



WACDEP / GWP Capacity Development in Africa 2013-2015

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

**DETAILED ASSESSMENT ON THE CAPACITY DEVELOPMENT NEEDS IN
CAMEROON**

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EXECUTIVE SUMMARY

Cameroon is endowed with abundant water resources both in quantity and quality. The total renewable water resource of Cameroon is 283.18 km³ per year with a dependency ratio of 4.4 % which indicates that most of renewable water resources are internally produced (Fonteh, M.F. *et al*). The main watershed of Cameroon is on the Adamawa plateau, which feeds five major river basins. The main rivers of Cameroon are the Logone in the Chad basin, the Benoue in the Niger basin, the Sanaga in the Sanaga basin, the Sangha in the Congo basin, and the Wouri and Nyong in the Coastal basins.

Meanwhile, climate change is currently at the forefront of debates and discourses on global environmental change and the global nature of its causes and consequences implies the need for international collective action for an efficient, effective and equitable policy response. The United Nations Framework Convention on Climate Change (UNFCCC) identifies two policy responses to address climate change: (i) mitigation of climate change by reducing greenhouse gases (GHGs) in the atmosphere and enhancing carbon sinks, and (ii) adaptation to the impacts of climate change. Cameroon is a signatory to the UNFCCC, and has adhered to numerous international obligations under the instrument, including the preparation of the Initial National Communication (2001), and the Second National Communication being finalized at this moment.

According to UNDP (2009), Cameroon is characterized by diverse ecological zones, with differing climatic regimes. Climate change risks and impacts are predicted to differ in these zones. Whilst the tropical forest and coastal and maritime zone in the southern part of the country will experience some temperature increases, precipitation is predicted to remain relatively stable. The coastal zone however is already challenged by climate change related impacts and sea level rise will potentially destroy the homes of up to 40% of coastal population. Infrastructure investments such as the airport harbor and industries in Douala will be threatened by inundation. The Savannah and Sudano-Sahelien zones will be challenged by significantly higher temperatures. The impacts on the rainfall regimes are not well established; however negative impacts on food security and health are expected. The Government of Cameroon aims to establish a country wide approach to adaptation that would particularly test adaptation measures in the different eco-zones, taking a poverty reduction focus and integrating gender sensitive approaches.

In its legal framework, although Cameroon has a number of water-related sector policies, there is no formal national water policy for the interpretation, application and enforcement of legislation. At the regional level the Economic Commission of Central Africa States

(ECCAS), with the support of GWP-CAf elaborated a regional policy for water resources development and management which was adopted in October 2009. There is a national water law which was enacted in 1998. However, this was not elaborated with the spirit of Integrated Water Resources Management (IWRM) as demonstrated by the fact that it does not embrace some of the key principles of sustainable water resources management like management of water in hydrological basins, effective stakeholder participation and economic value of water.

Following an economic and financial evaluation of the water sector in 2009, GWP/MINEE (2009c) indicated that the total investment allocated by the state to the water sector has been increasing from 2004 to the year 2008. In 2008 the public sector investment in the water sector was about 0.5% of GDP. At the regional level, GWP has supported the Economic Community of Central African States (ECCAS) to establish a financial strategy and a basket fund for the water sector in Central Africa created under the auspices of ECCAS and the Development Bank of Central African States (BDEAC).

At the institutional level, Cameroon does not have a national water coordination institution. The National Water Committee (NWC) is only a de facto coordination institution in Cameroon as the text creating it does not explicitly give it this role. It was created as a consultative body of the state to define and put in place water policy in Cameroon. However, by virtue of the cross section of ministries that are members of the committee, it has the possibility to act as a coordination institution. Since its creation in 1985, the NWC has met very infrequently and has not lived up to its role as envisaged in the decree creating it let alone being an effective coordination institution. The main weakness of the NWC is that it does not have the power to take decisions. The NWC has 16 statutory members and is greatly dominated by the administration with only about 12.5 % of its members from the private sector or civil society. At the regional level a Centre for Coordination of water resources management was created in 2009 by ECCAS and is now fully operational.

Cameroon has a national multi-stakeholder platform for dialogue, information exchange and experience sharing called GWP-Cameroon which has been in existence since June 2005. At the regional level a stakeholder platform called GWP Central Africa (GWP CAf) exists since April 2004 in Central Africa.

Overall the institutional and individual capacities with respect to water security and climate resilient development are low. Limited availability of staff, but also the limited skills and capacity levels of staff members seriously impair implementation of the necessary water security and climate resilient actions. Young professionals are often ill equipped when they graduate from higher learning institutions to perform in their professional fields, and currently there are no trainings that would build such capacities.

ACRONYMS AND ABBREVIATIONS

| | |
|----------|---|
| AFD | French Development Agency |
| AMCEN | African Ministerial Conference on the Environment |
| AMCOW | African Ministers' Council on Water |
| BDEAC | Development Bank of Central African States |
| CAMWATER | Cameroon Water Utilities Corporation |
| CAPNET | Capacity Building Network for Integrated Water Resources Management |
| CBD | Convention on Biological Diversity |
| CDE | "Camerounaise des Eaux" |
| CDKN | Climate and Development Knowledge Network |
| CEEPA | Centre for Environmental Economics and Policy in Africa |
| CICOS | International Commission for the Congo-Oubangui-Sangha Basin, |
| CIFOR | Center for International Forestry Research |
| CMN | Cameroon Mangrove Network |
| CoFCCA | Congo Basin Forests and Climate Change Adaptation" |
| COMIFAC | Central African Forests Commission |
| COP | Conference of Parties |
| CSO | Civil Society Organisations |
| DRI | Disaster Risk Index |
| ECCAS | Economic Community of Central African States |
| EDC | Electricity Development Corporation |
| FCPF | Forest Carbon Partnership Facility |
| GEF | Global Environment Facility |

