



ADAPTATION FUND

PRE-CONCEPT FOR A REGIONAL PROJECT/PROGRAMME

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme:	Integrated water resources management and early warning system for climate change resilience in the Lake Chad Basin
Countries:	Chad, Cameroon, Central African Rep., Niger, Nigeria
Thematic Focal Area:	Disaster risk reduction and early warning systems
Type of Implementing Entity:	Multilateral implementing entity
Implementing Entity:	World Meteorological Organisation (WMO)
Executing Entities:	Lake Chad Basin Commission (LCBC), Global Water Partnership Central Africa (GWP-Caf)
Amount of Financing Requested:	10,620 million (in U.S Dollars Equivalent)

Project / Programme Background and Context

Shared by 5 countries classified among the poorest in the world, the Lake Chad basin, with an area of around 2,400,000 km², is one of the most threatened Lake ecosystems in Africa. The lake and its basin currently provide livelihoods for a population currently estimated at 50 million people. For thousands of years, it has been the economic heart that provides life for millions of people and a focus of development, trade and cultural exchanges between the populations of the northern Sahara and those of the south. As a host for migrating water-birds, Lake Chad also plays a role in wildlife conservation. From this point of view, it offers very rich ecosystems in an arid environment and is therefore included in the Ramsar List of Wetlands of International Importance.

Climate variability has strong effects on the stability of the Lake Chad basin, and concrete projects need to be undertaken to address the many crises that are affecting the region. Since the 1970s, the region has been suffering from the harmful effects of climate change, characterized in particular by drought combined with episodic floods, and the surface of the lake has infamously decreased by 90%, thus negatively impacting the population, the agriculture and development perspectives. Out of an estimated total basin population of 17.4 million people, 5 million are food insecure and 10.7 million are requiring humanitarian assistance. As a result, in addition to the crystallization of tensions, there is widespread concern among the riparian countries that the lake could disappear again, and a water transfer project from the Congo Basin is being considered.

The riparian populations around the Basin which are predominately livelihood-based economies have developed adaptive strategies based on mobility and are thus highly dependent on the natural resources in the areas for fishing, livestock farming and agriculture. The Basin's wetlands are thus critical to agriculture and food supply to cope with recurrent droughts. Given the low adaptive capacity, hydrometeorological hazards can translate into real disasters for the population and the local economy. Extreme events lead to displacement, food insecurity, malnutrition and epidemics as it was the case in recent years, with negative impact on socio-economic development, and climate change is expected to continue to aggravate the situation.

Two projects had previously been developed in collaboration with the LCBC and its member countries, the [Lake Chad-HYCOS project](#) by WMO and the [Early Warning System project](#) by GWP-Caf. Upon request from the LCBC and in accordance with its Strategic Action Plan, the two institutions have been mandated to help develop a common project to relaunch hydromet monitoring activities for improved water management in the basin and set up an Early Warning System (EWS) for water-related disaster risks, particularly floods and droughts. This collaboration between the three institutions is a powerful alliance to promote the exchange of experiences between partners to ensure that the expected results are met.

Project / Programme Objectives

The five-year project core objective is to contribute to provide concrete technical solutions to climate resilience and water resource management in the Lake Chad basin. Project activities will build on existing data and lessons learned from former projects and other WMO activities such as the WMO HydroHub which has developed a new WHYCOS operational strategic plan and the Global Hydrological Status and Outlook System (HydroSOS), as well as the Associated Programme on Flood Management (APFM) and Integrated Drought Management Programme (IDMP), promoted by both WMO and the GWP, to offer robust, innovative and sustainable solutions, both for water monitoring and for disaster risk reduction and climate change adaptation. The project will serve the participating countries as a demonstration of an appropriate end-to-end solution for service delivery responding to the needs of basin-wide end-users, to ensure long-term water monitoring for a sustainable environmental and economic development. It will synergize with other ongoing or planned projects in the basin. Its main specific objectives are as follows:

- To build an effective water information system through establishing a consolidated network of national Hydromet observing systems that provide coherent and reliable data, transmitted in appropriate time to national and regional databases through the WMO Global Telecommunications System (GTS) or any other appropriate channel;
- To anticipate and inform vulnerable population on emerging risks through strengthening the technical and institutional capacities of dedicated national technical services and developing an EWS to forecast disasters, such as dangerous floods and droughts;
- To sustain hydrological products and services development through strengthening the technical and institutional capacities of the National Hydrometeorological Services (NMHSs) in the area of data collection and processing;
- To promote and facilitate the dissemination and use of services and relevant products related to water resource management, environmental protection and protection of human life and property against water-related risks using the appropriate means including the new technologies (e.g., GSM message in locale language) and with the pro-active engagement of Agencies and communities (Gender mainstreaming);
- To strengthen regional cooperation through improved knowledge management of the Lake Chad and its tributaries.

