WACDEP / GWP Capacity Development in Africa 2013-2015

'Economics of Adaptation, Water Security and Climate Resilient Development in Africa'

DETAILED ASSESSMENT OF THE LEARNING NEEDS IN RWANDA



By

Drs. Eng. Omar MUNYANEZA

GWP/WACDEP Capacity Development Programme

National Training Coordinator

Final report **November, 2013**

ACKNOWLEDGEMENT

This report is part of the Global Water Partnership (GWP) and its partners to operationalize the Water, Climate and Development Programme (WACDEP). This programme is a decision of the African Ministers' Council on Water (AMCOW). The author acknowledges the contributions of Mr. Armand HOUANYE, Capacity Development Manager, based in GWP/ WACDEP Coordination Unit in Pretoria South Africa, for providing the used methodology which was developed by Food and Agricultural Organization (FAO) Capacity Development Team and for and facilitation on testing learning material workshop organized in Kigali by 26-28th September 2013.

The author would also like to extend his sincere thanks to Dr. Klas Sandström, Team-Leader of the Capacity Development Programme for his technical support and facilitation on testing learning material workshop. The Author would like to express his thanks to Mr. Patrick Safari, Coordinator of GWPEA/WACDEP and Mr. Kidanemariam Jembere, Manager of GWPEA/WACDEP, who accepted to provide relevant information/documents that exist at the Country level regarding to WACDEP Programme and organizing different WACDEP workshops where the author presented the progress of both rapid and detailed assessment reports and got inputs/comments from stakeholders. Thanks to Mr. Dismas Karuranga, AMCOW Focal Point and staff in the Ministry of Natural Resources (MINIRENA), who accepted to provide relevant information/documents that exist at the Country level regarding to this study. His valuable information and suggestions for the identification of relevant stakeholders and potential documents are appreciated. Many thanks goes to the Rwanda Environment Management Authority (REMA) through Ms. Immaculée Uwimana, staff in charge of climate change mitigation, for documents provided and her acceptance for interview on capacity Development needs in Rwanda.

Finally, the author would also like to thank all stakeholders who accepted to be interviewed or to discuss with the author for better conducting this research on detailed assessment on capacity learning needs. Among them, we acknowledge Mr. Kabalisa Vincent de Paul, Deputy Director General/IWRM from Rwanda Natural Resources Authority (RNRA), Eng. Christine Uzayisenga, Agricultural Engineer from Rwanda Agriculture Board (RAB), Mss. Umpfasoni Liliose, Director of Environment and Rwanda Water Partnership Chairperson from the Ministry of Natural Resources (MINIRENA) and Mr. Namugize Jean Nepomuscene, Lecturer from Integrated Polytechnic Regional Center of Kigali (IPRC) Technical College. Your all contribution is acknowledged and made this report successful.

Last but not least, the author would like to thank Mr. Rwemarika Jean Baptiste, National WACDEP Manager for his welcoming in the programme and putting the author in a good environment for working with WACDEP National Team. His inputs in the development of this report are recognized as well.

Drs. Eng. Omar Munyaneza
Author

EXECUTIVE SUMMARY

In November 2010, during the 3rd Africa Water Week, the African Ministers' Council on Water (AMCOW) adopted a decision recommending the Global Water Partnership (GWP) and partners to operationalize the Water, Climate and Development Programme (WACDEP). The programme supports the implementation of climate change commitments in the Sharm el Sheikh Declaration. The goal of the WACDEP is to promote water as a key part of sustainable regional and national development and contribute to climate change adaptation for economic growth and human security. The overall objective is to support integration of water security and climate resilience in development planning and decision making processes, through enhanced technical and institutional capacity and predictable financing and investments in water security and climate change adaptation. The WACDEP supports implementation of AMCOW's work programme. The WACDEP is being implemented in eight countries: Cameroon, Ghana, Burkina Faso, Mozambique, Zimbabwe, Burundi, Rwanda and Tunisia; and five transboundary basins: Volta Basin, Lake Chad, Lake Victoria-Kagera, Limpopo Basin and the North Western Sahara Aquifer System. It will run until 2016. The WACDEP includes four components as follows: i) Investments in regional and national development, ii) innovative Green Solutions, iii) knowledge and capacity development and iv) Partnership and Sustainability. To achieve these, the National Training Coordinator (NTC) worked closely together with the National and Regional Teams and also collaborated with institutions in charge of climate change, water resources management such as Rwanda Environment Management Authority (REMA) and Rwanda Natural Resources Authority (RNRA) as well as all stakeholders.

Through the Capacity Development Programme, under the WACDEP in Africa 2013-2016, a rapid assessment of capacity development needs was conducted from 25th April to 3rd May 2013 by the National Training Coordinator (NTC) in Rwanda. Based on the outputs of this report, the First Meeting of the National Training Coordinators linked to the WACDEP-Capacity Development Programme in Africa was conducted and held in Nairobi, Kenya from 19 to 20 June 2013. After this important meeting, a detailed assessment of capacity development needs was conducted from 24th June to 15th August 2013 by the National Training Coordinator (NTC) in Rwanda, who is the author of this report. The overall objective of the detailed assessment of capacity development needs is to make a comprehensive assessment of water security and climate resilience development issues that have a direct impact on the design and implementation of the WACDEP-Capacity Development Programme, and to develop the Capacity Development Plan. A detailed assessment of capacity learning needs was first conducted using the methodology adapted to the national context which was produced and provided to the National Training Coordinator-Rwanda as developed by Food and Agricultural Organization (FAO) Capacity Development Team. The methods used in this research are based on short working group, short consultative meetings, and document review. The results show that in Rwanda, the detailed assessment of the learning needs on water security and climate change resilience for various stakeholders in water and climate change sectors showed that there are gaps in knowledge and skills. Hence, a list of learning needs was identified. Taking into account the importance of this capacity development programme, the 3 potential Capacity Development team members (CDTeam) to overcome those needs were identified such Prof. Dr. Eng. Umaru Garba Wali, Dr. Alfred Bizoza and Drs. Birasa Nyamulinda (see Table 7).

These three potential people will deliver all the prepared Learning material after attending the Training of Trainers to be held at Addis Ababa-Ethiopia by 25-29th Nov 2013. In this detailed assessment, the potential Participants were also identified after the nomination from their Institutions authorities. 5 participants –are called in this report ‘‘Strategic Decision Makers’’ and 12 Participants are called “Planners” (see selected Participants in Table 8). The Capacity development plan and related costs which are required for phase 7 activities in Rwanda were prepared and the whole estimated budget excluding the budget for in-between activities (mentorship) is around 38,963 USD (see Table 6).

Table of Contents

Acronyms and Abbreviations

AAP	Africa Adaptation Programme
ABAKIR	Autorité du Bassin du lac Kivu et Rusizi
AfDB	African Development Bank
AMCOW	African Ministers' Council on Water
ARCOS	Albertine Rift Conservation Society
CARE	Cooperative for Assistance and Relief Everywhere
CEPGL	Communauté Economique des Pays des Grands Lacs
CDD	Community-driven Development
CDKN	Climate and Development Knowledge Network
CSOs	Civil Society Organizations
DEMP	Decentralization and Environment Management Programme
EAC	East Africa Community
EDPRS	Economic Development and Poverty Reduction Strategy
EKN	Embassy of Kingdom of the Netherlands
EWSA	Energy, Water and Sanitation Authority
FAO	Food and Agricultural Organization of the UN
FONERWA	National climate change and environment fund
GEF	Global Environment Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoR	Government of Rwanda
GWP	Global Water Partnership
IFAD	International Fund for Agricultural Development
IPRC	Integrated Polytechnic Regional Center of Kigali
IRST	Research Institute of Science and Technology
ISAE	Higher Institute of Agriculture and Animal Husbandry
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
KIST	Kigali Institute of Science and Technology
LVBC	Lake Victoria Basin Commission
LVEMP	Lake Victoria Environmental Management Project
MIGEPROF	Rwanda Ministry of Family and Gender Promotion
MINAFFET	Ministry of Foreign Affairs and Cooperation
MINAGRI	Rwanda Ministry of Agriculture, Animal Resources
MINALOC	Rwanda Ministry of Local Government
MINECOFIN	Ministry of Finance, Planning and Economic Development
MINEDUC	Rwanda Ministry of Education
MINICOM	Rwanda Ministry of Trade and Industry
MININFRA	Rwanda Ministry of Infrastructure
MINIRENA	Rwanda Ministry of Natural Resources
MINISANTE	Rwanda Ministry of Health
MTEF	Medium Term Expenditure Framework
NAPA	National Adaptation Programmes of Action to climate change

NBCBN	Nile Basin Capacity Building
NBDF	Nile Basin Discourse Forum in Rwanda
NBI	Nile Basin Initiative
NELSAP-CU	Nile Equatorial Lakes Subsidiary Action Programme Coordination Unit
NGOs	Non Governmental Organizations
NTC	National Training Coordinator
NUR	National University of Rwanda
RBS	Rwanda Bureau of Standards
RDB	Rwanda Development Board
REMA	Rwanda Environment Management Authority
RENGOF	Rwanda Environnemental NGOs Forum
RIWSP	Rwanda Integrated Water Security Programme
RNRA	Rwanda Natural Resources Authority
RURA	Rwanda Utilities Regulatory Agency
SIDA	Swedish International Development Agency
SWAp	Sector-Wide Approach
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Science and Culture Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Organization
USAID	United States Agency for International Development
WACDEP	Water, Climate and Development Programme
WCS	Wildlife Conservation Society
WFP	World Food Program
WREM	Water Resources and Environmental Management
WRM	Water Resources Management
WWF	World Wildlife Fund

1. INTRODUCTION

1.1. National context

Human resources and institutional capacity constraints constitute major limiting factors to the water resources management and climate resilience sectors. These constraints include poor institutional capacity development, lack of data and information management skills which limit efficient planning and policy formulation, hence leading to ineffective implementation of activities related to water resources management and climate change adaptation (MIFOTRA, 2007; 2013). Surveys done through the water security and climate change resilience sectors during a rapid assessment have revealed significant gaps of knowledge, particularly in water resources management, hydro-meteorological data collection and processing, climate change adaptation scenarios building, natural resources economic, vulnerability assessment, policy development and project management among others. Nevertheless, some efforts were made to address the problem. In this context we can highlight:

- Training sessions (in-house, regional and international training courses) organized in order to build the capacity in climate change and natural resources management for public, NGOs and private sectors. Most of these training are being organized through bilateral or international partnership or environmental agreements;
- Establishment of Public Sector Capacity Building Secretariat (in 2009), which arranges some professional training courses, masters and PhD programmes abroad for civil servants, although the number of people who attend such kind of training course or programmes is still limited due to the country's financial constraints;
- Introduction of water resources and environmental management programme into the universities' curricula as well as into the national research agenda.

However, the conceptual issue of capacity development remains a very important challenge in water and climate change sectors, this leads to the limited interpretation of what capacity development really entails in those areas, therefore hindering the impact of interventions. This calls for a paradigm shift in the way capacity development is approached. The country needs to adopt a systematic approach to address all the aspects of capacity of individuals, institutions and systems for water security management and climate change resilience.

1.2. WACDEP Capacity Development Programme

As it was highlighted in the above sections, the government's efforts include among others the participation to regional and international capacity development partnerships to develop human and institutional capacities. It is in this line that the Government of Rwanda has started the implementation of Water, Climate and Development Programme (WACDEP). WACDEP supports implementation of AMCOW's work program. It is being implemented in eight countries: Cameroon, Ghana, Burkina Faso, Mozambique, Zimbabwe, Burundi, Rwanda and Tunisia; and five transboundary river basins: Volta Basin, Lake Chad, Lake Victoria-Kagera, Limpopo Basin; and one shared aquifer: the North Western Sahara Aquifer System. It will run until 2016.