| | |
|-----------|--|
| GESP | Growth and Employment Strategy Paper |
| GHGs | Greenhouse Gases |
| GWP | Global Water Partnership |
| GWP CAF | Global Water Partnership Central Africa |
| HYCOS | Hydrological Cycle Observing System |
| IUCN | International Union for Nature Conservation |
| IWRM | Integrated Water Resources Management |
| LCBC | Lake Chad Basin Commission |
| LPHP | Lom Pangar Hydroelectricity Project |
| MINADER | Ministry of Agriculture and Rural Development |
| MINEPAT | Ministry of Economy, Planning and Regional Development |
| MINEPDED | Ministere de l'Environnement, de la Protection de la Nature, et du Developpement Durable |
| MINFI | Ministry of Finance |
| MINIMIDT | Ministère de l'Industrie des Mines et du Développement Technologique |
| MINMAP | Ministry of Public Contracts |
| MINPMEESA | Ministère des Petites et Moyennes Entreprises, de l'Economie Sociale et de l'Artisanat |
| MINRESI | Ministry of Scientific Research and Innovation |
| NAP | National Adaptation Plan |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NGO | Non Governmental Organization |
| NIE | National Implementing Entity or Designated National Authority |
| NTC | National Training Coordinator |
| NWC | National Water Committee |

| | |
|--------|--|
| ONACC | National Climate Change Observatory |
| REDD | Reduce Emissions from Deforestation and Forest Degradation |
| UNDP | United Nations Development Program |
| UNFCCC | United Nations Framework Convention on Climate Change |
| WACDEP | Water, Climate and Development Program |
| WWF | World Wildlife Fund |

1. INTRODUCTION

Elaborated under the implementation of Water, Climate and Development Programme (WACDEP), the present document examines the current situation of water security and climate resilience capacities among the different institutional stakeholders and the desired future situation, in a bit to identify capacity gaps and needs of Cameroon at individual, institutional and system levels to serve as a basis for the capacity development program.

WACDEP supports the implementation of African Ministers' Council on Water (AMCOW)'s current work program. It is being implemented until 2016 in eight countries: Cameroon, Ghana, Burkina Faso, Mozambique, Zimbabwe, Burundi, Rwanda and Tunisia; four transboundary basins: Volta Basin, Lake Chad Basin, Lake Victoria-Kagera Basin, Limpopo Basin and one shared aquifer: the North Western Sahara Aquifer System. The program includes four components namely: (i) investments in regional and national development, (ii) innovative green solution, (iii) knowledge and capacity development, and (iv) partnership and sustainability.

The capacity development component is a 24 months program to be implemented from January 2012 to December 2014, and is being managed through a close collaboration between GWP, Niras Natura AB cooperation¹, CDKN² and Cap-Net UNDP³.

One of the key steps in the implementation of WACDEP capacity development program is the elaboration of a capacity development needs assessment report for each country.

The overall objective of the capacity development needs assessment report is to carry out a comprehensive assessment of such issues that have a direct impact on the design and implementation of the WACDEP - Capacity Development Programme, and to elaborate the Capacity Development Plan.

The specific objectives of the study are to:

- Review, based on the rapid assessment report, the major challenges, and on-going and planned processes that the implementation of the Capacity Development Programme should be linked with in each Country ;
- Determine options to strengthen water security and climate resilience development based on the identified capacity development needs;
- Identify the Capacity development Team members and participants;
- Elaborate an overall capacity development plan that provides the basis for the programming and budgeting of the implementation of the programme in the country including training workshops and on job mentoring activities.

¹ International, multidisciplinary engineering and development consultancy company and Partners

²Climate & Development Knowledge Network

³United Nations Development Programme-Capacity Building Network

The main expected results of the detailed assessment of capacity needs are

- The detailed major challenges and on-going/ planned processes related or linked to water security and climate resilient development in each Country/ Region/ transboundary basin or shared aquifer level;
- The list of potential CB Team members and participants, their focus and institutional affiliation;
- The capacity development plan for the implementation of the programme in Cameroon.

2. METHODOLOGY

The methodology utilized for preparation of the report from July to October 2013 consisted of literature review and analysis of existing and relevant documentation, and conduct of interviews with key stakeholders involved in water security and climate resilient development activities and initiatives.

The trainers were identified through a process that involved a restricted call to GWP Cameroon experts, and selection based on predefined criteria. The identification of participants on the other hand was done through a process that involved identifying key government institutions involved in or impacted by climate change, organizing meetings with heads of different departments within the key ministries, and officially writing to Ministers requesting the designation of relevant staff to participate in the capacity development programme.

The final selection of trainers and participants was done after organizing a workshop with all potential trainers and participants, during which their level of interest was assessed by the National Training Coordinator and WACDEP-Cameroon Programme Management Team members.

3. WACDEP- Capacity development Programme, objectives and expected outputs

WACDEP-Capacity development Programme at national level is developed in order to enhance local technical, analytical and institutional capacity for climate resilient development in collaboration with AMCOW, CDKN, UNDP-GEF, CapNet and GWP. This is a key pillar of the WACDEP and NAPs process. Investment planning for climate resilience needs to be informed by sound economic analysis of adaptation.

The objective of this capacity development initiative is to, among other things, also develop the capacity of planners and technical officers in planning/finance as well as in ministries in charge of environment, agriculture, water, public works, lands and others. The purpose of the training is to identify, develop and appraise no/low regrets investment options and integrate these into national planning processes, development plans and programs.

The initiative will contribute to enhance understanding of the economics of adaptation as it relates to medium- and long-term national, sub-national and sectorial development planning as well as in evaluating different adaptation investment projects.

The initiative, targeting government planners will produce a cadre of practitioners who can prepare high-quality economic analyses related to climate change adaptation projects and programs, and support integration of no/low regrets investments into national development and sectoral plans.

The implementation of the capacity development programme is embedded in GWP and WACDEP regional and country management teams, linked to the UNDP GEF supported portfolio of adaptation projects. Implementation will be conducted in coordination with UNDP country offices, as established following the methodology proposed in the African Union and AMCOW Framework for Water Security and Climate Resilient Development.

The initiative is drawn on local and regional experts as well as promotes North-South and South-South knowledge exchange through involvement of international organizations and academia such as NIRAS with its partners of Stockholm, Yale School of Forestry and Environmental Studies of the USA and the Centre for Environmental Economics and Policy in Africa (CEEPA) in Pretoria. The initiative will also build and benefit from UNDP-GEF's experience in undertaking similar work elsewhere such as the 'economics of the climate change adaptation programme in Asia'.

