



Inception Report BY CENTRO GLOBALCAD 3.0 CAD  
Assessment of Coastal Hazards and Climate Change  
Adaptation Technologies for the Coastal Region of West  
Africa and Cameroon Using the Coastal Hazard Wheel  
(CHW)



United Nations Industrial  
Development Organization

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## 1. INTRODUCTION

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The West African littoral, as well as Cameroon are among the most vulnerable regions of the world to the effects of **coastal erosion and climate change, including sea level rise**. Coastal risk reduction, mobilizing all sectors and actors involved on the coast, requires the provision of reliable and up-to-date information, shared and made available at the various decision-making levels with a view to improving the strategic quality of decisions related to the development, occupation and conservation of coastal areas (MOLOA / UEMOA & IUCN, 2016). Thus, identifying climate-related risks on the West African and Cameroonian littorals is therefore crucial and essential to manage potential risks in a timely manner, which is particularly difficult in developing countries where data, expertise and economic resources are limited, combined with extremely rapid population growth. Different methodologies and approaches are developed to assess coastal risks and manage vulnerability to climate change in the littoral zone yet, there is no harmonized or standardized method at the West African and Cameroonian littoral level to identify, characterize and manage coastal risks and plan the implementation of specific adaptation technologies.

It is in this context that WACOM and the National Designated Entities (NDEs) of the 9 countries requested the assistance of the CTCN to strengthen their monitoring and planning system, assess the coastal risks through a standardized multi-risk approach and identify the technological adaptation options most appropriate to their respective contexts. The Coastal Hazard Wheel (CHW) have been identified as a universal system of coastal risk classification and assessment and a relevant tool to perform a preliminary risk assessment at regional scale, specially, for data sparse situations in the context of the West African and Cameroonian littoral, which can complement the other tools currently in use.

From the proposals received for this purpose, a Consortium lead by GlobalCAD and reinforced by WE&B, Meteosim and WASCAL was selected. The consortium combines the proven experience and expertise on technical assistance related to coastal climate risks; on database management (in CHW, Google Earth and GIS applications) applicable to coastal risks; on coastal dynamics, on partnerships at local and regional level and on delivering training to government officials in technical issues related with the project.

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## 2. OBJECTIVE

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The objective of this TA is to develop a standardized methodology based on a common language at the regional level, to collect, manage, share, compare and analyze data on an ongoing basis to support decision-making processes related to sustainable risk assessment and management and building the resilience capacity of the coastal regions of West Africa and Cameroon.

Specifically, the objectives are to:


- Develop planning and communication documents
- Update the national and WACOM coordination unit's databases with CHW (including Cameroon's).
- Identify and promote specific adaptation options and technologies most appropriate for coastal risks.

### 3. METHODOLOGICAL PHASES

The following phases are those proposed from the winning proposal presented by the consortium:

Figure 1. Methodological approach

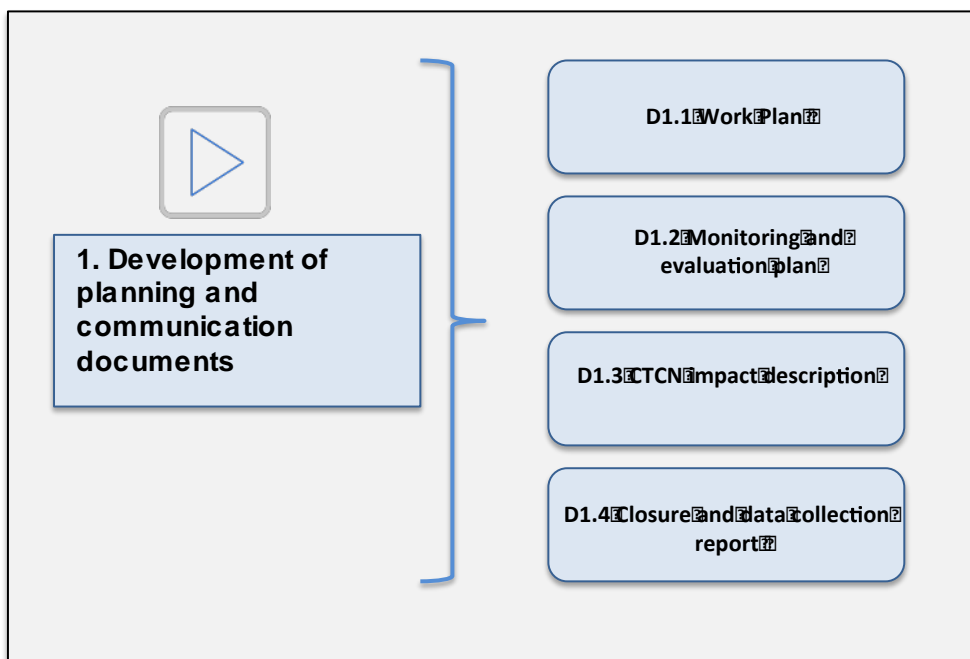


<p style="text-align: center;">application</p> <hr/> <div style="text-align: center;">  <p>03</p> <p><b>Identify and promote specific adaptation options and technologies most appropriate for coastal risks</b></p> </div> <p>2.1. Identify, evaluate and formulate a series of recommendations for technological options to be implemented for the sustainable management of the main identified coastal risks</p> <p>2.2. Formulate recommendations for a better optimization of the future application of the CHW tool in the context of MOLOA and Cameroon</p> <p>2.3. Organize a final regional workshop for sharing and capitalizing technical assistance</p>	<p>3.1 Report of the Regional Workshop on Updating Classification and Mapping of Coastal Risks and Adaptation Options for 11 Experts</p> <p>3.2. At least 05 to 10 adaptation technology options are identified, assessed and considered appropriate for the management of specific risks and recommended for their implementation</p> <p>3.3. A report presenting a series of recommendations on indicators and the process to be followed to continue to use the tool and update the data on a regular basis at national (one country report) and at the regional level</p> <p>4. Report of the final regional sharing and capitalization workshop</p>
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## PHASE 1. DEVELOPMENT OF IMPLEMENTATION PLANNING AND COMMUNICATION DOCUMENTS

This first phase is structured around one major activity that leads to four specific deliverables (see Figure 2).

**Figure 2. Strategic Activities considered in Phase One**



## Activity 1.1: Development of a Work Plan (Deliverable D 1.1.)

The current document corresponds to the formulation of the Work Plan considered under Deliverable D.1.1. In this sense, the following inception document provides an overview of the methodologies, time frames and approaches that the consortium will use to implement the services under this assignment.

## Activity 1.2. Monitoring and evaluation plan (intern) (Deliverable D 1.2.)

As stated on the draft documents of the Monitoring and Evaluation plan, we will use the CTCN evaluation table with the following measurable, viable and relevant indicators:

(A) Outputs and Activities as described in the Response Plan	(B) Response Plan target for the Output or Activity	(C) Indicator (CTCN performance indicators)	(D) Method and frequency for data collection	(E) Value for Output/Activity produced using the indicator in column C	(F) Difference btw targeted and delivered Output and activity values
<p><b>Output 1:</b> The consultancy implementation is well planned and it is ensured that all relevant stakeholders are engaged and well informed throughout the different stages of the implementation.</p>	<p><b>A.1.1:</b> Development of planning and communication documents</p>	<p>Detailed work plan presented to all stakeholders</p> <p>M&amp;E Plan</p> <p>CTCN Impact description report</p> <p>Closure and data collection report</p>	<p>I1. Number of work days of the international expert team spent on the implementation of the technical assistance</p> <p>I2. Number of work days of the locally-contracted expert team spent on the implementation of the technical assistance</p> <p>I3. Number of external communication and outreach activities conducted to showcase the assistance</p> <p>I19. Number of organisations with increased awareness and knowledge among countries to better own and drive national adaptation planning processes</p>	<p>Record of reports produced and delivered</p> <p>Consultation with stakeholders.</p> <p>Record on data analysis inventory</p> <p>CTCN training feedback form.</p>	

			149. Anticipated improved climate change observation systems and related information management in developing country Parties			
Other indicators that the consortium will aim to obtain, based on the accessibility, quality of information and reliability of the quantitative data that the consortium has access to, according to the feedback we receive across the TA:						
		Closure and data collection report	<p>118. Total number of institutional arrangements supported to support climate change planning</p> <p>122. Number of South-South collaborations enabled during or through the assistance, when stakeholders from other countries where involved in the assistance (Excluding the role of the CTCN and TA implementers)</p> <p>128. Total anticipated amount of funding/investment mobilised (in USD) as a result of the TA</p> <p>130. Anticipated number of people with increased resilience a co-benefits as a result of the TA</p> <p>135. Anticipated number of policies, strategies, plans, addressing climate change adaptations officially</p>	<p>Consultation with stakeholders.</p> <p>Notes from meetings and consultations</p> <p>Record on data analysis inventory</p> <p>CTCN training feedback form.</p>		

			proposed, adopted, or implemented as a result of the TA			
<b>Output 2:</b> Update with the CHW the National and WACOM Coordination Unit's databases	<b>A2.1</b> Comprehensive collection, evaluation and analysis of available national and regional data	Document presenting a comprehensive evaluation and analysis of available national and regional data in 8 countries and how to integrate them into the CHW system  One document presenting an assessment on the management of gender issues in coastal risk planning and management in West Africa and Cameroon  List (inventory) of available data, pre-processing and preliminary analysis for the 8 countries (shared by technical antennas)	I16.b Number of technical documents created  I16c. Number of other information materials strengthened, revised or created	Record of reports  Record on data inventory analysis		
	<b>A2.2.</b> Organize a regional training session for the focal points of the national antennas	Two (2) Regional Workshops Delivered  At least 11 experts trained	I11. Number of training sessions and capacity strengthening activities  I12. Number of people who received the training (men/women)  I13. Total number of organisations trained  I14. Number of participants that were significantly or	List with institutions that received the training  Notes from meetings and consultations.  Consultation with stakeholders.  Workshop reports.		