The goal of WACDEP is to promote water as a key of sustainable regional and national development and contribute to climate change adaptation for economic growth and human security. The overall objective is to support integration of water security and climate resilience in development planning and decision making processes, through enhanced technical and institutional capacity and predictable financing and investments in water security and climate change adaptation.

WACDEP Capacity Development Programme was designed to support capacity development of institutions and stakeholders to develop no/regret investments and integrate water security and climate resilience in development plans, the Climate and Development knowledge Network (CDKN) was assigned to engage a consultant to undertake a capacity development programme. Following competitive tendering, the Swedish consultancy firm NIRAS Natura AB in cooperation with the Stochholm International Institute (SIWI), the British firm Acclimatize, and the Swedish Meteorological and Hydrological Institute (SMHI) was contracted to implement the program. Funding for the programme is provided by the UK Department for International Development (DFID). The work will be embedded in GWP and WACDEP regional and country management teams as established following the methodology proposed in the African Union and AMCOW Framework for Water Security and Climate Resilience Development. The activities of the capacity development programme are organized in 8 phases as summarized in Table 1:

Table 1. Summary of WACDEP Capacity Development activities

No	Activity	Period of implementation
1	Programme management	2012-2016
2	Inception	March, 2013
3	Learning material development	May-June-July, 2013
4	Capacity Development Team mobilization	January-March, 2013
5	Regional and Country Assessments and Plans	April-May and May-July, 2013
6	Production and Access to learning materials	September, 2013
7	Delivery of Capacity Development	November, 2013-December, 2014
8	Summary and reflections	December, 2014

2. METHODOLOGY

The detailed assessment of the capacity needs was conducted by the WACDEP CD National Training Coordinator, in close collaboration with WACDEP National and Regional Teams. The methods involved in this process were adopted from the methodology that was developed by FAO Capacity Development Team. The choice of a specific method was done depending on the nature of each activity or step but also based on the objective to be achieved at the end of each step.

The first step to conduct a detailed assessment was the dissemination of the rapid assessment final report among different stakeholders, who have participated in the elaboration of the rapid assessment report (see attached list of stakeholders (Annexes 1 and 2) that were consulted during this assessment). This dissemination was done in order to receive the comments which helped to elaborate the detailed assessment report. The stakeholders were contacted through the mails and where it was possible, the WACDEP Regional Coordinator has organized consultation meetings in which the WACDEP CD National Training Coordinator presented the draft report to some groups and got direct feedback from them.

Following the guidance from the WACDEP regional and national coordination and the recommendations from stakeholders, the WACDEP National Training Coordinator elaborated a long list of people to be interviewed in order obtaining comprehensive information especially from Civil Society and NGOs which are now actively involved in activities related to water security and climate change adaptation at national and regional levels. Depending on the availability of those stakeholders, some of them were interviewed through the telephone calls or Skype calls while others were consulted in their offices using direct interview method.

In the third step, the WACDEP CD National Training Coordinator, in collaboration with WACDEP National and Regional Teams disseminated application forms of Capacity Development Team members (CDTeam) by sending mail list and posting notice on billboards located at the side of roads. The application documents were sent by e-mail to the WACDEP CD National Training Coordinator (NTC) with a copy to the GWP/WACDEP Program Manager and NIRAS Program Team Leader. Following the reception of the applications, the CVs, application forms and other relevant documents were assessed to identify the suitable candidates for Capacity Development Team (CDTeam) members (see a list of selected candidates for capacity development team in Table 7). In the meeting organized by WACDEP National and Regional Teams, stakeholders agreed on the list of potential Participants which is presented in this report (see Sect. 3.5) and the GWP Eastern Africa requested the selected institutions to nominate potential participants. The nominated suitable candidates as Strategic Decision Makers and Planners are presented in Table 8.

In the fourth step, the information collected during the previous steps, was analyzed and synthesized to make a detailed report on capacity development needs for water security and climate change adaptation. A detailed capacity development plan was done based on information collected on cost estimates and other key resources required for the implementation of the training plan;

In the last step, the WACDEP CD National Training Coordinator had to finalize the full report on the detailed assessment and then send it to the WCDEP National and Regional Teams, organize short group working with the WACDEP national team and then send to WACDP Regional coordination and NIRAS. As it has been done since the beginning of this project, the communication between the Coordination team and Country coordinator was done by mail. Table 2 gives the summary of the methodology used during this assessment:

Table.2. Summary of the methodology used during detailed assessment

Activity & Method	Purpose	Period	Observation
Dissemination of the rapid assessment report for comment by using mailing list and Powerpoint presentation during meetings for Kigali-Rwanda and Kirundo-Burundi	To collect some suggestions regarding the detailed assessment based on the rapid assessment report and the required needs linked to other WACDEP activities	25th May to 25th June 2013	The WACDEP CD National Training Coordinator was advised to reach more stakeholders especially from NGOs and Civil Society
Key person Interviews through the telephone and Skype calls, meeting with short discussion; Document review	-To identify other actors, donors, internal organizations, university institutions and more – also involved and potentially contributing somehow or to be coordinated with; -To review major challenges and on-going/ planned processes in terms of water security and climate change in each Country/ Region/ transboundary basin or shared aquifer level -To determine options to strengthen water security and climate resilience development based on the identified needs	25th June to 25th July 2013	Many people were very interested to work with the WACDEP
Sending, through WACDEP National and Regional Teams, letters with official meetings with WACDEP's key actors (Government ministries and departments, other national or regional organizations) Dissemination of application forms of CDTeam by mails and posting notice on billboards; CV and relevant document review	To identify CDTeams members by 1st August 2013.	1st July – 1st Aug 2013	NTC was satisfied by the results of the combining different methods of communication.
Selection of potential Participants during the meeting of Kirundo-Burundi Dissemination of application forms of Participants and invitation letters by sending official letters to each selected organization to nominate candidate;	To identify suitable candidates Participants (Strategic Decision Makers and Planners) by 25th July 2013	25th July 2013	NTC and CDManager were satisfied by the results of the consultation meeting

Activity & Method	Purpose	Period	Observation
CV and relevant document review			
Analysis and synthesis; Writing of the report and the capacity development plans;	-To estimate costs and other key resources (materials, equipment) required for the implementation of the Training Plan in the Country; - To write the capacity development plan	25th June to 1st Aug 2013	
Dissemination of the report in using mailing list for inputs/comments Short working group	To make the findings validated by the WACDEP National and Regional Teams, WACDEP-Coordination Unit and NIRAS	1st -15th Aug 2013	

3. COUNTRY AND REGIONAL ASSESSMENT

3.1. Country and regional contexts

3.1.1 Water security, Climate change adaptation, and the future

Climate change has become a serious threat to the water resources. Many Sub-Saharan Africa countries are experiencing either water stress (less than 1,700m^3 per capita per annum) or water scarcity (less than 1,000m^3 per capita per annum) or both. With climatic factors such as rainfall variability combined with increasing water demand, food insecurity remains endemic throughout much of Africa. It was observed that the poverty and food insecurity in most cases are linked to low agricultural productivity aggravated by climate change and variability (IPCC, 2007; Ngigi, 2009).

In the Nile Basin countries, climate change is seen as a cross-cutting factor impacting their socio-economic livelihoods mainly agriculture, food security, hydro-energy production, water quantity and quality among others. One common characteristic of these countries is unpredictable seasons; persistent droughts, torrential rains followed by destructive floods and population exodus for water. Trends of change in seasons, drought, floods, landslide escalations and cases of receding water levels for the lakes Victoria, Albert, Kyoga, Masinga Dam and lake Turkana demonstrate the existing linkages between climate change and water insecurity in Eastern African region.

In Rwanda, rainfall is the main source of water for production but it's unevenly distributed in time and space, with about half of rainfall occurring in one quarter of the year. The western part of the country receives an average of 1200 mm/year, while the eastern part receives less than 1000 mm/year. With decreasing amounts of rainfall and increasing temperature, the hydrology regime of wetlands is being threatened and water quantity being reduced. Prolonged droughts lead to high pressure on water resources, causing reduced river discharges and decline of base level for rivers and lakes and drying up of springs. For that reason, Rwanda is still now considered as a water-scarce country; its per capita fresh water availability of less than 1000m^3 is about a quarter of Africa's average of 4000m^3. Climate change impacts on water supply can be explained in two ways: i) on one hand dry spells affect national water treatment plants operation by reducing water discharges at the intake, hence causing drinking water shortages in cities and in some rural areas connected to the distribution network; and ii) on the other hand, torrential rainfall occasioning floods and landslides affect water siltation and destruction of drinking water infrastructure (MINIRENA, 2012).
It is predicted that due to dependence on natural ecosystem such as rain-fed agriculture along side, low adaptive mechanisms such as capacity gaps, "by 2015, around 480 million of people in Africa will face either water scarcity or stress due to climate change (GWP, 2013).

The predicted impacts of climate change must be introduced into development planning, including land-use planning, natural resources management, infrastructure design and measures to reduce vulnerability in disaster reduction strategies. Based on anticipated climate change and impacts on water resources in Africa, IPCC (2001) identified four necessary adaptive strategies. These are:

i) *Adaptive measures*; which enhance flexibility and result in net benefits in water resources. These include irrigation and water reuse, agriculture change, technology, forestry among others;
ii) *Risk sharing*; a risk sharing approach between countries such as disaster management, risk communication, cooperative water resources management, etc;
iii) *Enhancement of adaptive capacity*; local empowerment is essential in decision-making in order to incorporate climate adaptation within broader sustainable development strategies;
iv) *Diversification*; to minimize sensitivity to climate change, African economies should be more diversified, and agricultural technology should optimize water usage through efficient irrigation and crop development.

Adaptation to climate change in Rwanda

The majority of the Rwandan population relies on rain fed agriculture for their livelihoods, and the impacts of variability in climate patterns are already being felt. There are thus opportunities for improved food security, water availability and livelihoods if programmes to assist with adapting to climate change are implemented. Rwanda is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and to the Kyoto Protocol. In the framework of implementation of the convention but also in order to reduce the damage from disasters arising from the impacts of climate change, Rwanda has identified the following six priority areas for adaptation to climate change (REMA, 2009):

- Integrated Water Resource Management (IWRM);
- Setting up an information system for early warning of hydrological and agro-meteorological systems and rapid intervention mechanisms;
- Promotion of intensive agro-pastoral activities;
- Promotion of non agricultural income generating activities;
- Introduction of species resistant to extreme conditions;
- Development of alternative sources of energy to firewood.

As conclusion, Climate plays a central role in agriculture which is the main stay of the Rwandan economy and community livelihood. However, due to anthropological activities, climate change is becoming a reality. Climate-related events like heavy rainfall or too little rainfall are becoming more frequent and are impacting on human wellbeing. These culminate into disasters like torrential rains drought, torrential rains, floods, and landslides.

Prediction and early warning information and products are vital to the management, risk reduction and mitigation of disasters. Awareness-raising is important so that people know how to reduce risk and harm caused by the various disasters or other precautionary and mitigation measures. Capacity Development is a cross-cutting to address the above challenges.