It will be delivered as a series of training and experience-sharing workshops interspersed with field work, on the job training and application. The Training Program will be implemented from October 2013 to December 2014 at the national, transboundary and regional level.

The activities of the WACDEP Capacity development Program are organized into 8 phases which include:

- i) Program Management;
- ii) Inception;

- iii) Learning Material Development;
- iv) Capacity Development Team Mobilization; v)
- v) Elaboration of Regional and Country Assessments and Plans;
- vi) Production, Review and Access to Learning Material;
- vii) Delivery of Capacity Development; and
- viii) Summary and Reflections.

The initiative is expected to develop the capacities and knowledge required by planners and decision makers in Africa and to enhance skills in the following areas:

- Making an economic case to high level policy makers on the importance of water security and climate resilient development;
- Undertaking climate impact assessment and climate screening;
- Use of economic analysis tools and methods for appraising investment options including use of cost benefit analysis, cost effectiveness assessment and others;
- Robust decision making using the concept of no/low regrets investments;
- Design of financing and investment portfolios for climate resilient development;
- Mainstreaming no/low regrets investments into development processes;
- Monitoring and evaluation of climate resilient development.

4. COUNTRY AND REGIONAL ASSESSMENT

4.1 Context

This section addresses the national context in terms of the state of water resources development and management, and climate change.

4.1.1 Water resources development and management

Cameroon is endowed with abundant freshwater resources both in quantity and quality. According to GWP/MINEE (2009a), the total renewable freshwater resources in Cameroon are 283.18 km³ per year, with a dependency ratio of 4.4 % which indicates that most of the renewable water is internally produced. Despite these abundant water resources, the country still suffers from water insecurity due principally to lack of a sustained political will and commitment to improve and strengthen water governance at various levels, and the absence of a water information management system.

Moreover, fresh water resources are increasingly being subjected to a lot of pressure from human and industrial activities. This situation is aggravated by demographic pressures leading to an increase in water withdrawals/mobilisation for socio economic development, waste production and hence pollution especially when water management is inadequate. Pollution and water related disasters are the main pressures affecting the quality of fresh water resources in Cameroon.

Poor domestic, institutional, industrial waste management, and the weak enforcement of existing laws in Cameroon is threatening the quality of the water resources. Out of 15 wastewater treatment stations in the major cities of Douala and Yaoundé, only two of them are undergoing rehabilitation works. Hence most of the domestic wastes from housing estates are discharged basically untreated into the environment. In addition there are no properly designed solid waste systems. Water borne diseases are one of the main causes of death in Cameroon. Intestinal worms infected over 10 million Cameroonians between the year 2003 and 2006 with about 70 % of the household expenditures on health between the period 2003 and 2006 were spent on water-related diseases. By December 2011, 22762 cases of cholera were registered in nine (9) out of the ten (10) regions in Cameroon, 786 deaths with a mortality rate of 3.45%. The under-five infant mortality rate value is still too high even though it stood at 131 per 1000 live birth in 2008 and decreased to 127 per 1000 live birth in 2012.

Between 1984 and 2011, there were about 30 major water-related disasters in Cameroon. This corresponds to an average of about one major water-related disaster a year. Floods are the most frequent water-related disasters in Cameroon and occur mainly in urban areas in the Northern, Littoral and Centre Regions. About 0.17 person is killed per year in natural disasters especially floods and 0.05 persons are killed per million inhabitants per year. This gives Cameroon a disaster risk index (DRI) of 0.11.

The Northern part of the country is vulnerable to droughts especially in the Chad basin. One of the main challenges that the Lake Chad Basin is facing is related to the high level of evapo-transpiration caused by the high temperatures throughout the year. A value of around 2 200 mm/year has been estimated for potential evapo-transpiration, (Dimbele, 2009). The mean annual rainfall has decreased by 30 % from that of 1960 in the Chad basin (Ngounou, 2009). The high temperatures also limit the potential of natural recharge as most of the precipitation evaporates.

Cameroon is also still vulnerable to the limnic eruption of two of her volcanic crater lakes - Lake Nyos and Lake Monoun situated along the Cameroon volcanic line - even though degassing equipments have been placed in these lakes to reduce the Carbon dioxide content.

4.1.2 Climate change

In the area of climate change Cameroon is in the process of elaborating national adaptation and mitigation strategies in collaboration with the United Nations Development Program (UNDP) and other partners. A dedicated climate change unit was established in 1999 within the ministry in charge of the environment, and the National Implementing Entity, known as the National Climate Change Observatory (ONACC), though not yet operational, has been legally established since 2009. The climate change unit in MINEPDED coordinates climate change activities within the country and is headed by the national focal point for the

UNFCCC. A diverse set of scattered climate change adaptation and mitigation related interventions are being implemented in Cameroon by different organisations and development partners. Conferences that address climate change mitigation and adaptation options relating to diverse sectors have taken place in Cameroon in the past years, and a suite of pilot program and projects have been implemented on a sub-regional, national and local level.

As indicated above, climate change issues are currently dealt with only within a small climate change unit in MINEPDED, and through fragmented and small scale projects implemented by various NGOs and research institutions, sometimes in collaboration with local partners. Although there are extremely valuable initiatives (e.g. pilot projects by WWF and the Mangrove Network, research undertaken by CIFOR on a regional basis, the establishment of ONACC as a regional climate change expert body, implementation of UNFCCC obligations by coordinated by MINEPDED, to name but a few), they remain scattered and do not reach the level of magnitude required to address climate change in Cameroon. Certain sectors are still far from realising how climate change is relevant to them, or engage in isolated sector approaches to addressing the issue. Inter-institutional collaboration and coordination is extremely weak and joint planning or integrated outreach programs being virtually absent.

Currently there is no strategy on how to address either mitigation or adaptation in the long-term. Neither is there any activity aimed at developed a single climate change strategy for the country. Nevertheless, it is important to state that the elaboration of a national adaptation plan (NAP) started in 2012, and will be finalized this year, while the foundations for the elaboration of a national mitigation strategy have been laid. Increasing investments and financing available for climate change actions are scattered across institutions and do not contribute to position the country to strategically direct and capitalize on such investments. There is no single government institution currently that convincingly convenes on this important issue and reaches out to all the relevant sectors and stakeholders in strategic partnerships.