The project aims at combining regional, national and local information systems. Specific needs of countries and sub-national entities will be identified in the first phase of the project.

Project / Programme Components and Financing

Each of these project components will be executed in each of the considered 5 riparian countries

Project Components	Expected Outcomes	Expected Concrete Outputs	Amount (US\$)x10 ³
1. Governance and project management	<ul style="list-style-type: none"> - Project partners benefit from an effective and efficient management and coordination process. - Sustainability of project achievements is guaranteed. 	<ul style="list-style-type: none"> 1.1. Operational plan developed 1.2. Institutional Structures established 1.3. Project management unit operational 1.4 Sustainable funding mechanism for water monitoring established 	790
2. Improvement of hydrological and meteorological observing systems networks	<ul style="list-style-type: none"> - Strengthened institutional capacity contributing to reduce socioeconomic and environmental risks associated with climate related hazards 	<ul style="list-style-type: none"> 2.1. Hydromet observation network and information system, including groundwater, modernized/established 	2 500
3. Development of the regional hydrometeorological information system (database and data sharing mechanism)	<ul style="list-style-type: none"> - The database is accessible, with up to date information, and used by the relevant stakeholders -Potential of HydroSOS identified and mechanism identified 	<ul style="list-style-type: none"> 3.1. Development of a harmonised regional database owned and managed by dedicated stakeholders 3.2. Flood and drought forecasting instruments and EWS within the riparian countries and coordination at regional level are 	1 000

		improved, HydroSOS ready for implementation	
4. Identification and development of hydrometeorological products and services	<ul style="list-style-type: none"> - The needs and requirements of users of hydrometeorological products and services are well known: countries, end-users including minorities, considering gender and cultural aspects - Strengthened technical and institutional capacities of the NMHSs to monitor and stock relevant and up-to-date data, and for development of model products 	<p>4.1. A baseline study is completed, with concrete understanding of the knowledge and infrastructure needs on the basin;</p> <p>4.2. Development of a national EWS mechanism, with LCBC providing guidance and warning advisories at the regional level;</p>	1 000
5. Training of project stakeholders and knowledge development	<ul style="list-style-type: none"> - Improved collaborative interactions amongst the key stakeholders - Better assessment of the current situation and the capacity needs of key stakeholder groups and categories 	<p>5.1. Organizational arrangements on a national and regional level, as well as communication procedures are established</p> <p>5.2. Hydromet staff is trained in installation and maintenance</p>	1 500
6. Awareness raising with decision makers, lawmakers and water users on the importance of information and hydrometeorological services (Communication and diffusion of water-related information)	<ul style="list-style-type: none"> - Sustainability of the hydrological and meteorological monitoring activities; - Strengthened awareness to sustainable integrated approach to water resource management, including climate change issues; - Increased interest on the part of governments; - Strengthened awareness and ownership of the Hydromet monitoring; - Secured continuous and efficient use of data consistently gathered in a demand-driven way. 	<p>6.1. Awareness raising workshops for decision makers and lawmakers</p> <p>6.2. Awareness raising workshops and on-site demonstrations for water users</p> <p>6.3. A communication and warning dissemination system is set up, operational and accessible to a wide audience, including vulnerable people</p> <p>6.4. Warning messages are recognised and understood by users' communities in the basin, including the most vulnerable ones.</p>	1 000
7. Contingency plans (communities' response capacity)	<ul style="list-style-type: none"> - Enhanced governance coherence at the basin level and increased adaptive capacity within the agricultural and natural resource sectors 	<p>7.1. Development and implementation of contingency plans at the regional and national levels</p> <p>7.2. Medium and long-term adaptation and mitigation measures are recommended in the prioritized areas</p>	2 000
8. Project/Programme Execution cost			855
9. Total Project/Programme Cost			9 000
10. Project/Programme Cycle Management Fee charged by the Implementing Entity			765
Amount of Financing Requested			10 620

Project Duration: 5 years (60 months)

PART II: PROJECT / PROGRAMME JUSTIFICATION

Project components

The transboundary dimension of the basin makes the regional approach essential to promote collaboration, data and information exchange and exchanges of experience between national partners, as well as with the LCBC, the regional institution common to the 5 countries, which ensures, among other things, a global analysis of the impact of climate change on the entire basin. This approach is also a powerful tool for building solidarity, mutual trust and collaboration between the different technical teams of the countries participating in the project. This practice, which should continue beyond the project, is conducive to mutual assistance among agents for a better

implementation of activities related to the knowledge and management of water resources, as well as EWS in the Lake Chad basin. It also strongly supports the exchange of data and information that underpins transparent decision-making particularly important to prevent conflicts in competitive usages, namely with regard shared resources of the transboundary basin.