However, the Rwanda Meteorological Service does not have enough capacity to deliver sufficient data, information and advisories due to the lack of sufficient qualified personnel, inadequate observing station network and sufficient data processing equipment. The government is working on programmes to enable adaptation to some of the impacts of climate change. At the same time it has set up mechanisms to reduce vulnerability to disasters. It should soon be in position to monitor and issue forecasts well in advance for adequate preparation and handling of disasters (REMA, 2009).

In order to improve on prediction and early detection of extreme meteorological and hydrological events, and of climate variability and change, proper understanding of the processes that control global weather and climate systems is required (REMA, 2009). These processes include weather prediction research at all time scales, modelling and downscaling capacity, especially the potential to improve the prediction of climate variability or change at local level to be factored into disaster management and disaster risk reduction.

3.1.2 Policies and strategies

The government of Rwanda (GoR) recognizes the importance of water resources for the improvement of the living conditions of its population. In the same way, the GoR recognizes the climate change as a threat to water resources security. In this context, tremendous efforts have been made to launch national policies and strategies for the management of water resources and environment, and addressing climate change effects and build resilience against destructive effects: A National Policy for Environment was adopted in 2003. This gives the guidance on the efficient use of water resources, land use management, and management and utilization of other natural resources. Following this, a National Policy for Water Resources Management was developed in 2004 and reviewed later in 2012. The National Water Resources Master Plan is also in process and probably will be ready this year as its progress report was presented by 16th May 2013 at Hotel Le Printemps, where by the author of this report was participated. Also, a good number of strategies and visions as well as strategic plans were developed to promote water resources management and build climate resilience in country. The most important are the following:

i) The vision 2020

This constitutes the main development roadmap for Rwanda since 2000. Important elements of the vision 2020 with the implication for Integrated Water Resources Management (IWRM) are:

- ***Agricultural transformation:*** by vision 2020, the GoR is committed to reduce dependency on agriculture through jobs diversification. This will certainly reduce the pressure on water resources, given that agriculture accounts for 70% of the total water use at national level.
- ***Developing the human resources and pursue a knowledge-based economy*****:** Water Resources Management (WRM) is constrained in terms of human resource capacities and knowledge base. The strategic shift from agriculture and natural resources-dependant sectors to a knowledge economy may reduce the pressure on water resources but associated developments will increase water use in other sectors e.g. industry, fishing etc.

- ***Private sector-led development*:** a private sector-driven economic growth path implies that the Government will divest from service provision to more strategic areas like watershed rehabilitation, water resources monitoring and regulation and low carbon technologies.
- ***Regional and international integration*:** Rwanda's commitment to regional integration and international cooperation are important prerequisites to equitable and sustainable WRM as well as very important to be able to address climate change adaptation and mitigation issues.

ii) The 7-Year Government Plan (2010-2017)

Under this plan, the GoR has identified 231 priority activities to transform the country. Those with particular implications for WRM are:

- Climate change management;
- Establishing a national fund for environmental protection;
- Rehabilitating critically degraded ecosystems and watersheds;
- Mainstreaming environmental conservation, protection into all development activities;
- Consolidating decentralized governance and participatory service delivery; and
- Promoting regional integration.

iii) The EDPRS I (2007-2012)

This strategy has four priorities all of which underpin IWRM:

- ***Increase economic growth*** by investing in infrastructure; promoting skills development and the

  Service; mainstreaming Private Sector development, improving land administration, enhancing

  sustainable land use management practices.
- ***Slow down population growth*** by reducing infant mortality; family planning and education outreach programmes. Population growth is of particular concern for sustainable WRM;
- ***Tackle extreme poverty*** through improved food security and targeted schemes of job creation and social protection;
- ***Ensure greater efficiency in poverty reduction*** through better policy implementation which includes enhanced coordination among sectors and between levels of government; sharper prioritization of activities; better targeting of services for the poor; widespread mobilization of the Private Sector; and effective monitoring and evaluation.

Water is significant to the realization of all the four priorities. It is a vital input in the realization of priorities (1) and (3); while the realization of priority (2), will improve WRM, as population growth is a challenge to sustainable WRM. By promoting stakeholder participation, equity and social inclusion, IWRM will contribute to attainment of priority (4). This strategy will translate the EDPRS targets for WRM, notably sustainable WRM by building institutional capacity at national and trans-boundary levels, establishing local sub-basin committees and Local Water Associations (LWAs), starting with Nyabarongo and Muvumba Basins; and implementing IWRM&D and Master plans for surface and groundwater resources.

iv) Water Resources Management Sub-Sector Strategic Plan (2011 – 2015)

The GoR has defined six outcomes and 39 outputs, to reach the water resources policy objectives. These include:

An effective framework for water resources governance: the key outputs under this outcome will include:

- An institutional structure for WRM;
- A Water Resources Management and Development Master Plan;
- Water catchment and sub-catchment management plans and structures;
- Harmonized water related sector policies and plans;
- Public-private partnership strategies for WRM;
- Sustainable financing modalities for WRM;
- Communication strategy and framework for active stakeholder participation

Cost-effective water resources assessment and monitoring system in place and operational with the following outputs**:**

- Updated hydrological database and water resources information system;
- Water quantity and quality status reports regularly published;
- Water quality standards established, communicated and enforced;
- Strategy for assessment, exploitation and monitoring of geothermal resources developed; and
- A mechanism for effective control of point and non-point source pollution in/along water resources;

Critical watersheds and catchments are rehabilitated and basic ecological functions restored

To realize this outcome;

- Critical watersheds, catchments and sub-catchments will be mapped and their ecological functioning analyzed;
- Micro-catchment; catchment level management rehabilitation plans developed and implemented;
- Wetlands will be technically and economically valued; and a national programme for their conservation and management implemented; and invasive species in aquatic ecosystems will be controlled and monitored

Efficient and equitable water allocation and utilization framework**:** Under this outcome,

- Sectoral plans for water demand and utilization will be formulated and implemented;
- Catchment-based Water Allocation Master plan reflecting rights and obligations of water users developed and implemented;
- A comprehensive strategy for promoting water use efficiency will be developed;
- A key target in water conservation and efficient use will be, to ensure that all institutions and at least 50% of households have rainwater harvesting facilities;

An effective framework for water-related disaster management, climate change mitigation and adaptation in place and implemented*;*

Changes in water availability, quality and water-related disasters (drought, floods, epidemics, destructive rains, etc) are some of the key indicators of climate change. Five strategic outputs will be achieved, all relating to planning, capacity building and information generation and preparedness.

Basic Capacities installed and effective framework for sustained WRM capacity development and knowledge management developed: Under this outcome,

- Climate change resilience and vulnerability status will be established and regularly updated;
- Early warning systems on extreme weather conditions; National Water Balance and Water Security Plan in place and implemented;
- Operational safety plans for water ways and water infrastructure installations; and effective National Disaster Management Plan that reflects and prioritizes water-related disasters in place and implemented.

Knowledge management is a special priority for Rwanda. Considering that, National decisions cannot be made without reliable information and capacity to utilize the knowledge appropriately. Support to research, documentation and information exchange will be key outputs.
Improving the hydrological infrastructure network, to ensure that reliable water data is regularly collected and analyzed, is another key output.

V) Green Growth and Climate Resilience Strategy

Through the national strategy for climate change, the GoR is committed to achieve Sustainable Land Use and Water Resource Management that results in Food Security, appropriate Urban Development and preservation of Biodiversity and Ecosystem Services. For this purpose, a program of actions on integrated water resources management and planning was defined to achieve the strategic objectives. The proposed actions include:

- Establish a national integrated water resource management framework that incorporates district and community-based catchment management;
- Develop water resource models, improved meteorological services, water quality testing, and improved hydro-related information management; and
- Develop a National Water Security Plan to employ water storage and harvesting, water conservation practices, efficient irrigation, and other water efficient technologies.

VI) EDPRSII (2013-2018)

The Government of Rwanda recognizes that achieving economic growth in Rwanda will require the wise use of natural resources and ensuring that climate change resilience is built into economic planning. The priority areas for environment and climate change as cross cutting issues in the EDPRS II are:

- Mainstreaming environmental sustainability into productive and social sectors;
- Reducing vulnerability to climate change; and
- Preventing and controlling pollution. Key sectors expected to deliver on these include agriculture, energy, environment and natural resources, infrastructure, health, private sector and financial sector.

3.1.3 Human, financial and information resources

Climate change and water security are relatively new areas for Rwandans and currently, the existing technical capacity in these two fields of work is fairly limited among staff. Few staff from ministries working on climate change related issues such as agriculture, livestock, water and environment are knowledgeable and skilled in climate change, especially regarding the impacts of climate change on water security and ways of adapting to the current changes. Also, a small number of staff in the department of climate change (hosted in Rwanda Environment Management Authority) has been trained on climate change adaptation in water sector, agriculture sector, etc. But this is insufficient for the whole country; there is need to increase a number of people who will help in the implementation of WRM policy and climate change strategy. Few universities and research institutions are dealing with water related issues but the climate change issues in not well developed in their curricula. Those Universities/research institutions are: National University of Rwanda (NUR) whereby Masters Programme in Water Resources and Environmental Management is available since 2005 and only around 42 students were graduated as water resources managers and environment professionals; Kigali Institute of Science and Technology (KIST) where BSc programme in Water and Environmental Engineering has been started earlier and only two batches were graduated; Higher Institute of Agriculture and Animal Husbandry (ISAE-Busogo) which is dealing with irrigation and drainage systems; Research Institute of Science and Technology (IRST) which is also doing research on water and environment issues. From these institutions, few researchers/Lecturers were trained in the domain related to water security and climate resilience development. Therefore, raising awareness on water security and climate resilience through training workshops on adaptation, information dissemination using media, ICT tools and other means is key strategy to be developed and implemented.

For the financial issue, the GoR has expressed commitment to prioritize water resources management and climate change issues. Firstly, a sum of money is potentially available through the medium term expenditure framework (MTEF) commitment. Although, it was difficult to get the figure during this assessment due to the cross-cutting nature of water and climate change and the time allocated to this assessment and the availability of staff in the Ministry of Finance and Economic Planning. Secondly, a number of development partners, notably Dutch Embassy in Rwanda, Swedish International Development Agency (SIDA), United States Agency for International Development (USAID), the European Union, United Nations Children's Fund (UNICEF), United Nations Development Programme (UNDP), the African Development Bank (AfDB), World Bank, and Japan International Cooperation Agency (JICA), International Fund for Agricultural Development (IFAD), the Food and Agricultural Organization of the UN (FAO), and the German Development Cooperation (GIZ), United Nations Environment Programme (UNEP), Global Environment Facility (GEF), Global Adaptation Fund, UK Department for International Development (DFID) among others, have expressed interest in supporting Rwanda's WRM and climate change programmes, in more ways. All these development partners are currently supporting large scale water-related infrastructure programmes, ecosystems rehabilitation, institutional capacity development, and trans-boundary water cooperation as well as climate adaptation programmes.

The most important achievement in the sector of finance was the establishment and operationalization of National Climate Change and Environment Fund (FONERWA). FONERWA will be the primary mechanism through which Rwanda accesses, disburses and monitors international and national extra-budgetary climate change and environment finance. Funds will be distributed to Government, private sector, civil society and communities to implement a range of projects. There are other initiatives which are committed to finance researches carried out in the field of water and climate change issues include Nile Basin Capacity Building (NBCBN) and United Nations Educational, Science and Culture Organization (UNESCO).

The main sources of information on water security and climate change adaptation/resilience are the websites of the ministries and institutions, published reports and gazettes for laws, workshops, seminars, interviews, conference and questionnaires as well as newspapers. These can inform people about the challenges in the sectors, current status of environmental management, on-going activities or programmes, among others.