There is no sustainable platform for exchange and coordination of activities relating to water security and climate resilience. Hence, despite the existence of a variety of mechanisms and organizations at national, regional or local level, coordination and cooperation is still a concern.

4.1.3 Policy and strategies

This section presents a list of key policies, strategies and plans that the country has put in place or adhered to in the area of water resources development and climate change.

➤ *International/Regional:*

- United Nations Framework Convention on Climate Change (UNFCCC)

- African Water Vision
- African Union Sharm el-Sheikh Declaration on water and sanitation
- Strategic framework for Water Security and Climate Resilient Development
- Regional water policy of ECCAS (Economic Community of Central African States) (2009)
- The financing strategy for the water sector in Central Africa (2010)
- The 2025 development vision of the Lake Chad Basin Commission (LCBC)
- The Lake Chad Basin Strategic Action Program (2008)
- The Congo-Oubangui-Sangha River Basin Strategic Action Plan.

➤ ***National***

- A ***Cameroon Horizon 2035 long-term development vision*** was developed in March 2009 with a ***ten-year economic growth framework or Growth and Employment Strategy Paper*** (GESP) which will be implemented from 2010 to 2019. Climate change considerations and other environmental threats currently are included in chapter V of Horizon 2035 document.
- National Environment Management Plan (2013)
- National diagnostic report on the state of the water sector in Cameroon for the integrated water resources management (2009)
- National strategy for liquid waste management. (2011)
- The policy letter for the urban water supply in Cameroon (April 2007)
- The national policy on rural water supply and sanitation (2009)
- 2008-2015 Action Plan for rural water supply and sanitation
- National Adaptation Plan for climate change (ongoing)
- Rural Sector Development Strategy
- National Participatory Development Program
- Sector Strategy on Rearing, Fishing and Animal Industry
- National Plan of Action for the fight against Desertification
- The Environment sector strategic document (2013).

It is however important to note that Cameroon does not have a clear and specific water vision and water policy.

➤ ***Country Policy Commitment and accountability frameworks***

Based on existing political documents, there is high commitment to water security and climate change in Cameroon. This can be seen in the recent establishment of a department for Water Management in the ministry in charge of water, and the creation of the national climate change observatory by presidential decree in 2009. However, according to the GIZ, these policy declarations are not sufficiently translated into actions that promote water

security and climate resilience. For example, the national climate observatory is not operational to date since its creation in 2009.

Nevertheless, the country has demonstrated its commitment to sustainable development and climate change through its adhesion to several international conventions and the putting in place of several national instruments to promote mainstreaming these concerns into national development frameworks.

The Government of Cameroon has adhered to some international agreements in the realm of water security and climate resilience development:

- The African Convention on the Conservation of Nature and Natural Resources natural or Algiers Agreement in 1968;
- The United Nations Convention on Climatic Change ratified on the 19th of October 1992.
- The Kyoto Protocol adhered to on the 23rd July 2002.
- Convention on the fight against desertification adopted on the 17th of June 1994 in Paris and ratified by Cameroon on 29th May 1997.
- The International Convention on Intervention on the High Seas in Cases of accidents that cause or may cause hydrocarbons pollution Brussels, 29th of November 1969 Accession of Cameroon, 09th of March 1984;
- Convention on Biological Diversity (CBD)
- The Ramsar Convention of 24 February 1971 on Wetlands of international importance, entry into force in Cameroon; July 20, 2006;
- The International Convention on the Establishment of a trust fund international compensation for damage caused by hydrocarbon pollution, Brussels, 18 December 1971 Accession of Cameroon, 01 March 1983;
- The London Convention on the Prevention of Pollution from Ships;
- The United Nations Convention on the right of the Sea, Montego Bay, 10 December 1982 signed by Cameroon on the same date (December 10, 1982), ratified November 19, 1985
- The Vienna Convention on the protection of the ozone layer, appendix of 22nd March 1985 and ratified on 30th June 1989.
- The Montreal Protocol of 16th September 1987 on ozone depleting substances amended in 1990 in London and ratified respectively on the 30th of June and 7th of November 1991.

The level to which some of these engagements and commitments have been implemented is discussed in table 1.

Table 1: Extent of such international commitments in the area of water security and climate resilience development actively implemented

| International commitment | Extent of Commitment |
|--|--|
| Signing of the United Nations DECLARATION ON ENVIRONMENT AND DEVELOPMENT in Rio de Janeiro (Brazil) in 1992 | <ul style="list-style-type: none"> - Established a ministry dedicated to environment and sustainable development in October 2012; - Elaborated the national environmental management plan in 1996 - Prepared the Rio+20 report in 2012, and attended the Rio+20 conference |
| Signing of the United Nations Framework Convention on Climatic Change | <ul style="list-style-type: none"> - Ratified on the 19th of October 1992 - 1st National Communication on Climate change 2002 - 2nd National Communication 2013 - CDM committee created and functioning - A dedicated climate change unit was established in 1999 within MINEPDED, and the National Implementing Entity (NIE) has been legally established (i.e. Creation by presidential decree N° 2009/410 of 10 December 2009 of the National Climate Change Observatory – ONACC), - Conceptualisation and approval of the process for elaborating the National Adaptation Strategy and Plan (NAP); - Participation of Focal points and Experts in all international fora, meetings and training workshops on water security and climate resilience development. |
| - The Ramsar Convention of 24 February 1971 on Wetlands of international importance, entry into force in Cameroon; July 20, 2006 | <ul style="list-style-type: none"> - Cameroon presently has 7 sites designated as Wetlands of International Importance, with a surface area of 827,060 hectares. - Participation in all the COP meetings |
| - 2002 Johannesburg declaration on Integrated Water Resources Management | <ul style="list-style-type: none"> - Baseline study of water sector completed in 2009, and validated in April 2013. Currently resources are being mobilized to finalize the IWRM plan. |

➤ *Economic framework and national public sector budget allocations*

The key sources of internal funds for financing water security and climate resilient activities are the budgets of the ministry in charge of water resources (MINEE) and the ministry in charge of the environment (MINEPDED).

