

# **Request For Proposal: Updating Benin's Water Resources Mapping**

March 2024

## **ABOUT THE NDC PARTNERSHIP**

The NDC Partnership is a global coalition of countries and institutions working to mobilize support and achieve ambitious climate goals while enhancing sustainable development. Through the Partnership, country members leverage their resources and expertise to provide countries with the tools they need to implement their NDCs and combat climate change to build a better future. Hosted by WRI, the UNFCCC Secretariat, and the UN Office for Project Services, the NDC Partnership has members in all regions of the world, with staff in Washington DC and Bonn, Germany.

The NDC Partnership has engaged with Benin to prioritize projects in the water sector leading to advancing implementation of its Nationally Determined Contribution (NDC) and its National Adaptation Plan (PNA). Working with the Partnership focal point to liaise and consult with the concerned national institutions, the Partnership issues this Request for Proposal in response to the priority project "Updating of Benin water resources mapping." The main objective is to improve knowledge of surface water resources across the entire national territory through updating available maps.

## **BACKGROUND**

Water resources in Benin are currently under pressure due to climate change effects. This reality is observed throughout the world and particularly in Africa in the intertropical zone where Benin is located. Considering the growing needs for various uses such as agriculture, livestock, drinking water, fish farming, hydroelectricity, etc. and faced with the impacts of these changes on the quantitative and qualitative availability of water resources, it is important to initiate actions to improve knowledge with the objective to sustainably manage these resources.

According to the National Water Policy document of Benin, it appears from the inventory of the water sector that the country has significant water resources of which the level of knowledge still remains low. This lack of information hinders sound management and planning in the face of growing needs for various uses. Thus, the PANGIRE3 (2023-2025) which is the action planning document in the water sector provides in its specific objective 3 to "develop knowledge and monitoring of water resources, uses and related risks at the water".

The vulnerability of water resources was highlighted in Benin's updated National Determined Contribution (CDN) in 2021. Benin's National Adaptation Plan (PNA-Water) also highlighted the future vulnerability of water resources induced by climatic impacts on surface waters that will manifest in

particular by the reduction of watercourses flow and the degradation of the quality of the resource. Surface water had been estimated in Benin since 1993 at approximately 13.106 billion m<sup>3</sup>/year, even if slightly more recent scientific work conducted in 2007 with sparse hydrometric data, had revealed an average increase of 5% in recent years, resulting from a drop of up to 27% in the North (a vast area of 2/3 of the national surface area but which drains 1/3 of the surface waters of the country) and an increase of around 17% in the South.

The synthesis of above documents shows that Benin's water resources are not sufficiently known and that it is essential to mobilize the means and technologies to collect the information necessary for the decision-makers. There is therefore reason to further develop actions for the monitoring and evaluation of surface water resources without forgetting their quality and the prevention of related risks. The figures previously mentioned have never been updated to allow (i) to identify the harmful effects of climate change on these water resources linked to population growth, and their nuances of variation in time and space (according to seasons for example), and (ii) promote integrated and sustainable management of water resources. Thus, it appears necessary to take stock of these resources through their mapping; which justifies this request. The desired mapping will make it possible to highlight the variations in the spatial extent as well as the evaluation of the volumes and depths of the water courses runoff and water bodies in Benin.

## **SCOPE OF WORK AND ACTIVITIES**

To successfully implement this project, support is necessary in the form of expertise to be provided by a team of experts including a hydrologist, a specialist in Geographic Information Systems, a database specialist, and a topographer. Their required qualifications and skills are detailed further below. The experts will carry out field work, consultation, and validation workshops. This team of experts will carry out the following activities:

- Collect satellite images of surface waters throughout the national territory.
- Collect field data on surface water.
- Correlate field data with satellite images.
- Develop a hydrographic atlas of Benin's water resources by hydrographic basin.
- Update the hydrographic maps of surface water resources in Benin.

## **KEY DELIVERABLES**

The expected deliverables are:

1. Database of satellite images of Benin's waterways.
2. Updated hydrographic atlas of Benin's watercourses by hydrographic basin.

3. a validation workshop report of the hydrographic atlas of Benin by the various stakeholders.

## PROJECT MANAGEMENT

The project is institutionally anchored at the General Directorate of Water of the Ministry of Energy, Water and Mines.

## TEAM OF EXPERTS REQUIRED

The different expertise to be mobilized to carry out this mission are listed in the following table. The following qualifications are essential:

- Basic training in geography.
- Training in hydrology, hydraulics or similar field
- Mastery of cartographic software.
- Good knowledge of the intervention area.
- Proven rich experience in producing maps.
- Capacity for analysis, synthesis and writing.
- Having carried out a similar project in the past.

The specifics are presented in the table below:

No	Key Expert	Number	Qualification Requirement	Experience
1	Hydrologist	01	Master's degree in Hydrology and Water resources	15 years of working experience in: <ul style="list-style-type: none"> <li>- monitoring of surface water resources.</li> <li>- surface water assessment.</li> <li>- hydrological database management.</li> </ul>
2	Topographer	01	Master's degree	10 years of working experience in: <ul style="list-style-type: none"> <li>- in topographic measurement techniques and cartography,</li> <li>- Mastery of measuring instruments (theodolite, GPS, etc.) - ability to interpret plans</li> </ul>

				<p>and maps, knowledge of CAD software.</p> <ul style="list-style-type: none"> <li>– Ability to solve topographical problems and awareness of safety standards.</li> </ul>
4	Expert in Geographic Information Systems (GIS)	01	Master's degree	<p>15 years of working experience in:</p> <ul style="list-style-type: none"> <li>– Analysis of satellite images and processing of spatial data and information on watercourses.</li> <li>– Processing of statistical data.</li> <li>– Creation of thematic maps.</li> <li>– Setting up a geo-referenced database in GIS format.</li> <li>– Development of maps.</li> </ul>

Proficiency in French is required for the entire project team.

## CONTRACT DURATION

- Estimated start date: June, 2024
- Estimated end date: December 2024

The detailed planning will be completed in consultation with the government.

## RFP PROPOSAL REQUIREMENTS

Prospective vendors should submit:

- Description of proposed project management structure (lead team/project manager, sub-contracted organizations, local experts, etc.)
- CVs of team members.
- Examples of and references for similar previous work (with URLs and contact details)
- Proposed implementation approach/project monitoring plan.
- Proposed budget with a breakdown of costs sufficient to assess reasonableness and compliance with our funder requirements.
- Proposed schedule for deliverables.

## SUBMITTING PROPOSALS

Please submit all proposals and relevant materials by **c.o.b., Wednesday, 8 May 2024** in electronic format to:

- Imane Chafiq, Country Engagement Specialist, [imane.chafiq@ndcpartnership.org](mailto:imane.chafiq@ndcpartnership.org)
- Roman Dehsabzi, Project Coordinator for Country Engagement Support, NDC Partnership Support Unit: [Roman.dehsabzi@ndcpartnership.org](mailto:Roman.dehsabzi@ndcpartnership.org)

WRI may, at its discretion and without explanation to the prospective vendors choose to discontinue this RFP without obligation to such prospective vendors or make multiple awards under this RFP.