3.2 Country and regional actors

3.2.1 Legal framework

There is a growing pressure on water resources as a result of rapidly changing demographic patterns, intensified socio-economic development, inappropriate land use practice and the uncertainties created by climate change to name others. At the same time, Rwanda needs to increase water supply for the key economic sectors (agriculture, industry, tourism, etc) to achieve its long term development vision and plans. To meet the above challenges requires a sound policy and legal framework supported by robust institutions.

Following the adoption of water law N°62/2008, the Government of Rwanda (GoR) promulgated the law No 53/2010 establishing the Rwanda Natural Resources Authority (RNRA) under the Ministry of Natural Resources (MINIRENA) to coordinate water resources management. With the promulgation of this law, there is potential to achieve a coordinated approach to water resources management, in line with the Integrated Water Resources Management (IWRM) concept, which will involve bringing together under its umbrella several existing autonomous institutions. In the same period, the government has also adopted significant institutional reforms, which have substantially changed the context for managing water resources. These include the separation of the institutional arrangements for water resources management from those for provision of water services, the decentralization of responsibilities for rural services, the planned establishment of an autonomous agency for the management of natural resources, and the emerging Sector-Wide Approach (SWAp) for planning.

3.2.2 Institutional set-up, mandates, roles and responsibilities

Climate change and water resources management are cross-cutting issues. Rwanda's climate change and environment sub-sector is governed under a complex institutional framework. The institutions involved in this sector can be categorized into policy and oversight institutions, management and implementation institutions, service provision institutions and regulatory institutions according to the way in which their mandates were defined by laws (see Tables 3 and 4 summary of mandates, roles and responsibilities of different institutions in regard to water and climate change). This is very important governance aspect because it helps to avoid conflicts between one institution and another. Instead, it brings about coherence for successful implementation. Moreover, to implement water resources management and climate resilience development requires an institutional arrangement that allows transparent and effective flow of information, knowledge and financial resources. After political and institutional frameworks for IWRM and climate change were put in place, the GoR has adopted the Sector Wide Approach (SWAp) to achieve an integrated planning though it's quite in the beginning. Also a big number of local and international NGOs and CSOs are working for water security and climate change adaptation programmes to supplement the government efforts. These include Rwanda Environmental NGOs Forum (RENGOF), ARCOS, WCS, CARE International, WaterAid, Winrock International, World Vision, World Wildlife Fund (WWF), World Relief Rwanda, and Water for People, Nile Basin Initiative (NBI), Nile Basin Capacity Building Network (NBCBN) and Nile Basin Discourse Forum in Rwanda (NBDF), and many others.

Table 3. Institutional framework for water resources management

Institution	Function and responsibilities related to WRM
	Policy and oversight institutions
Ministry of Natural Resources (MINIRENA): Department of Environment and Department of Planning, Monitoring and Evaluation.	Formulation of Water resources management policy, strategic planning, coordination, quality assurance, monitoring, evaluation and capacity building. Put in place legal and regulatory framework.
Ministry of Local Government (MINALOC): Directorate of Planning, Monitoring and Evaluation and Directorate of Territorial Administration and governance.	Establishment, development and facilitation of the management of efficient and effective decentralized government systems capable of law enforcement and delivery of required services to the local communities.
Ministry of Agriculture and Animal Resources (MINAGRI): Directorate of Strategic Planning and Programmes Coordination, Task force for Irrigation and Mechanization.	Development, planning and coordination of the implementation of agricultural development policy in the country including irrigation, fishery and livestock as well as watershed management.
Ministry of Infrastructure (MININFRA) : Department of Policy and Planning	Development of institutional and legal frameworks, national policies, strategies and master plans relating to water supply and sanitation, energy and transport sub-sectors.
Ministry of Health (MINISANTE): Maternal and Child Health Unit	Policy formulation and promotion of hygiene and public health
Ministry of Family and Gender Promotion (MIGEPROF): Department of Gender policy Development Unit	Coordination of gender, promotion and mainstreaming and family planning activities.
Ministry of Education (MINEDUC) : Directorate General of Education Planning and Directorate General of Science, Technology and Research.	Promotion of education including/capacity building and curricula development relating to water sciences and research on water resources management in schools and other educational institutions.
Ministry of Trade and Industry (MINICOM): Department of Planning, Monitoring and Evaluation, Industry and Trade Departments.	Policy formulation and promotion of investments by the private sector in water resources management**/**industries and manufacturing.
Ministry of Foreign Affairs and Cooperation (MINAFFET): Diplomatic Advisory, Policy and Strategic Planning, Coordination and Monitoring and Bilateral & Multilateral Affairs Units	Foreign and diplomatic relations including regional and international cooperation over shared waters.
	Financing Institutions
Ministry of Finance, Planning and Economic Development (MINECOFIN): National Development Planning & Research and National Budget Directorates	Mobilization and allocation of financial resources for water resources development.
Ministry of East African Community (MINEAC): Economic, Infrastructure and Productive Sector Unit	Coordination of the implementation of EAC water resources management programmes/activities in Rwanda
Development partners such as USAID, Europian Union, UNICEF, UNDP, AfDB, CEPGL, ABAKIR, WB, JICA, IFAD, FAO, NBCBN and UNESCO	Provision and mobilization of financial and technical resources for implementing water resources management and development sector activities.

Institution	Function and responsibilities related to WRM
	Regulatory Institutions
Rwanda Environment Management Authority (REMA)	Develop regulations and ensure protection and conservation of the Environment and natural resources across the Country.
Rwanda Agriculture Board (RAB)	Conduct research activities on water resources management
Rwanda Utilities Regulatory Agency (RURA)	Enforcement of compliance by public utilities with the laws governing their activities.
Rwanda Bureau of Standards (RBS)	Provision of standards based solutions for Consumer Protection and Trade promotion for socio-economic growth in a safe and stable environment.
Rwanda Natural Resources Authority (RNRA)	Autonomous agency responsible for management of natural resources including water resources management and allocation.
	Implementing/Service institutions
Energy, Water and Sanitation Authority (EWSA)	Autonomous agency responsible for the delivery of water supply and sewerage services in the major towns and large urban centers including provision of oversight and support services to the local communities and other water supply service providers.
Rwanda Development Board (RDB)	Facilitation of investment and support services to investors.
Districts	Implementation of the government policies and laws
Private Sector	Design, construction, operation and maintenance of water resources management infrastructure. Conduct training and capacity building for both central and local government staff. Provision of other commercial services.
Non Governmental Organizations (NGOs)	Supplement the public sector efforts in water resource management and development.

Table 4. Institutional framework for climate change adaptation

Institution	Function and responsibilities related to Climate Change
	Policy and oversight institutions
Ministry of Natural Resources (MINIRENA): Department of Environment and Department of Planning, Monitoring and Evaluation	Formulation of climate change policy, strategic planning. Put in place legal and regulatory framework. Develop local adaptation plans of action as well as develop a common UNFCCC negotiation position with EAC, LDC and Africa group
Ministry of Local Government (MINALOC): Directorate of Planning, Monitoring and Evaluation and Directorate of Territorial Administration and governance	Contribution to climate-related strategy and policy development. Facilitation of the establishment of Early warning systems and establishment of the efficient and effective decentralized government systems capable of law enforcement and mainstreaming climate change at community level.

Institution	Function and responsibilities related to Climate Change
Ministry of Agriculture, Animal Resources (MINAGRI): Directorate of Strategic Planning and Programmes Coordination, Task force for Irrigation and Mechanization.	Development, planning and coordination of the implementation of sustainable land use and water resources practices such as irrigation, fishery and livestock.
Ministry of Infrastructure (MININFRA) : Department of Policy and Planning.	Development of institutional and legal frameworks, national policies, strategies and master plans relating to national meteorological services
Ministry of Health (MINISANTE) : Maternal and Child Health Unit.	Policy formulation and promotion of climate change adaptation
Ministry of Education (MINEDUC) : Directorate General of Education Planning and Directorate General of Science, Technology and Research.	Contribution to the climate change research strategy and policy development, Promotion of education including/capacity building and curricula development relating to climate change adaptation
Ministry of Trade and Industry (MINICOM): Department of Planning, Monitoring and Evaluation, Industry and Trade Departments	Policy formulation and promotion of investments by the private sector in the area of climate change projects
Ministry of Foreign Affairs And Cooperation (MINAFFET): Diplomatic Advisory, Policy and Strategic Planning, Coordination and Monitoring and Bilateral & Multilateral Affairs Units.	Foreign and diplomatic relations including regional and international cooperation for environment and climate change
The Ministry of Disaster Management and Refugee Affairs (MIDIMAR): Strategic Planning Unit, Disaster Management and Program Coordination Unit, Research and Public awareness Unit	Deals with climate change disaster preparedness, responses and recovery
	Financing Institutions
Ministry of Finance, Planning and Economic Development (MINECOFIN): National Development Planning & Research and National Budget Directorates	Mobilization and allocation of financial resources for climate change adaptation and mitigation.
Ministry of East African Community (MINEAC): Economic, Infrastructure and Productive Sector Unit	Coordination of the implementation of EAC climate change programmes/activities in Rwanda
National climate change and environment fund (FONERWA)	Fund mobilization and disbursement for climate change projects
Development partners such as European Union, UNDP, UNEP, WB, JICA, GIZ, GEF, DFId, Global Adaptation Fund and Dutch Embassy in Rwanda.	Provision and mobilization of financial and technical resources for implementing climate change programmes
	Implementing/Service institutions
Rwanda Environment Management Authority (REMA)	Coordinate the preparation and implementation of policy, strategy and regulatory frameworks and instruments towards mitigation and adaptation of the country on climate change. Conduct capacity building for climate change adaptation and mitigation; Responsible for research and technology studies on climate change; Coordination of the implementation of UNFCCC and Kyoto protocol;

Institution	Function and responsibilities related to Climate Change
	Responsible for development of guidelines for mainstreaming climate change issues into development plans.
Rwanda Natural Resources Authority (RNRA)	Autonomous agency responsible for the implementation of water resources and climate change adaptation programmes
Rwanda Development Board (RDB)	Facilitation of investment and support services to investors.
Districts	Implementation of the government policies and laws
Private Sector	Implementation of climate change projects
Non Governmental Organizations (NGOs)	Supplement the public sector efforts in water resource management and development.

3.3 Challenges and capacity development needs

Financial constraints and human resources issues are the most important challenges faced by water resources and climate change sectors. Lack of skills and gaps in knowledge of water resources management practices, and climate change related issues could be the reason why the country is being much vulnerable to water insecurity and climate change disasters, as most of stakeholders highlighted.

Regarding the capacity development needs, it was suggested that in order to fill the current gaps and enhance the institutional and human resources capacities, trainings are required in the following areas:

- Integrated water resources management (water storage and harvesting, water conservation practices, efficient irrigation, and other water efficient technologies);
- Fresh water resources assessment and monitoring
- Climate change science and climate change adaptation and mitigation;
- Climate change finance;
- Vulnerability assessment ;
- Project management;
- Disaster prediction, mainstreaming and response modeling with respect to water and weather-related disasters
- Policy analysis, planning, monitoring and evaluation;
- Hydrological modeling techniques;
- hydro-meteorological data collection, processing, analysis, storage and sharing;
- Water laws and regulations;
- Water economics;
- International cooperation
- Transboundary water management
- Information management and communication;
- Social, environmental governance and gender related aspects of water and climate change.