Following an economic and financial evaluation of the water sector in 2009, GWP/MINEE (2009c) indicated that the total investment allocated by the state to the water sector has been increasing from 2004 to the year 2008. In 2008 the public sector investment in the water sector was about 0.5% of GDP, and in 2013, the finance law allocates to the ministry in charge of water 3.3% of the national budget.

As for the ministry in charge of the environment, the 2013 finance law allocates to it 0.2% of the national budget.

However, funds for water security and climate resilient activities do also come in from other ministries and stakeholders like NGOs, development and funding partners.

National Sources

- Ministry of Water and Energy (MINEE)
- Ministry of Finance
- Ministry of Economy, Planning and Regional Development
- Ministry of Environment, Protection of Nature and Sustainable Development

Regional and International Sources

- The World Bank
- The United Nations Environment Program, and other UN Agencies;
- Economic Community of Central African States, ECCAS (Regional water policy)
- The International Commission for the Congo-Oubangui-Sangha Basin, (CICOS)
- The Niger Basin Authority
- The Lake Chad Basin Commission

4.1.4 Human, financial and information resources

With respect to human resources, the Cameroon government embarked on a drive to reduce unemployment since 2009 which has led to recruitment of young and motivated individuals into the civil service and thus into key water and climate related ministries. Considering the knowledge gap created due to over fifteen years of no recruitment into the civil service for these key ministries, there is a great need for support in capacity development for human resources in the water and climate related ministries.

4.2. Legal and institutional framework

4.2.1 Legal framework

- Framework Law No. 96/12 of 5 August 1996 relating to environmental management
- Law No. 98/005 of 14 April 1998 on water regime
- Law No. 2000/2 of 17 April 2000 on maritime waters Republic of Cameroon

4.2.2 Institutional set-up, mandates, roles and responsibilities

Key institutions were identified, with their corresponding roles and responsibilities as determined by the government. These institutions and their responsibilities are presented in the table 2.

Table 2: Key Institutions and their roles and responsibilities

| S/N | Institutions | Institutional mandates | Institutional Set-Up | Institutional roles /responsibilities |
|-----|--|---|---|---|
| 1 | Ministry of Water Resources and Energy | Elaborate, implement and evaluate of national policy on production, transport and distribution of energy and water. | Water Resources Management Water Resources Mobilization Production, mobilization and management of Electricity Renewable energy and energy management Petroleum, and gas products Studies, prospection and cooperation | <ul style="list-style-type: none"> - Development of national strategies and plans for water and energy; - Prospecting, research and use of water in urban and rural areas; - Quantitative and qualitative improvement of the production of water and energy; - Promoting investment in water and energy sectors, in conjunction with the MINEPAT and other concerned Administrations; - Promoting new energy, in conjunction with the Ministry of Scientific Research and Innovation; - Regulation of water use for agricultural, industrial and sanitation activities in conjunction with other concerned administrations; - Monitoring of the management of water basins; - Monitoring of the groundwater management; - Monitoring of the downstream oil and gas sector; - Monitoring of institutions responsible for regulation in the water and energy domains. |
| 2 | Electricity Development Corporation | | | See (1) above |
| 3 | Ministry of Environment, Nature Protection and | Prepare, coordinate and monitor of the implementation of national | Environmental policy Management and conservation of | <ul style="list-style-type: none"> - Definition of the terms and principles of rational and sustainable management of natural resources; - Definition of environmental management measures in conjunction with relevant ministries and specialized agencies; |

| | | | | |
|---|--|---|--|---|
| | Sustainable Development | environmental policy | natural resources | <ul style="list-style-type: none"> - Development of sector master plans for environmental protection in collaboration with relevant ministries; - Coordination and monitoring of activities of regional or international cooperation agencies in the area of environment and nature in conjunction with the Ministry of Foreign Affairs and other relevant ministries; - Monitoring environmental compliance in the implementation of major projects; - Informing and sensitizing the public to ensure their participation in the management, protection and restoration of the environment and nature; - Negotiation of international conventions and agreements relating to the protection of the environment and nature, and their implementation in conjunction with the Ministry of Foreign Affairs. - Responsible for the supervision of the National Climate Change Observatory (ONACC) |
| | | | Sustainable Development | |
| | | | Information and Documentation on the Environment | |
| | | | Standards and Control | |
| 4 | Ministry of Economy, Planning and Regional Development | Prepare and implement the economic policy of the nation, as well as planning regional development | Planning and regional development | <p>Economically (amongst others):</p> <ul style="list-style-type: none"> - Development of the multi-year investment program of the State; - The coherence of sector development strategies of the country; - Coordination and centralization of studies on projects of interest national economy; - Centralization of projects and the management of the projects database in conjunction with concerned administrations; - Promotion of public investment; - Preparation of Medium Term Expenditure frameworks and Public Investment Budget; - Coordinating and monitoring the implementation of the growth and employment strategy as well as the 2035 vision; <p>Planning:</p> <ul style="list-style-type: none"> - Elaboration of a comprehensive strategic development planning framework; - Conduct studies and prospective analyzes on national development in the medium and long terms; - Planning of human resources; |
| | | | Economy and public investment programming | |
| | | | Cooperation and Regional Integration | |

| | | | | |
|---|---|--|---|---|
| | | | | <ul style="list-style-type: none"> - Coordination of studies and monitoring of population issues. <p>Regional Development:</p> <ul style="list-style-type: none"> - Coordination and conduct of studies on regional development, both at national and regional level; - Monitoring the development of standards and rules for regional development, and supervising their implementation; - Monitoring and control of the implementation of national, regional or local territorial development programs; - Monitoring of sub-regional organizations involved in the regional development in conjunction with relevant ministerial departments. - Monitoring the activities of the Lake Chad Basin Commission (LCBC) and the Niger Basin Authority (NBA). |
| 5 | Ministry of Agriculture and Rural Development | Prepare, implement and evaluate national policy on agriculture and rural development | <p>Local and Community Development</p> <p>Regulation, control of quality of farm inputs and agricultural products</p> <p>Agricultural Engineering and Livelihood development in rural sector</p> <p>Agricultural investigations and statistics</p> <p>Education and</p> | <p>In agriculture:</p> <ul style="list-style-type: none"> - Development, planning and implementation of government programs in agriculture and rural development; - Designing strategies and methods to ensure the food security and self-sufficiency, as well as monitoring their implementation; - Development and monitoring of regulations in the agricultural sector; - Protection and monitoring of various agricultural products; - Quantitative and qualitative improvement of agricultural production and yields; - Promoting investment in the agricultural sector in conjunction with MINEPAT and MINMIDT; - Promoting mechanization in the agricultural sector; - Promoting development of small, medium and large agricultural production farms in conjunction with the MINPMEESA; - Identification and promotion of new agricultural productions for export; - Plant Protection; - Collection, production and analysis of agricultural data and statistics; - Coordination and management of crisis situations in agriculture; - Agricultural extension in conjunction with the MINRESI and other concerned |