In addition to the first component, relative to the governance and project management, the other six components focus on three main areas. (i)The first area is dedicated to strengthening and updating an operational and reliable system for collecting, transmitting, processing and archiving data on the situation and the quality of both surface and groundwater resources in a timely manner to meet the needs of end users throughout the basin. It will particularly be supported by WMO-HydroHub, which will help to facilitate the adoption of appropriate innovative technologies to complement standard measures. (ii)The component on capacity building aims in particular to ensure full ownership of new generation Hydromet tools and equipment by the various actors. It will also integrate organisational and financial aspects putting a particular emphasis on the training of women and young people. (iii)As for the third component, the development and dissemination of products will take into account the different needs and opportunities of men and women, in order to best reach different social categories and reduce inequalities, to allow facing climate hazards and promoting better resilience to climate change. The products and services developed adjusted to the needs of end users in order to better contribute to decision-making as well as contributing to the sustainability of project achievements, at both national and regional levels. The project will particularly develop, through participatory approach, and implement contingency plans at the regional and national level, to improve the communities' response capacity towards climate hazards.

Cost effectiveness of the proposed project

The scale of the basin allows the project to reach its goals in five countries within five years. In addition to the cost-effectiveness, a regional unified network system will enable participating countries to benefit not only from a basin-wide transboundary management framework to ensure long-term environmental and economic development, but also from the sharing of experiences as well as the construction a network of actors for concrete solutions to reduce economic losses linked to climate-related hazards and a negative impacts on livelihoods and increase communities resilience to climate change. On the other hand, in addition to its importance in terms of cooperation and mediation, the LCBC will ensure the consolidation of the project's results, particularly after its completion, in order to ensure its sustainability, serving as a regional expertise Center continuously supporting national entities.

Consistency with sub-national, national, regional and international strategies

The project proposal is in line with the LCBC's strategic action plan developed in a mutual agreement with its member countries, based on their different national and regional priorities, including national climate change adaptation plans. As such, the project will be built on existing initiatives (at the national, regional and international levels), which include the Program to Rehabilitate and Strengthen the Resilience of Lake Chad Basin socio-ecological Systems (AfDB and its partners). It will, moreover, align with the outcomes of the "Sustainable Water Resources Management in the Lake Chad Basin" project (German Cooperation). This project will furthermore synergize with all other ongoing and planned initiatives in collaboration with other partners, as well as the "Vision 2025 of the Lake Chad Basin" and the 2012 Lake Chad Water Charter, etc...

Consultative process

Projects activities outcomes are for population and local communities. In accordance with this, a tailored and modern user requirement process will be put in place, taking into account minorities, genders and cultural aspects. This will ensure that the project adequately meets the needs and requirements of countries, as well as those of end users of hydrometeorological products and services. This participatory process will be led by the LCBC Executive Secretariat involving stakeholder platforms agreed in the Water Charter (Development Partners, Media, Research / Academic), with focus on civil society organizations representing women, marginalized ethnic groups and vulnerable populations. The activities will also capitalize traditional rulers and civil administrators. Additionally, close cooperation will be guaranteed with major development projects in the Lake Chad basin to make sure the project is delivering necessary products and synergies.

Economic, social and environmental benefits

The basin population is composed mainly of vulnerable groups, as most of it lives in rural areas with a livelihood-based economy. A strong emphasis on subsistence farmers and women will thus be developed throughout the project. The project will integrate smallholder farmers and farming communities in water resources management and increase their resilience to climate change effects. Furthermore, ensuring the full and effective participation of women in decision-making processes enables them to act as agents of change in all circumstances, with climate change-related actions subsequently benefiting from the insights, knowledge and other resources that they bring to bear in crafting effective and sustainable solutions for adapting to and mitigating climate change impacts. The project is expected to be a category C according to the Adaptation Fund's classification and should not have any negative effect on the environment or society.