3.4 List of potential Capacity Development Team members

Two criteria have been used to select potentials people who can be involved in capacity development activities in Rwanda. The first criterion refers to the level of educational qualification and the main fields of study. The second criterion was the personal experience in regard to the lecturing or giving training to different target groups, and the experience related to water resources management and climate change adaptation. The details information on each applicant, were obtained through the analysis of the application forms and the CVs submitted to the National Training Coordinator with copy to WACDEP CD Team Leader and Manager. This process was fully managed by the National Training Coordination in collaboration with the GWP/WACDEP national and Regional Teams. Table 5 gives details on the activity of selection and Table 7 shows of selected potential CDTeam members based on criteria proposed by NIRAS:

Table 5. List of potential Capacity Development Team members

No	Names	Qualification	Experience related to:				Observation
			Lecturing/ training	Water resources management	economics of water, and investments	Climate change adaptation	
1	GASHUGI Elisé	Msc in Environmental Sciences	Good	Not significant	Not significant	None	Not Potential
2	KASANZIKI Charles	MSc in Water Resources and Environmental Management	Good	Good	Not significant	Not significant	Potential
3	KENTE SANDRA Liliane	MSc of science in Sanitary Engineering	Good	Good	Good	Not significant	Potential
4	KWIRINGIRIMANA Théophile	BSc in Rural Development and Agribusiness	Not significant	None	Not significant	Not significant	Not potential
5	MUNYANEZA George	MSc in Integrated Urban Engineering	None	Not significant	Not significant	Not significant	Not potential
6	MUREKATETE SINYORITA Emmanuela	Msc in Environmental Sciences	None	Not significant	Not significant	none	Not potential
8	Dr. Alfred R. BIZOZA	PhD Degree in Agricultural Development Economics	Very strong	Good	Very Strong	Very Good	Potential
9	NAHIMANA André	BSc in Physical Geography	Not significant	Good	Not significant	Not significant	Not potential
10	NAMUGIZE Jean Népomuscene	MSc in Water Resources and Environmental Management	Good	Good	Not significant	Not significant	Potential
11	NDAYISABA Cyprien	Msc in Environmental Sciences & Technology	Not significant	Not significant	Not significant	Good	Not potential
12	NGOMBWA Achille	MSc in Water Resources and Environmental Management	None	Very Good	Not significant	Good	potential
13	NIYONZIMAN Philbert	MSc in Water Resources and Environmental Management	None	Good	Not significant	Not significant	Not potential
14	Birasa Nyamulinda	PhD Fellow in Agricultural Economics and Masters in Applied Economics	Very strong	Good	Very Strong	Very Good	Potential
15	NKUSI Alfred	Msc in Geo-Information and Earth Observation for Natural Resources	Not significant	Not significant	Not significant	Strong	Not potential

No	Names	Qualification	Experience related to:				Observation
			Lecturing/ training	Water resources management	economics of water, and investments	Climate change adaptation	
		Management					
16	NSABIMANA Radjab	Master's of Arts, Development studies	Not significant	Very Good	Not significant	None	Not potential
17	NSHIMIYIMANA Jackson	MSc in Water Resources and Environmental Management	None	Not significant	Not significant	None	Not potential
18	NSHUTI Rugerinyange	Doctor of Business and Administration	None	Good	Very Good	Good	Potential
19	TETERO Francois	MSc in Water Resources and Environmental Management	Good	Strong	Not significant	Good	Potential
20	UWIMANA Immaculée	MSc in Water Resources and Environmental Management	Strong	Good	Not significant	Strong	Potential
21	UWONKUNDA Bruce	MSc in Water Resources and Environmental Management	None	Good	Not significant	Not significant	Not potential
22	WALI Umaru Garba	PhD in Hydraulics and Engineering Hydrology	Very strong	Very Good	Good	Good	Potential

3.5 List of potential participants

The process of identification of Participants was based on their individual qualities, organizational affiliation and the needs of that particular organization as well as on the capacity development needs in country. As recommended from Nairobi Workshop, the selected participants were of two types: Planners and Strategic Decision Makers. Planners are individuals that today are involved on daily basis in on-going planning activities that link water security and climate change resilience development. These people are expected to be trained on different topics related to water security and climate change adaptation during 14 months. Strategic Decision Makers were selected based to their positions as decision makers within the same organizations as the planners are coming from. Following is a list of potential participants/institutions identified to the training and the criteria of their selection should be read in Section 4.7. The list of potential participants/institutions was identified by stakeholders who attended a meeting of Kirundo-Burundi by 25-26 July 2013 (see the list of stakeholders in Annex 3):

- Ministry of Natural Resources (MINIRENA)
- Rwanda Natural Resources Authority (RNRA)
- Ministry of Finance and Economic Planning (MINECOFIN)
- Rwanda Environment Management Authority (REMA)
- Ministry of Infrastructure (MININFRA)
- Ministry of Agriculture and Animal Resources (MINAGRI)
- Ministry of Local Government (MINALOC)
- Rwanda Agriculture Board (RAB)
- Energy, Water and Sanitation Authority (EWSA)
- Rwanda Meteorological Service
- AMCOW Focal point
- Bugesera District
- Kamabuye Sector.

4. COUNTRY AND REGIONAL ASSESSMENT AND PLAN

4.1 National and regional context

In April, 2013, GWP/WACDEP launched regional assessments to analyse the issues that have direct impact on the design and implementation of the capacity development programme in water security and climate resilience development in 8 countries of Africa. According to the work-plan, from April to May, 2013 countries conducted a rapid assessment, and from May to July, 2013, it was the time for conducting detailed assessment which was extended up to 15th August 2015. At country level, the contracted WACDEP CD National Training Coordinators were requested to work in close cooperation with WACDEP National and Regional teams in order to provide relevant information that will help in phase 7 of this programme (regarding to training itself). The methodologies used during both assessments were provided by WACDEP CD Coordination Unit. The main tasks for detailed assessment were the following:

- Review national and regional contexts;
- Identify key institutional actors per sectors, their roles, responsibilities and activities;
- Review on-going or planned processes and drivers that will shape each key sector;
- Identify potential members of the CDTeams and programme participants;
- Outline WACDEP's programme in each country and region and where the capacity development programme can add on to or complement already existing or planned programmes or initiatives linked to water security and climate resilience development;
- Review the status of the current knowledge about water security and climate adaptation procedures in government ministries and other institutions being potential home organizations to the participants;
- Assess the learning needs that exist as linked to water security and climate resilience planning;
- Identify those institutions that already have or could be convinced to introduce individual development plans for their professional staff, and what opportunities that exist for the capacity development programme to feed into these plans for its participation; and
- Estimate and budget the total expenses required for phase 7 activities in Rwanda.

In regard to the phase of delivery of the capacity development, there will be six workshops (with one related to testing of Learning material) and in-between activities (mentorship). The table 6 shows details on capacity development plan for Rwanda as well as the related costs.

Table 6. Capacity development plan and related costs required for phase 7 activities in Rwanda

Activities	Objectives	Participants	Period	Number of people	Place	Budget/USD
1. Learning Material (LM) Testing Workshop	To review all pedagogic tools and thematic issues, and test them in actual training sessions; To test if it adequately reflects the Framework approach, and if not, identify any missing issues; To assess that CDTeam members are able to lecture the material, and if not, what refinements that are needed to make in order to address this inadequacy.	8 Participants from elsewhere not East-Africa (e.g. WACDEP CD TL and Manager) 17 people from Uganda and Rwanda (East Africa) (e.g. NTC, CDTeam)	26-28 Sept 2013 for 4 days	25	Kigali	**9,774**
2. Workshop1 : Setting the scene and understanding the problem	To provide an initial overview and sensitization of the framework, present the case for investing in water security for climate resilient development and start exploring some of the methods available to understand vulnerability and climate impacts	NTC, CDTeam members, planners and Decision makers	Nov 2013 for 4 days	20	Kigali	**6,855**
3. Workshop 2: Identifying and appraising solutions	To help participants to develop a balanced portfolio of investment options that enhance water security for climate resilient growth and development, to prioritize no/low regret options and to make a case clear economic for investment	NTC, CDTeam members, planners and Decision makers	Jan 2014 for 4 days	20	Kigali	**6,855**
4. Workshop 3:	To highlight to participants the financing strategies for the portfolio	NTC, CDTeam members,	Mar 2014 for 4 days	20	Kigali	**6,855**

Delivering solutions	of initial no/low regret investment identified at workshop 2 and in intervening period, explain how these can be integrated into existing development planning processes	planners and Decision makers				
5. Workshop 4: Monitoring and moving forwards and introductio n to the framework	To highlight the importance of an effective M& E framework in assessing the value that applying the framework has added, and provide feedback for future iterations and applications, amongst participating Strategic Decision Makers, the content and value of the Framework.	All planners and Decision makers (but at different period)	May 2014 Planners for 2 days, Strategic Decision Makers 1 day	20	Kigali	**3,975**
6. On-the-job training activities	To help planners to apply theoretical knowledge in their work	CDTeam members and planners		20	On ground	
7. Workshop 5: Wrap up, lessons learned	Wrap up the training programme; review activities, outcomes, actual learning taking place etc.	All planners and Decision makers (but at different period, then overlap)	Sept 2014 Strategic Decision Makers 2,5 days and Planners 2 days	25	Kigali	**4,645**
Total estimated Budget						**38,963**

DETAIL BUDGET ESTIMATION FOR ALL WORKSHOPS

Testing Learning Material Workshop

ITEM	NUMBER OF PEOPLE	UNIT COST/USD	NUMBER OF DAYS	TOTAL/USD
Lunch, coffee breaks and water	25	27	3	2,025
Sound system		75	3	225
Projector		78	3	234
Allowances for 20 Rwandan participants with 9 from outside Kigali	9	220	3	5,940
	11	40	3	1,320
TOTAL				**9,774**

WORKSHOP 1

ITEM	NUMBER OF PEOPLE	UNIT COST/USD	NUMBER OF DAYS	TOTAL/USD
Lunch, coffee breaks and water	20	27	4	2160
Sound system		75	4	300
Projector		78	4	312
Allowances for Rwanda participants	3	220	4	2640
	9	40	4	1440
TOTAL				**6855**

WORKSHOP 2

ITEM	NUMBER OF PEOPLE	UNIT COST/USD	NUMBER OF DAYS	TOTAL/USD
Lunch, coffee breaks and water	20	27	4	2160
Sound system		75	4	300
Projector		78	4	312
Allowances for Rwanda participants	3	220	4	2640
	9	40	4	1440
TOTAL				**6855**

WORKSHOP 3

ITEM	NUMBER OF PEOPLE	UNIT COST/USD	NUMBER OF DAYS	TOTAL/USD
Lunch, coffee breaks and water	20	27	4	2160
Sound system		75	4	300
Projector		78	4	312
Allowances for Rwanda participants	3	220	4	2640
	9	40	4	1440
TOTAL				**6855**

WORKSHOP 4

ITEM	NUMBER OF PEOPLE	UNIT COST/USD	NUMBER OF DAYS	TOTAL/USD
Lunch, coffee breaks and water	20	27	2	1080
	10	27	1	270
Sound system		**75**	**2**	**150**
Projector		78	3	234
Allowances for Rwanda participants	3 (planners)	220	2	1320
	9 (planners) + 5 (Decision Makers)	40	2 +1	920
TOTAL				**3975**

WORKSHOP 5

ITEM	NUMBER OF PEOPLE	UNIT COST/USD	NUMBER OF DAYS	TOTAL/USD
Lunch, coffee breaks and water	25	27	2	1350
	10	27	1	270
Sound system		**75**	**2**	**150**
Projector		78	3	234
Allowances for Rwanda participants	3 (planners)	220	2	1320
	5 and (14)	40	2 +1	1320
TOTAL				**4645**

GRAND TOTAL FOR SIX WORKSHOP = 38,963 USD

Note : X Rate of 12 August 2012 = 1 USD= 668 Rwf

4.2 Key actors, institutional arrangements, mandates and roles

Different institutions have been involved in this exercise, starting with rapid assessment and then contributing to the detailed assessment. These include water resources and climate change policy makers, management and oversight institutions, and implementation institutions, and service provision institution. **Policy makers and oversight institutions**

These are the institutions in charge of development of policies and strategies for water resources and climate change as well as the supervision of their implementation. The represented institutions in this category were the Ministry of Natural Resources (MINIRENA), Rwanda Natural Resources (RNRA) and Rwanda Environmental Management (REMA);

i) Implementing institutions

Among the implementing institutions that were involved in these assessments are public, private and civil society organizations. These include Rwanda Agricultural Board (RAB), Integrated Polytechnic Regional Center, Local Government represented by Bugesera District, the Ministry of Agriculture and Animal Resources (MINAGRI), Ministry of Infrastructure (MININFRA), WACDEP Project Management Team, Rwanda WACDEP Team, private sector and Civil Society represented by local cooperative from Bugesera District;

ii) Service provision institutions

The represented institutions in this category were Rwanda Meteorological Authority (RMA) and Energy Water and Sanitation Authority (EWSA).