| | | | | |
|---|---|---|---|---|
| | | | <p>training on agriculture, cooperative and community development</p> <p>Studies, prospection and cooperation</p> | <p>administrations;</p> <ul style="list-style-type: none"> - Monitoring of standards in the agricultural sector and the control of their implementation; - Monitoring of professional agricultural organizations; - Monitoring of agricultural cooperatives; - Sharing of agricultural information and knowledge with farmers in conjunction with Ministry of Communication; - Monitoring of training centers for agricultural personnel in conjunction with the Ministry of Employment and Vocational Training (excluding educational institutions under the Ministries in charge of education. <p>In rural development:</p> <ul style="list-style-type: none"> - Promoting community development; - Supervision and mentoring farmers; - Participation in planning and monitoring of implementation of programs for improving livelihoods in rural areas in conjunction with other competent ministries. |
| 6 | Ministry of Territorial Administration and Decentralization | Elaborate master plans for water supply and sanitation in local governments, and management of civil disasters | Department of civil protection | <p>Mandate not clear with respect to water security and climate resilience development policy but actions contribute significantly to water security and climate resilience development through her department of Civil protection.</p> <p>Responsible for water related disaster management</p> |
| 7 | Ministry of Transport | Generate, process, manage and share climate and weather data and information; weather forecasting. Information. | Department of National Meteorology | <p>Responsible for generating and disseminating information on the climate and weather in Cameroon. Climate parameters include precipitation and temperature that are key parameters for informed activities in water security and climate resilience</p> <p>Its actions thus contribute significantly to water security and climate resilience development through her National Directorate of Meteorology</p> |

4.2.3 Other institutions and stakeholders

Other important national and international institutions (multilateral, bilateral, civil society organizations (CSOs) and NGOs) that are working for water security and climate resilience development can be presented in the following categories.

Coordinating and consultative Technical supporting institutions:

- National Water Committee (not operational)
- National Plan for disaster Management with a disaster committee (operational)
- Inter- ministerial Environmental Committee (Operational)
- Water resource Observatory (not operational)
- National consultative commission for the environment and sustainable development (not operational).

Agencies under trusteeships that have been delegated public services working for water security and climate resilience development

- CAMWATER in charge of water supply infrastructures
- La Camerounaise des Eaux in charge of distributing water

Facilitation and assistance institutions

- African Ministers Council on Water (AMCOW)
- Central African Forests Commission (COMIFAC)
- African Ministerial Conference for the Environment (AMCEN)
- Global Water Partnership (GWP)
- International Union for the Conservation of Nature Union (IUCN)
- Centre for International forestry Research (CIFOR)
- WWF
- Etc.

4.3 Challenges and capacity development needs

Overall the institutional and individual capacities are low. Alone infrastructure is poor, hampering the operations of government in particular. Whilst issues such as office functionality, communication infrastructure and transportation are important, problems are exacerbated by limited operational budgets to implement policy action and outreach.

The difficulties to organize outreach and campaigns, and meaningful on the ground project interventions are manifold. Limited availability of staff, but also the limited skills and capacity levels of staff members seriously impair implementation of the necessary adaptation action.

Young professionals are often ill equipped when they graduate from higher learning institutions to perform in their professional fields, and currently there are no trainings that would build such capacities.

The following core needs were identified at institutional and individual levels to facilitate mainstreaming water security and climate resilience into development processes at national level:

- Climate monitoring, data generation and management (storage, processing and information sharing);
- Hydrological monitoring, data collection and analysis;
- Downscaling and interpretation of global and regional climate models;
- Climate vulnerability and impact assessment;
- Risk Identification and Forecasting to Understand and Identify Vulnerability and Disaster Risk
- Climate sensitive program and project design;
- Financial and economic appraisal techniques;
- Stakeholder engagement and consultation; and
- Public awareness and education.

4.4 List of potential Capacity Development Team members

The Capacity Development Team (CDTeam) members were identified from the GWP Cameroon and GWP Central Africa database of water experts, and an email was addressed to all requesting them to express interest in the position. Table 3 below presents the potential participants and their relevant areas of expertise.

Table 3: List of potential Capacity Development Team members

| S/N | Position | Candidate | Academic qualification | Relevant work experience |
|-----|--|----------------------|------------------------|---|
| 1 | Expert-Trainer in Physical-hydrological basis for water and development | Ndam Jules Remy | PhD, Hydrology | Associate Professor and lecturer of hydrology / hydrogeology at University of Yaounde I |
| 2 | | Fantong Wilson Yetoh | PhD, Hydrogeology | Over 10 years as hydrogeology and water resources monitoring researcher at Centre for Hydrologic Research |

| S/N | Position | Candidate | Academic qualification | Relevant work experience |
|-----|---|------------------|------------------------------|--|
| 3 | Expert-Trainer in Climate resilient mainstreaming into national development planning processes | Gratien Tchiadeu | PhD, Geography | Over 10 years teaching and research experience in area of climate change. Currently lecturer at University of Douala |
| 4 | | Tabi Fritz Oben | PhD, Agronomy | Over 10-year experience in soil science and agriculture. Specific knowledge on impacts of climate change in agriculture |
| 5 | | Ayonghe Samuel | PhD, Geology | Over 20-year experience in teaching and research experience in geology, hydrogeology and climate change. Head of climate change laboratory at the University of Buea. |
| 6 | Expert-Trainer in Economics of water, projects and investments | Yossa Thaddee | MSc, Economics | Economic and finance expert with some part-time teaching experience at the University of Douala. Lead consultant in developing the finance strategy for water sector in Central Africa |
| 7 | | Lemnyuy William | MSc, AgroIndustrial Sciences | Over 5-year in experience in the environment sector, with expertise in environmental standards and taxes. Good experience in managing a capacity Development program. |