Duplication of project with other funding sources

A number of initiatives are underway or planned in the Lake Chad Basin (most of which addressing either a sectoral monitoring or pilot sites), but no mechanisms have been put in place to ensure efficient, sustainable knowledge for sound water resources management, disaster risk reduction or the organization of actions between technical services and decision-making institutions to mitigate their impacts. This project has been designed to build on, synergise and complement results of activities of those projects financed by the Africa Development bank (PRESIBALT), the World Bank (PULCI), CREWS Chad, PROLAC and the German Cooperation (Adaptation to Climate Change). A complete inventory of current and developing projects and programmes will be carried out at the next stage of the project development process, with a view to strengthening synergies and ensuring complementarity.

Justification for funding requested

This objective will be achieved by investing the resources sought more specifically in (i) strengthening the institutional and technical capacities of hydrometeorological services at the national and regional levels, but also those in charge of civil protection and food security; (ii) producing information and services that adequately meet the urgent needs of economic sectors and populations in terms of food security, health, water management and disaster risk reduction; and (iii) Improving the multi-hazard warning systems of the participating countries; knowledge and detection of disaster risks and possible consequences, roles, responsibilities and coordination mechanisms for civil protection. The proposed project will also commit the LCBC and participating countries to support and maintain, in the long term, the actions undertaken in the development of its activities, both within countries and at the regional level. The total budget for these activities is estimated at **\$9.0** million to support implementation in the five participating countries. Funding for project management is estimated at **\$0.855MK** to ensure sufficient coordination at the regional and national levels. Additional funding also in the order of **\$0.765MK** is planned to cover the expenses of the implementing entity, for a total of **\$10.62MK** for the entire project.

PART III: IMPLEMENTATION ARRANGEMENTS

The Adaptation Fund will provide resources to WMO as the accredited entity to effectively mobilize LCBC as the Project Executing Agency that coordinates the development of project activities through a Project Management Unit (PMU) to be set up including 3 to 4 new staff to be appointed. A Steering Committee (SC) will be set up to oversee and validate the project implementation strategy. It will be composed of a representative from each participating country, representatives of the Implementing Agency, technical partners and donors, a representative of WMO who will act as the Project Supervisory Agency and the National Designated Authorities of Adaptation Fund in participating countries make sure that the project is being implemented according to the Adaptation Fund procedures. The technical services concerned, from the participating countries, in particular the NMHSs and the Civil Protection Services, will ensure the effective implementation of activities on the ground, with the assistance of the technical partners (if necessary), including in particular the GWP-Caf. Each country's NMHS will be engaged to be at the forefront of project development. Finally, local communities will play a key role in ensuring the ownership of the project, its efficiency and that the data is gathered in a demand-driven way. The Executing Agency is responsible for the implementation, direction, administration and financial monitoring of the project through the PMU it will set up.

PART IV: ENDORSEMENT BY GOVERNMENTS AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government¹ *Provide the name and position of the government official and indicate date of endorsement for each country participating in the proposed project/programme. Add more lines as necessary. The endorsement letters should be attached as annexes to the project/programme proposal.*

<p>Mr. Yerima Peter Tarfa Director, Department of Climate Change, Abuja, Nigeria Federal Ministry of Environment</p>	<p>January 16th 2020</p>
<p>Dr. Kamaye Maazou Secrétaire Exécutif du Conseil National de l'Environnement pour un Développement Durable BP 10193, Niamey, Niger</p>	<p>January 17th 2020</p>
<p>Mr. Michel Dimbele Kombe Chargé d'Etudes en matière de Mobilisation de Fonds Innovants liés aux Changements Climatiques Coordination Nationale Climat Ministère de l'Environnement et du Développement Durable Bangui, Central Africa Republic</p>	<p>January 15th 2020</p>
<p>M. Francis D. Matip Nougá, Chef de Cellule de Suivi Ministry of Environment, Protection of Nature and Sustainable Development P.O Box 320, Yaoundé, Cameroon</p>	<p>January 14th 2020</p>
<p>Mrs. Fatime Ousmane Geographer and Environmentalist Ministry of Environment, Water and Fisheries Ndjamena, Chad</p>	<p>January 15th 2020</p>

B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

¹ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (*Contribution Prévüe Déterminée au niveau National (CPDN) de la République du Tchad (Septembre 2015); Cameroon's National Adaptation Plan (June, 2015); Contribution Prévüe Déterminée au niveau National (CPDN) de la République Centrafricaine (Septembre 2015); Programme d'Action national pour le changement climatique (PANA), Niger (Juil. 2006); National Adaptation Strategy and Plan of Action (NASPA) on climate change for Nigeria, (November 2011)*) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.



Jean-Paul Gaudechoux
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Implementing Entity Coordinator

Date: July 1st, 2020

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