All these institutions are expected to participate in the implementation of WACDEP Capacity Development by providing trainers/mentors as well as planners and strategic decision makers who will be trained on water security and climate change resilience.

4.3 Learning needs of national and key actors

The lack of human and institution capacities is the major challenge to the water security and climate resilient programmes. The detailed assessment revealed the existence of gaps in knowledge and skills for water security management and climate resilient development in Rwanda. There is a need to strengthen the capacities of stakeholders who are being involved in different activities related to the water and climate change sectors. The proposed learning needs can be grouped into three areas as follows:

i) Water and climate governance

Specific learning needs here include policy, strategy, and institutional development, Stakeholder analysis and participation, decision making and international cooperation.

ii) Integrated Water Resources Management (IWRM) and Climate change

The learning needs in this area include water resources management, climate change vulnerability and impact assessments, water and agriculture infrastructure, climate change scenarios building and implications, transboundary water management

iii) Project development and management

Capacity needs for project development and management include skills for project preparation, financing and investment strategies, planning skills, natural resources economics, monitoring and evaluation.

4.4 On-going processes linked to the WACDEP or not and proposed synergies with the training Programme

The Capacity Development Programme for water security and climate resilient development is very linked to a number of initiatives aiming at promoting water resources management and climate resilience in Rwanda. Following is a list of identified water and climate related initiatives or projects that were considered to be the most relevant to this capacity development programme:

i) GWP/WACDEP initiative

This refers to the Akanyaru transboundary watershed management in Bugesera District (at Cyohoha Lake catchment). The specific activities that could be integrated within the WACDEP/Capacity Development Programme are the protection of lake buffer zone through the tree planting and creation of earth canal along the lake shore in the different cells of Kamabuye sector. This lake catchment is shared by two countries of Eastern Africa Region such as Rwanda (in Bugesera District) and Burundi (in Kirundo and Busoni Districts). Another activity is the rainwater harvesting where by households will be provided with tanks.

ii) Upgrading Rwanda hydro-meteorological networks and rescuing historical hydro-meteo-data project activities

These refer to the technical support programme that United Nations Economic Commission for Africa (UNECA) is offering to the Republic of Rwanda since July 2013. The implementing agencies are Rwanda Environment Management Authority, Rwanda Natural Resources Authority and Rwanda Meteorological Service. The main components of this project are the capacity development and development for baseline study of hydrological networks and database management and information system, capacity development for EWSA, data management and dissemination and Climate change risk and vulnerability assessment, local component for capacity development.

iii) Lake Victoria Environment Management Phase two (LVEMPII)

The Lake Victoria Environmental Management Project Phase II (LVEMP II) is being implemented in line with broad objectives of the East African Community. The LVEMP II Project development/global environmental objectives are to improve collaborative management of the transboundary natural resources of Lake Victoria Basin (LVB) for the shared benefits of the EAC Partner States; and reduce environmental stress in targeted pollution hotspots and selected degraded sub-catchments to improve the livelihoods of communities, who depend on the natural resources of LVB. The project has got two main components which can be linked to the WACDEP training activities. These are:

Component 1: Strengthening institutional capacity for managing shared water and fisheries resources;

Component 3: Watershed management;

At national level, the WACDEP/ Capacity Development Programme Management Team believe that a close collaboration between stakeholders from the current WACDEP and other initiatives is crucial in order to achieve the objectives of this programme. The proposed strategy to establish the synergies with the existing water and climate change related activities as mentioned above is to involve those stakeholders in the planning process and training workshops. As it can be observed from the table 8, a good number of professionals and decision makers from different institutions will be invited to participate in the training sessions as well as in other relevant activities.

4.5 Strategies to address identified learning needs

In order to address the above identified learning needs, different strategies were proposed:

- Selecting competent people to form a WACDEP/ Capacity Development Team;
- Selecting potential stakeholders/participants who are playing a great role in water and climate sectors;
- Making a good choice of training materials which meet the identified learning needs;
- Making a good training and mentorship plans;
- Ensure that trainings and mentorships are conducted in effective manner;
- Develop and implement a partnership training programmes with local, regional and international institutions ; and
- Ensure that the WACDEP Capacity Development Programme is sustainable.

4.6 Selected Capacity Development Team members (CDTeam)

Based on the bellow criteria, Table 7 shows three potential Capacity Development Team Members who were selected for the programme of WACDEP Capacity Development.

Table 7. Listed of selected CDTeam members

No	Names	Post and Institution	Selection criteria and Marks					Total score/50	Decision
			Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5	/50	
1	**Prof. Dr. Eng. WALI Umaru Garba**	**Associate Professor at National University of Rwanda (NUR)**	**10**	**10**	**8**	**10**	**10**	**48**	**Selected for the Post**
2	**Dr. Alfred R. BIZOZA**	**Senior Lecturer at National University of Rwanda (NUR)**	**10**	**10**	**9**	**8**	**10**	**47**	**Selected for the Post**
3	**Drs. Birasa Nyamulinda**	**Lecturer at National University of Rwanda (NUR)**	**10**	**10**	**8**	**8**	**10**	**46**	**Selected for the Post**
4	Ms. UWIMANA Immaculée	Climate Change Mitigation Officer in the Rwanda Environment Management Authority (REMA)	**10**	**8**	**10**	**8**	**9**	**45**	**Not Selected**
5	Mr. TETERO Francois	Watershed Mgt Coordinator in Rwanda Natural Resources Authority (RNRA)	**8**	**8**	**10**	**8**	**10**	**44**	**Not Selected**
6	Mr. NGOMBWA Achille	Water Resources Monitoring Network Officer in the Rwanda Natural Resources Authority (RNRA)	**8**	**7**	**8**	**8**	**8**	**41**	**Not Selected**
7	Dr. NSHUTI Rugerinyange	Team Leader, Rwanda in WaterAid	**8**	**7**	**10**	**8**	**8**	**41**	**Not Selected**

No	Names	Post and Institution	Selection criteria and Marks					Total score/50	Decision
			Criterion 1	Criterion 2	Criterion 3	Criterion 4	Criterion 5	/50	
8	Mr. KASANZIKI Charles	Lecturer at National University of Rwanda (NUR)	**6**	**10**	**6**	**8**	**8**	**38**	**Not Selected**
9	Mr. MUSABYIMANA Innocent	Director of Planning Ministry of Natural Resources (MINIRENA)	**7**	**6**	**10**	**7**	**8**	**38**	**Not Selected**
10	Eng. KENTE SANDRA Liliane	Technical Director Envirotech Consult ltd.	**7**	**8**	**7**	**7**	**8**	**37**	**Not Selected**
11	Mr. NAMUGIZE Jean Népomuscene	Lecturer at Integrated Polytechnic Regional Center (IPRC-Kicukiro	**7**	**8**	**6**	**8**	**7**	**36**	**Not Selected**

Explanation: The final selection of candidates to be Capacity Development Team members was based on 5 criteria (described under here) as recommended by WACDEP regional coordination. Each of five criteria corresponds to 10 marks. The selected Capacity Development Team members are the three candidates which have got the highest score compared to other 7 potential candidates.

Criterion 1: Individual, in-depth knowledge of one or several of the thematic subjects being addressed in the training, and as a group, covers all required subject matters.

Criterion 2: Excellent lecturer and communicator. This implies having a documented lecturing / knowledge sharing experience; having a documented interest in pedagogic development (like making use of alternative forms of learning, promoting pedagogic development within own institution, and participating in pedagogic seminars);

Criterion 3: Good knowledge of national and/or regional structures (institutions, agreements etc) processes (initiatives, projects, trends) and people (in Government, ministries, public sector, private sector, civil society, academia) as linked to water security and climate resilient planning

Criterion 4: Documented interest in and drive for the issues being addressed in the training programme.

Criterion 5: Having the personal, positive spirit to make workshops, mentorship, and other programme activities rewarding and interesting for the participant.

Grouping the above criteria together into three person's competences is not easy, but it could look like the following (albeit other combinations are also possible):

1. **The physical-hydrological basis for water and development**
    - IWRM, water use on society, allocations, institutions
    - Transboundary water management
    - Climate change trends, scenarios and impacts
2. **The economics of water, projects and investments;**
    - Cost-benefit analysis of water related investments
    - Investment alternatives and their appraisal
    - Innovative funding mechanisms
    - Risk assessment and decision making

3. Climate resilient mainstreaming into national development planning processes

- Stakeholders identification, vulnerability assessment and impacts
- Policy development
- Planning processes
- M&E systems
- Climate resilient planning and development

The potential CDTeam members were presented by NTC during the meeting of 24-25th July 2013 held at Kirundo-Burundi and the first 3 CDTeam members were selected and approved by all stakeholders present. The National and Regional WACDEP teams and WACDEP CD Manager were present in the meeting as well. The final approval will be made by the WACDEP Capacity Development Team Leader (TL) and the selected CDTeam will be contracted by NIRAS.

Due it was not easy to get 3 CDTeam members who cover all of the above three main skills, NIRAS accepted to hire the person who has skills in economics of water, projects and investments. This person will be part of CDTeam during the training workshop and be contracted by NIRAS as well. The NTC will help in the selection of this potential people.

4.7 Selected participants

Based on the bellow criteria, stakeholders meeting held in Kirundo-Burundi on 24-25 July 2013 and based on the nomination of institution authorities, Table 8 shows 12 potential Capacity Development planners and 5 Strategic Decision Makers who were selected/nominated for the programme of WACDEP Capacity Development as Participants with the corresponding ongoing/upcoming initiatives to be linked with and WACDEP work pages.