4.5 List of potential participants

The identification of participants for the capacity development program was conducted based on an assessment of key national water and climate related sectors and ongoing development planning processes. The key sectors and processes identified were:

Sectors

- Water Resources and Energy;
- Environment and sustainable development;
- Economic development and planning;
- Agriculture and rural development;

Ongoing Processes

Institutionalization of a River Basin Organization for the Sanaga River:

This process is being led by the Electricity Development Corporation (EDC) with financial support from the French Development Agency (AFD) and the World Bank. The process is being conducted as part of the construction of the Lom Pangar Hydroelectric Dam. The Lom Pangar Hydropower Project (LPHP) consists of a regulating dam (which based on the engineering design, will be 46 meters high and 7 meters wide at the crest) and a hydroelectric power plant at the foot of the dam that will generate an additional 30 MW of low-cost hydropower for rural electrification. The dam's reservoir, covering a surface area of about 540 km², with a useful capacity of about 6 billion m³, will increase the guaranteed water flow to the Sanaga River from 720m³/s to 1,040 m³/s throughout the year, thereby reducing the high seasonal variability that adversely affects hydro-electricity production.

Currently, a consultant is being recruited to support EDC and the government in establishing the Sanaga River Basin Commission. As the first potential river basin institution in Cameroon, providing institutional to the EDC in this activity will go a long to supporting strategic planning for water security and climate resilient development in Cameroon.

- **Elaboration of the national IWRM action plan:**

The process of elaborating the national IWRM action plan started in 2005 and resulted in the elaboration of a detailed situation analysis report of the water sector that included a diagnosis of the major problems in the sector. Unfortunately, due to lack of financial resources, the process went in a coma between 2010 and 2012, and was only revived in 2013 with the organization of a national workshop to validate the situation analysis report, and the recruitment of an expert to develop a national water vision and sector strategy. Moreover, the national IWRM Project Team has been reconstituted and a department of water management created in the ministry in charge of energy and water resources. Taking this process to an end will greatly promote investments in water security and climate resilience in the country and thus, achieve the key outputs of the water, climate and development program, especially work packages 2, 3 and 4.

- **Elaboration of the national adaptation plan and national biodiversity strategy and action plan:**

The process of elaborating a National Adaptation Plan for Cameroon was conceptualized and validated in 2012, and the elaboration of the NAP launched. A draft NAP document has been prepared and is being reviewed in the Ministry in charge of the environment. The NAP process is currently being led by the office of National Focal Point for the UNFCCC.

Meanwhile, the National Biodiversity Strategy and Action Plan is being developed with the support an expert panel on which GWP Cameroon sits. The current draft report was

considers water security and climate resilience data and issues mainstreamed with the support of GWP Cameroon experts.

These two processes are will support the delivery of key outputs in work package 2, 3 and 4 of the WACDEP program.

- **Revision of the national growth and employment strategy document:**

The Growth and Employment Strategy Paper (GESP) is the second generation of Poverty Reduction Strategy Papers that presents a nations development framework and priorities during a specified ten year period, which is 2010 to 2020 in the case of Cameroon. At conception, this process was designed to have a mid-term review at end of first five years during which the GESP is revised. This national development planning process is led by a coordination team within the Ministry of Economy, Planning and Regional Development (MINEPAT). It is however important to note that the sector strategies and priorities are developed by the different sector ministries. Thus, key sector processes like the NAP and IWRM processes will feed into this national development framework.

- **Implementation of the rural sector strategy for soil and water management.**

The Rural Sector Strategy for Soil and Water Management was developed as part of the implementation of the Rural Sector Development Strategy led by the Ministry of Economy, Planning and Regional Development, and the Ministry of Agriculture and Rural Development (MINADER). The strategy is currently in its implementation phase and will greatly benefit from new knowledge on soil and water management, especially with the advent of the adverse effects of climate change.

Thus the key institutions to be prioritized in the program are:

- MINEPDED
- MINEE
- EDC
- MINEPAT
- MINADER

Once the key sectors and processes had been identified, meetings were arranged with the relevant department heads, and thereafter, letters addressed to the respective ministries requesting them to designate participants. Table 4 presents the potential participants for the capacity development program as designated by their respective institutions.

Table 4: List of potential participants (planners)

| S/N | Ministry/ Sector | Institutions/ Department | Participants Potential | Position in the Institution | National Planning Processes | Corresponding WACDEP WPs |
|-----|--|--|--------------------------|--|--|--------------------------|
| 1 | Ministry of Energy and Water Resources | Department of Studies, Planning and Cooperation | Mme NDEWEGE Fideline | Chargé d'Etude Assistant N° 2 | Elaboration of National IWRM Vision-Strategy 2035 and Action Plan Water Plan (2015 – 2020) mainstreaming Water Security & Climate Resilient Development issues | WP2, WP3, WP4 |
| | | Department of Studies, Planning and Cooperation | Mr. MENYONG Godlove | Technical support staff (Planner) | | |
| | | Department of Water Management | M. NGNIKE Pierre Marie | Chief of service, (Planner) | | |
| | | Department of water resources capture and use | M. AVA ONDOUA Jean Marie | Chief of service, Urban water supply (Planner) | | |
| | | Electricity Development Corporation | Mr. TOWA Adrien | Chief of service (Planner) | Institutionalization of a River Basin Organization for the Sanaga River | WP2, WP 3, WP4, WP6 |
| 3 | Ministry of Environment, Nature Protection and Sustainable Development | Direction de la promotion du développement durable | FORGAP Patrick | Chief of service (Planner) | Elaboration of National Biodiversity Strategy integrating Water Security & Climate Resilient Development issues (NBSAP) | WP2, WP3, WP4, WP6 |
| | | Direction de la promotion du développement | WANIÉ Marcel | Sub-director (Planner) | Elaboration of National Adaptation Plan and national biodiversity | |

