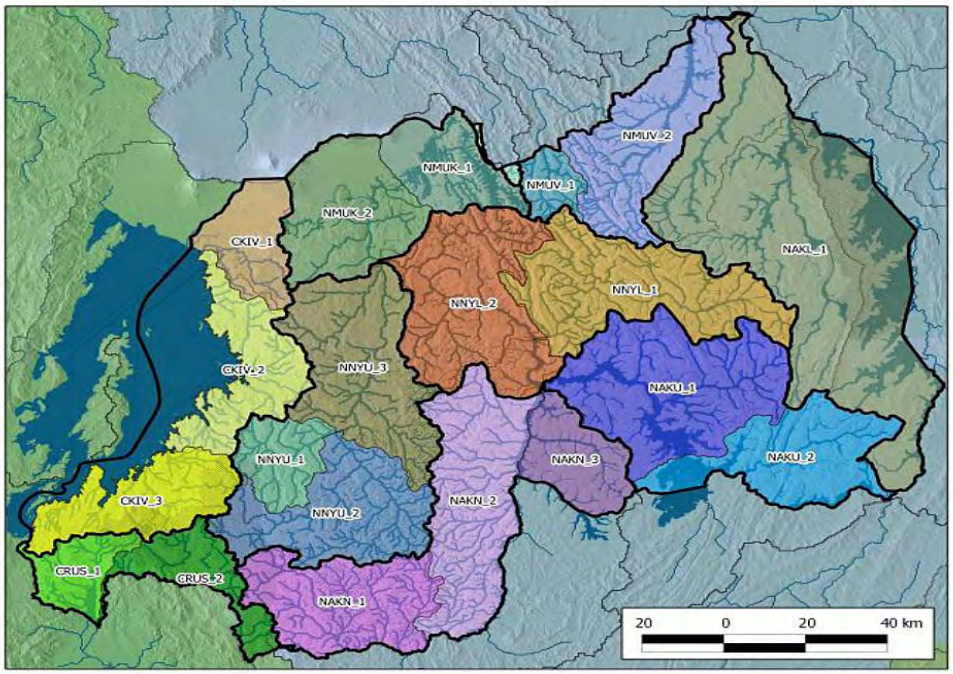
APPENDIX 8

Map with proposed catchments

The maps below illustrate catchment Levels 1 and 2, as proposed by the Master Plan development team in their latest progress report[1]:



Catchments Level 1



Catchments Level 2

[1] *Consultancy services for development of Rwanda national water resources master plan (Progress report -1), SHER Ingénieurs-Conseils s.a., October 2012*

APPENDIX 9

10 steps for SEA

International best practice suggests the following sequence of steps which help guide each SEA, allowing for enough room to tailor its design to the specific programme, plan or policy, as well as context and circumstances.

The NCEA uses these steps as guidance, a checklist, and not as a fixed framework for SEA. Depending on the specific characteristics of an SEA, some steps may be skipped, others may be repeated, or they may be followed in a different order or at the same time.
Particularly in cases where questions remain regarding the planning process, such as in the SEAs for the EKN's IWRM support programme (see section 5.1) and the proposed SEAs for catchment plans (5.3), these steps are very helpful and provide structure where that may be lacking in the planning process. When that process is much clearer, such as in the case for the Master Plan, the ToR for the SEA can be much more detailed and tailored to the situation. In such a case, the ten steps have less added value.

Within the contact of this report, the NCEA used these steps to structure the ToR in 5.1 and in 5.3as well:

Screening

1. Reach consensus on the need for SEA and its link to planning
2. Find stakeholders and announce start of the plan process

Scoping

3. Develop a shared vision on problems/objectives/alternatives
4. Do a consistency analysis: new versus existing objectives
5. Set ToR for the technical assessment, based on scoping results

Assessment

6. Assess the impacts of alternatives and document this
7. Organise (independent) quality assurance of documentation

Decision making

8. Discuss with all stakeholders the alternative to prefer
9. Motivate the (political) decision in writing

Monitoring

10. Monitor the implementation and discuss the results

Derived from: OECD-DAC Good Practice Guidance in Applying SEA in Development Co-operation