Table 8a. Participants Decision Makers

S/N	Ministry/ Sector	Institutions/ Department	Name of Participants	Position in the Institution	Contact of Participants	On-going/ upcoming initiatives to be linked with	Correspondent WACDEP Work Pages
1.	Ministry of Natural Resources (MINIRENA)	- DG- REMA	1. Ms. Coletha U. Ruhamya	- Deputy Director General (DDG)-REMA	- /+250788305717	- EDPRS II - GGCCS - SSP/ Env. & NR	- WP2 - WP 3
		- DG- REMA	2. Mr. Vincent de Paul Kabalisa	- Deputy Director General (DDG)- RENRA/Water	- /+250785545307	- EDPRS II - GGCCS - SSP/ Env. & NR - FONERWA	- WP 2 - WP 3 - WP 4
2.	Ministry of Agriculture and Animal Resources (MINAGRI)	- DG of Planning/MINAGRI	3. NDABAMENYE Telesphore	- Deputy Director General (DDG)/ Infrastructure & mechanization	telesphore.ndabamenye@EDPRS.gov.rw / +250788442105	- EDPRS II - GGCCS - FONERWA - Food Securty Strategy	- WP 2 - WP 3 - WP 4
3.	Ministry of Finance and Economic Planning (MINECOFIN)	- DG of Planning	4. Richard Mushabe	- Acting Director of Policy Evaluation and Research	- richard.mushabe@minecofin.gov.rw	- EDPRS II (Env & Natural Resources Sector)	- WP 2 - WP 3 - WP 4
4.	Ministry of Infrastructure (MININFRA)	- PS MININFRA	5. Rwakunda Christian	- PS MININFRA	-	- EDPRS II (Water Sanitation an Energy Strategy)	- WP 2 - WP 3 - WP 4
5.	Ministry of Local Government	- Bugasera District	6. Julius Rukundo	- Vice Mayor of Economics Development	- juliusrukundo@yahoo.com	- Bugasera Demonstration Projet	- WP 4 - WP 5

Table 8b. Participants Planners

S/N	Ministry/ Sector	Institutions/ Department	Participants	Name of Participants	Position in the Institution	Contact of Participants	On-going/ upcoming initiatives to be linked with	Correspondent WACDEP Work Pages
1.	Ministry of Natural Resources (MINIRENA)	- MINIRENA	1. Participant Planner Climate Change Unit	- Mr. Jean de Dieu Bizimana	- Monitoring and Evaluation Officer	- bizimajean05@yahoo.fr/+250788475482	- EDPRS II - GGCCS - SSP/ Env. & NR	- WP2 - WP 3
		- REMA	2. Participant Planner Planning Unit	- Mr. Emmanuel Kabera	- Planning Officer/REMA	- kabemma@hotmail.com /+250785107313	- EDPRS II - GGCCS - SSP/ Env. & NR	- WP2 - WP 3
		- RNRA	3. Participant Planner IWRM Department	- Mr. Otis Musabe	- Planning Officer/RNRA/Water	- otimusaba@yahoo.fr//+250788857579	- EDPRS II - GGCCS - SSP/ Env. & NR - FONERWA	- WP 2 - WP 3 - WP 4
2.	Ministry of Agriculture and Animal Resources (MINAGRI)	- RAB	4. Participant Planner – Minsitry/ Planning Unit 5. Participant Planner – RAB	- Innocent Nzeyimana -	- Chairman of Irrigation & Mechanization Task Force	- innonzey@gmail.com / 078 8646883	- EDPRS II - GGCCS - FONERWA - Food Securty Strategy	- WP 2 - WP 3 - WP 4
3.	Ministry of Finance and Economic Planning (MINECOFIN)	- National Planning Directorate Department	6. Participant Planner WACDEP Focal Point	- Ariane Zingiro	- Climate Change Development Planner	- ariane.zingiro@minecofin.gov.rw	- EDPRS II (Env & Natural Resources Sector)	- WP 2 - WP 3 - WP 4
4.	Ministry of Infrastructure (MININFRA)	- EWSA	7. Participant Planner Energy Department 8. Participant Planner Meterology Department 9. Participant Planner Water and Sanitation Department	- Mbwirabumva Isaac - Twahirwa Anthony - Muzola Aime	- Energy Planning Officer - Director of Weather forecasting - Water & Sanitation Engineer	- - twahirwa_anthony@yahoo.com/+250788484636 - muzai2@yahoo.fr/+250788539399	- EDPRS II (Water Sanitation an Energy Strategy)	- WP 2 - WP 3 - WP 4
5.	Ministry of Local Government	- Bugasera District	10. Participant Planner from Planning Directorate 11. Participant Planner District Planning	- Alain Didier Rutayisire	- Planning Officer-MINALOC - District	- rutaleandre@live.fr - mgbfaustin@ya	- Bugasera Demonstration Projet	- WP 4 - WP 5

S/N	Ministry/ Sector	Institutions/ Department	Participants	Name of Participants	Position in the Institution	Contact of Participants	On-going/ upcoming initiatives to be linked with	Correspondent WACDEP Work Pages
			Directorate 12. Participant Planner District Environment Directorate	- Mugabo Faustin - Ms. Uwacu Sylvie	Planning Officer - District Environment Officer	hoo.fr - uwasyly@yahoo.fr/+250788548377		

4.7.1 Selection criteria of participants – ''Planners''

As explained in Section 3.5, Participants "Planners" (PPs) are such individuals that today are involved on a daily basis in on-going planning activities that link to water security and climate resilient development. They are professionals in relevant thematic fields, active as "doers", and 12 on average per country. They are given a 14 month training period (full Phase 7) and are expected at the end to: (i) be fully aware of the Framework, its purpose and use; (ii) have the required knowledge to implement it in real, upcoming situations; and (iii) have experienced real applications of the Framework in collaboration with colleagues both locally and across Africa.

Selection criteria for planners are:

- **Individual qualities:**
  - *adequate* academic background;
  - *documented* career or personal-development drive;
  - *documented* personal interest in the issues raised in the programme;
  - *respected and well-known* within organization and community of professionals;
  - *fluent* in English, French or Portuguese. Knowledge in English is beneficial;
  - *open-minded* with a positive attitude to learning and change;
  - *good understanding* of the thematic issues involved in the programme (e.g. agriculture, planning, economic, infrastructure, water resources management, energy,);
  - *capacity to transfer* new knowledge and lead planning processes within home organization;
  - *a well-written application*. The application should include: (i) educational background; (ii) professional experience and work position; and (iii) a short analysis of his/her country preparedness in managing coming effects of climate change. In other words, potential participants have to make an individual effort to join the programme – they have to show an active interest and a professional relevance. The application has to be supported in writing by a senior manager.

- **Home organization qualities:**
  - important national/regional actor in a field linked to the programme's focus;
  - engaged in tasks relevant to water security and climate resilient planning;
  - in mid or high-level position, in position for additional changes;
  - strong support from senior management to participate in the programme.
- **Group qualities:**
  - provide a gender balance;
  - provides a complementary thematic and professional knowledge and experience;
  - provides a complementary organizational / geographic background;
  - likely to provide a positive spirit to the group and its work.

Participants selected as Planners should:

- have work positions where they are "doers" in terms of policies, plans and projects;
- represent thematic expertise in areas such as e.g. agriculture, economic, planning, engineering, infrastructure, water resources management, energy.

4.7.2 Selection criteria of participants – ''Strategic Decision Makers''

Participants "Strategic Decision Makers" are a group of individuals positioned "above" the planners, making decisions based on the planner's work and proposals. They are selected due to their positions as decision makers within the same organizations as the planners are derived from. They are on average 5 per country.
The selection of this group give emphasis to an active involvement in strategic decision making, government inter-ministerial coordination and trans-boundary issues, linking countries together in a basin and/or region. The group is given a 7 month training period (second half of Phase 7) and are expected at the programme's closure to be fully aware of: (i) the Framework, its purpose and use; (ii) how it can be implemented in a large public organization; and (iii) the long-term consequences (costs vs. benefits) that it provides. However, it is not realistic to expect this group to develop a working knowledge of the Framework; rather, their knowledge about the Framework will focus on its importance, linkages and logic. The members of this group will be invited to the Start-up workshops arranged for each planner, thus linking the two groups together at an early stage. The objective of training this group is that they will support the planners to implement their new capacity and promote a process of change.

Obviously, it is a very different group compared to the planners. They are involved much less in the programme as compared to the planners, the objectives are more aiming at being aware/ informed /understand issues than an implementing capacity.

The process of identifying, reviewing and selecting decision makers to participate in the training programme was resemblance that of planners.

Selection criteria for strategic decision makers are:

- **Individual qualities:**
  - adequate academic background;
  - documented career or personal-development drive;
  - documented personal interest in the issues raised in the programme;
  - respected and well-known within organization and community of professionals;
  - fluent in English, French or Portuguese. Knowledge in English is beneficial;
  - open-minded with a positive attitude to learning and change;
  - good understanding of the thematic issues involved in the programme (e.g. agriculture, planning, economics, infrastructure, water resources management, energy);
  - a well-written application. The application should include: (i) educational background; (ii) professional experience and work position; and (iii) a short analysis of his/her country/ region preparedness in managing coming effects of climate change.

- **Home organization qualities:**
  - important national/regional actor in a field linked to the programme's focus;
  - engaged in tasks (preferably a strategic decision making work function) relevant to water security and climate resilient planning;
  - in terms of duties and responsibilities linked to water security and climate change adaptation;
  - if relevant, support from top organization management to participate in programme.
- **Group qualities:**
  - provide a gender balance

- provides a complementary organizational / geographic background;
- likely to provide a positive spirit to the group and its work.

- **Participants selected as *Strategic Decision Makers* should:**
- have more senior positions compared to the planners, engaged in strategic issues like defining policies, internal government procedures, coordination and collaboration "up" with other countries and in river basins and "down" to local levels, provinces and urban areas;
- have more of a generalist's experience and approach as compared to thematic specialists, and the perspectives of a national decision maker, looking into the future and planning accordingly.

Note that in the agreement with NTC, National and Regional WACDEP teams and WACDEP CD Manager, the selection of Planners and Strategic Decision Makers was done during the meeting of 24-25th July 2013 held at Kirundo-Burundi with consultation of stakeholders who attended the meeting. They agreed that National WACDEP team will send official letters to the selected institutions/Ministries to request from them appointing potential people who will be considered as Planners and Strategic Decision Makers. This will be done after approval from WACDEP Capacity Development Team Leader (TL).