Table 4: List of potential participants (planners)

| S/N | Ministry/ Sector | Institutions/ Department | Participants Potential | Position in the Institution | National Planning Processes | Corresponding WACDEP WPs |
|-----|--|--|------------------------|-----------------------------------|--|--------------------------|
| | | durable | | | strategy and action plan | |
| | | Direction de la Conservation et de Gestion des Ressources Naturelles - DCGRN | ZIÉKINE Angèle | Sub director (Planner) | Elaboration of national REDD strategy and action plan | |
| | | Direction de la Conservation et de Gestion des Ressources Naturelles - DCGRN | TSAMA Valerie | Chief of service (Planner) | | |
| 4 | Ministry of Economy, Planning and Regional Development | Technical Committee for monitoring of Economic Prog. | DIPOKO KWEDI | Technical Support Staff (Planner) | Revision of the national growth and employment strategy document | WP2, WP 3, WP4, WP6 |
| | | Technical Committee for monitoring of Economic Prog. | NDJIKE NANA Gervais | Chief of service (Planner) | | |
| | | General Directorate of Planning and Regional | MODO Roger Junior | Technical Support Staff (Planner) | | |

Table 4: List of potential participants (planners)

| S/N | Ministry/ Sector | Institutions/ Department | Participants Potential | Position in the Institution | National Planning Processes | Corresponding WACDEP WPs |
|-----|---|--|---------------------------------|-----------------------------------|--|--------------------------|
| | | Development | | | | |
| | | General Directorate of Planning and Regional Development | ASSO'O FOUMANE Serge Fabrice | Technical Support Staff (Planner) | | |
| | | General Directorate of Planning and Regional Development | NGOM Emmanuel | Technical Support Staff (Planner) | | |
| 5 | Ministry of Agriculture and Rural Development | Department of Rural Engineering | FALAINA Michel | Sub Director (Planner) | Implementation of the rural sector strategy for soil and water management. | WP2, WP 3, WP4, WP6 |
| | | Department of Rural Engineering | ATANGANA Jean Bertrand | Ingénieur d'Etudes (Planner) | | |
| | | Department of Rural Engineering | NGONO NOAH Marie Estelle | Ingénieur d'Etudes (Planner) | | |

CONCLUSION

Although done quite rapidly, the capacity needs assessment at national level draws a portrait of the existing situation in terms of capacities and stakeholders involved in addressing ***water security and climate resilience development***.

It is clear that the needs are enormous as the capacity of both the institutions and the individuals within the institutions are very weak with respect to water security and climate resilient development.

According to UNDP/MINEPDED (2012), it is important that capacity development in environment related fields like water and climate change consider and involve key coordinating stakeholders like the presidency, the prime ministry, the ministries in charge of finance and economic planning, and the special council support fund, FEICOM.

Finally, the assessment demonstrates clearly that the important and key role of leadership and coordination in the areas of water security and climate change will need to be given special attention during the implementation of capacity development activities.

It is important to note that the success of the training program does not only depend on the knowledge and skills of the trainers (teachers), but also on the quality of the instructional material and the motivation of the participants or their readiness to learn.

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APPENDIX

Appendix 1: Capacity Development Needs of MINEE

- 1) We need to build capacities to identify and quantify the amount of underground water.

Reasons for need: This will enable us to determine the life span of a Hydraulic project, and to better plan when to set up the next to replace the aged project because many projects that are realized hardly function properly throughout.

Area of intervention: Realization of Long term water projects notably, Boreholes, wells, dams.

- 2) We need to build our capacities on the use of Meteorological parameters to determine their effects on the quantity of water that will be available after a given period and the quality.

Reasons for need: This will enables us to ascertain the volume of water lost through evapotranspiration as a result of change in climatic factors viz; temperature, Greenhouse gas effect, use of Chlorofluoromethane (CFCs) and to seek possible solutions to adapt and reduce the effect of this. It will also enable us to better adapt and manage water treatment plants.

Area of intervention: Construction of Dams, fish ponds, treatment of river water destined for domestic use, boreholes, wells, water destined for irrigation, water for livestock animal husbandry.

- 3) We equally need to build our capacity on how to manage Water in periods of abundance and in periods of lack.

Reasons for need: In most parts of the Northern Region of Cameroon, water is available in abundance only during the rainy seasons. During the onset of the dry season and throughout this, there is severe draught. This favours the growth *Vibrio cholerae* and other micro-organisms resulting to water borne diseases that rapidly spreads throughout the country and extends to neighbouring countries causing a lot of health hazards to humans, domesticated animals and crops.

Area of intervention: Construction of retention Dams, realization of various water storage tanks and systems, water dykes etc.

- 4) One of our priority objectives will be to understand and Manage Marginal Water(used water, brackish water, salt and sea water) technologies and practices, its use in irrigation and dry lands agriculture.

Reasons for need: owing to the high demand for water as a result of increase population in major cities and peri-urban towns, and the resulting shortage, marginal water becomes an alternative substitute for domestic and agricultural use hence our interest to improve on marginal water technology and use.

Area of intervention; Irrigation of crops, animal domestication/breeding, domestic use etc.

Appendix 2: List of ongoing project in MINEE

A) Electricity sector;

- 1) Lom-Pangar Hydroelectric Dam.
- 2) Mekin Hydroelectric station.
- 3) Memve'ele Hydroelectric Dam.
- 4) Renewable energy projects (Solar energy, Eoleon energy etc.).
- 5) Thermal plant construction in Kribi, Yassa etc.

B) Water sector;

- 1) Sanaga-Yaounde water Projects
- 2) Yato Water treatment Plant
- 3) Mefou Water treatment station
- 4) Akom-Nyada Water treatment plant (Installation of the fourth Water pump)
- 5) Construction of many Boreholes and Mini- Water adduction systems.

C) Petroleum and Gas sector;

- 1) Renovation of Limbe Crude oil treatment plant
- 2) Studies to construct pipelines for the transport of petroleum products from Limbe to Yaounde and the the Northern Regions of Cameroon.