References

1. Alphonse Mutabazi, 2011. *Rwanda Country Situation Analysis*. Camco report, Nairobi, Kenya, May 2011.
2. Alphonse Mutabazi, John Bosco Kanyangoga and Tenge Ngoga, 2013. *Climate, Food, Trade, Where is the Policy Nexus?* Rwanda. Published by CUTS International, Geneva, Switzerland.
3. Bernis Byamukama, Dr Christian Carey, Megan Cole, Jillian Dyszynski and Dr Mathew Warnest, 2011. *National Strategy on Climate Change and Low Carbon Development for Rwanda*. Baseline Report.
4. C. Museruka, J.B. Habimana, C. Ntaganda, A. Mutabazi and S. Mukankusi, 2005. *Revue de la literature sur les etudes de vulnerabilite et measures d'adaptation aux changements climatiques au RWANDA*. Report of MINIRENA, Kigali, July 2005.
5. Charles Twesigye-Bakwatsa, 2012. *Five-Year Capacity Building Plan for Strengthening the Water Resources Management Sub-sector in Rwanda*. *Rwanda Integrated Water Security Program (RIWSP).* Preliminary Version (Final), Kigali, May 2005.
6. Chemonics International Inc (2003). Rwanda Environmental Threats And Opportunities Assessment. Task Order No. 818 under the Biodiversity & Sustainable Forestry (BIOFOR) IQC USAID Contract No. LAG-I-00-99-00014-00. Also available on: http://www.encapafrica.org/documents/biofor/Rwanda_2003.pdf
7. Dr. Mathew Warnest, 2011. *Rwanda Water Sector Working Paper*, Appendix B. University of Oxford, United Kingdom.
8. EKN, 2011. *Scoping mission on water in Rwanda. The Rwandan Water Scan.* Draft report for Embassy of Kingdom of the Netherlands (EKN) in Rwanda.
9. GoR (2007). Economic Development And Poverty Reduction Strategy (EDPRS), 2008-2012. Ministry of Finance and Economic Planning, Government of Rwanda (GoR), Kigali.
10. GoR, 2008. Rwanda Water Law. LAW N°62/2008 OF 10/09/2008 *Putting in place the use, conservation, protection and management of water resources regulations*.
11. IPCC, 2007. *Climate change: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M.L.Parry, O.F. Canziani, J.P.van der Linden and C.E. Hansen, Eds., Cambridge University Press, Cambridge, Uk.
12. Kalisa, J (undated). The effects of climate change in Rwandan region. Global Campus 21. Internationale Weiterbildung und Entwicklung gGhmH (inWent). Also available on: .www.gc21.de/ibt/alumni/ibt/docs/writoec-john-kalisa.pd
13. MINECOFIN, 2000. Rwanda Vision 2020. Kigali, Rwanda
14. Maria Rusca, 2013. IWRM and Decentralisation in Rwanda. Capacity Needs Assessment. Report submitted to Rwanda Integrated Water and Sanitation Programme (RIWSP), Kigali, Rwanda.
15. MIFOTRA, 2007. Capacity development and building a capable state Rwanda country report. Kigali, Rwanda
16. MINECOFIN, 2007. Economic Development and Poverty Reduction Strategy I. Kigali, Rwanda
17. MINECOFIN, 2013. Economic Development and Poverty Reduction Strategy II. Kigali, Rwanda

18. MININFRA (2004). Generation and application of climate information, products and services for disaster preparedness and sustainable development in Rwanda. Ministry of Infrastructure, Department of Meteorology (MININFRA), Kigali

19. MIFOTRA, 2013. *Indicative report on critical and scarce skills gap and strategies to close the gap*. Kigali, Rwanda

20. MINIRENA, 2005. *Rwanda Initial National Communication under the United Nations Framework Convention on Climate Change*. Kigali, Rwanda.

21. MINIRENA, 2006. *Report on National Adaptation Programmes of Action to Climate Change*. Kigali, Rwanda.

22. MINIRENA, 2006. S*econd national communication under the United Nations Framework Convention on Climate Change* (U.N.F.C.C.C). Kigali, Rwanda.

23. MINIRENA, 2011. *Green Growth and Climate Resilience*. Kigali, Rwanda.

24. MINIRENA, 2011. *National Policy for Water Resources Management*. Report, Kigali, April 2011.

25. MINIRENA, 2011. *Water Resources Management Sub-sector Strategic Plan (2011 – 2015)*, Kigali, Rwanda.

26. MINIRENA, 2012. National Policy for Water Resources Management. Revised, Kigali, Rwanda.

27. MINITERE (2006). National Adaptation Programmes of Action (NAPA) To Climate Change. Ministry Of Lands, Environment, Forestry, Water and Mines (MINITERE), Kigali.

28. Munyaneza, O., Ndayisaba, C., Wali, U.G., Mulungu, M.M.D. and Dulo, O.S., 2011. *Integrated Flood and Drought Management for Sustainable Development in the Kagera River Basin.* Nile Water Sci. Eng. J., **4**(1): 60-70.

29. NIRAS NATURA AB/GWP/CDKN. 2013. WACDEP/ GWP *Capacity Building Programme in Africa* 2013-2014. Inception Report. 51 pp.

30. NIRAS NATURA AB/GWP/CDKN. 2013. *WACDEP/ GWP Capacity Building Programme in Africa 2013-2014*. *WACDEP, Capacity building programme and Assessment of capacity building needs in each of 8 WACDEP Countries. NIRAS NATURA AB/GWP/CDKN*.

31. NIRAS NATURA AB/GWP/CDKN. 2013. WACDEP/ GWP *Capacity Building Programme in Africa 2013-2014*. *Methodology for rapid assessment of capacity building needs by NTC in each of 8 WACDEP Countries*.

32. *Paul Watkiss, Tom Downing, Jillian Dyszynski and contributors, 2009. The Economics of Climate Change in Rwanda*. National launch 25th November 2009.

33. REMA, 2007. Pilot Integrated Ecosystem Assessment of Bugesera. Poverty Environment Initiative (PEI) implemented by the United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and Rwanda Environment Management Authority (REMA), Kigali.

34. *REMA, 2009*. Rwanda State of Environment and Outlook Report. Chap. IX. Climate Change and Natural Disasters. Kigali, Rwanda.

35. REMA, 2010. *Rwanda Environmental Education for Sustainable Development Strategy*. Report on a Strategy and Action Plan for 2010-2015, Kigali, Rwanda.

36. REMA, 2013. *Barrier analysis and Enabling Framework for technology transfer and diffusion*. Kigali, Rwanda.

37. REMA, 2013. *Technology Action Plans for climate change mitigation and adaptation*. Kigali, Rwanda.

38. Stephen N. Ngigi, 2009. Climate change adaptation strategies: water resources management options for smallholder farming systems in Sub-Saharan Africa. The MDG Center for East and Southern Africa of the Earth Institute at Columbia University. New York, USA.
39. Twagiramungu, F. (2006). Environmental Profile of Rwanda. European Commission, Kigali.

Annexes

Annex 1. List of the interviewed persons and their respective institutions

Nº	Interviewed person	Position	Institution
1	Rwemarika Jean Baptiste	National WADCEP Manager, Rwanda	GWPEA/ WADCEP Programme
2	Mr. Kabalisa Vincent de Paul	Deputy Director General in charge of IWRM	Rwanda Natural Resources Authority (RNRA)
3	Mr. Dismas Karuranga	Water Resources Management Officer	Ministry of Natural Resources (MINIRENA) and AMCOW Focal Point and staff in
4	Ms. Immaculée Uwimana	Climate Change Mitigation Officer	Rwanda Environment Management Authority (REMA)
5	Ms. Umpfasoni Liliose	Director of Environment and Rwanda Water Partnership Chairperson	Ministry of Natural Resources (MINIRENA)
6	Eng. Christine Uzayisenga	Head of Rubilizi and Mulindi Agricultural stations	Rwanda Agriculture Board (RAB)
7	Mr. Namugize Jean Nepomuscene	Lecturer	Integrated Polytechnic Regional Center of Kigali (IPRC) Technical College
8	Eng. Charlotte Uwimpuhwe	Lecturer	Kigali Institute of Science and Technology (KIST)

Annex 2: List of stakeholders who participated in the workshop held at Kigali-Rwanda on 14 June 2013 to comments on the final report of rapid assessment on Capacity Development needs

Nº	Names	INSTITUTION	Address
1.	Safari Patrick	GWPEA Secretariat /Coordinator	sapatrick2003@yahoo.fr
2.	Kidanemariam Jembere	GWPEA Secretariat/Manager	kjembere@nilebasin.org
3.	Mugenzi Willy	GWPEA Secretariat/Communication Officer	wmugenzi@nilebasin.org
4.	Gakumba John	Rwanda Water Partnership Representative / Vice Chair	kistlife@yahoo.com
5.	Uwacu Sylvie	Bugesera District/Environmental Officer	uwasyly@yahoo.fr
6.	Rwemarika Jean Baptiste	Assistant Project Manager/ WACDEP at country level	aa.rwema@yahoo.com
7.	MUYENGEZA Jean de Dieu	Executive Secretary / KAMABUYE Sector	bagazajohn@yahoo.fr
8.	Mugenzi Vincent	Cell Ex Sec from Kamabuye Sector	
9.	Uwingabiye Chantal	CNF in Bugesera District/Coordinator	uwingabiyec@yahoo.fr
10	Gahigi Jean Claude	CNJ in Bugesera District/ Coordinator	j.gahigi@yahoo.com
11	Twagirayezu Tharcisse	Representative of Local Cooperative involved in watershed / environment management in Bugesera District /Cooperative COPEMOKA/President	
12	Sendama M. Jonace	Representatives of RNRA/IWRM/Water Use Planning Officer	igsun13@gmail.com
13	Feza Antoinette	Representatives of RNRA/IWRM/Analyst	afeza@yahoo.com
14		Representative of Rwanda Meteorology Service	
15	Ngoboka Godfrey	Representative of Energy Dept - Ministry of Infrastructure	ngobokagodfrey@gmail.com
16	Harera Eric	Kamabuye Sector/Board of Cell member	harera@yahoo.fr
17	Kaitesi Agnes	JADF in Bugesera District	kaitesignes@yahoo.com
18	Mukunzi Emile	DFO in Bugesera District	emujeru@yahoo.fr
19	Nyirindekwe Silas	FED Bugesera V-Life	s.ndekwe@yahoo.com

20	Nshimiyimana Manasseh	GCI Rwanda / Coordinator	nimanasseh@yahoo.com
21		Representative of Ministry of Agriculture	
22	Niyonzima Moses	FlocFM Presenter	mose01x@yahoo.fr
23	Gakuba John	TVR Rwanda	
24	Twagira Wilson	ORINFOR Rwanda	ufasha2000@yahoo.fr
25	Kwizera Emmanuel	IGIHE.com Journalist	kwizera@igihe.com
26	Rugema Chast	IRST Program Officer	rchast@yahoo.fr
27	Runanira André	APEFA NGO/Environmental Officer	randre@yahoo.com
28	Kayirangwa Monica	COTEMU Assistant to DG	kanuma@gmail.com

Annex 3: List of stakeholders who participated in the workshop held at Kirundo-Burundi on 24-25 July 2013 to comments on the progress report of detailed assessment on Capacity Development needs

N°	Names	INSTITUTION	Address
1	Safari Patrick	GWPEA Secretariat /Coordinator	sapatrick2003@yahoo.fr
2	Kidanemariam Jembere	GWPEA Secretariat/Manager	kjembere@nilebasin.org
3	Doreen Byanjeru	GWPEA Secretariat/Administrative Assistant	dbyanjeru@nilebasin.org
4	Umupfasoni Lyliose	Rwanda Water Partnership Chair	umupfasoni@gmail.com
5	Gakumba John	Rwanda Water Partnership Vice Chair	kistlife@yahoo.com
6	Karuranga Dismas	AMCOW Focal Point for Rwanda	karurangadismas@yahoo.fr
7	Rukundo Julius	Bugesera District Authority / Vice Mayor FED	juliusrukundo@yahoo.com
8	Uwacu Sylvie	Bugesera District Officer for Environment	uwasyly@yahoo.fr
9	Rwemarika Jean Baptiste	National WACDEP Manager-Rwanda	aa.rwema@yahoo.com
10	MUYENGEZA Jean de Dieu	Executive Secretary / KAMABUYE Sector	bagazajohn@yahoo.fr
11	Mugenzi Vincent	Cell Ex Sec from Kamabuye Sector	
12	Uwingabiye Chantal	Women Association Representative (CNF) in Bugesera District/ Coordinator	uwingabiyec@yahoo.fr
13	Gahigi Jean Claude	Youth Association Representative (CNJ) in Bugesera District/	j.gahigi@yahoo.com

		Coordinator	
14	Twagirayezu Tharcisse	Representative of Local Cooperative involved in watershed / environment management in Bugesera District /Cooperative COPEMOKA/President	
15	Nzabonimpa Oscar	APEFA NGO/Executive Director	nzaboscar2000@yahoo.com/ apefa2007@yahoo.fr
16	Nshimiyimana Mathias	Private Sector/Agronomist	