			moderately satisfied after the training	CTCN training feedback form.		
				Verification of the workshop being implemented Inscription and training evaluation completed by experts		
	<b>A2.3.</b> Train the experts of the national antennas and the regional coordination unit of WACOM	Two (2) National Workshop Delivered At least 135 experts trained	<p>I11. Number of training sessions and capacity strengthening activities</p> <p>I12. Number of people who received the training (men/women)</p> <p>I13. Total number of organisations trained</p> <p>I14. Number of participants that were significantly or moderately satisfied after the training</p>	<p>List with institutions that received the training</p> <p>Notes from meetings and consultations.</p> <p>Consultation with stakeholders.</p> <p>Workshop reports.</p> <p>CTCN training feedback form.</p> <p>Verification of the workshop being implemented Inscription and training</p>		

				evaluation completed by experts		
	<b>A2.4.</b> Update the classification and mapping of coastal risks and adaptation options	<p>One (1) Report of comments from technical antenna provided</p> <p>One (1) Report on updated databases</p> <p>Five (5) Classification and mapping of coastal hazards delivered</p>	<p>I16.b Number of technical documents created</p> <p>I16c. Number of other information materials strengthened, revised or created</p>	Record of reports, databases and coastal mapping produced and delivered		
<b>Output 3:</b> Identify and promote specific adaptation options and technologies most appropriate for coastal risks	<b>A.3.1:</b> Identify, evaluate and formulate a series of recommendations for technological options to be implemented for the sustainable management of the main identified coastal risks	<p>One (1) Report of the Regional Workshop on Updating Classification and Mapping of Coastal Risks and Adaptation Options for 11 Experts</p> <p>Five (5) to Ten (10) technology options identified, assessed and considered</p>	<p>I16c. Number of other information materials strengthened, revised or created</p> <p>I17C. c) Number of documents developed to inform other policies, strategies, and plans on climate change adaptation (sectoral strategies, national development plans, etc.)</p> <p>I42. Anticipated number of technology projects to support action on low emission and climate-resilient development</p> <p>I45. Anticipated technology types effectively deployed in the country (based on CTCN taxonomy)</p> <p>I49. Anticipated improved</p>	Record of reports and technologies proposed		

			climate change observation systems and related information management in developing country Parties			
	<b>A.3.2:</b> Formulate recommendations for a better optimization of the future application of the CHW tool in the context of MOLOA and Cameroon	One (1) Report presenting a series of recommendations on indicators and the process to be followed to continue to use the tool and update the data on a regular basis at national (one country report) and at the regional level	<p>116c. Number of other information materials strengthened, revised or created</p> <p>117c. Number of documents developed to inform other policies, strategies, and plans on climate change adaptation (sectoral strategies, national development plans, etc.)</p>	Record of reports produced		
	<b>A.3.3:</b> Organize a final regional workshop for sharing and capitalizing technical assistance	<p>One (1) Report of final regional sharing and capitalization workshop</p> <p>One (1) Final report of recommendations and indicators</p>	<p>13. Number of external communication and outreach activities conducted to showcase the assistance</p> <p>15. Number of international and multi-country (at regional or sub-regional level) technology and knowledge sharing events</p> <p>16. Number of participants in the events above</p> <p>119. Number of organisations with increased awareness and knowledge among countries to better own and drive national adaptation planning processes</p> <p>116c. Number of other information materials</p>	<p>List with institutions that participated to the workshops</p> <p>Notes from meetings and consultations.</p> <p>Consultation with stakeholders.</p> <p>Workshop reports.</p> <p>CTCN training feedback form.</p> <p>Record of reports and workshops produced</p>		

			strengthened, revised or created			
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## Activity 1.3. CTCN impact description (intern) (Deliverable D 1.3.)

<b>Challenge</b>	<p>The West African littoral, as well as Cameroon are among the most vulnerable regions of the world to the effects of climate change, coastal erosion and sea level rise, especially in a context of growing coastal urban concentrations and associated issues.</p> <p>Identifying climate-related risks on the West African and Cameroonian littorals is therefore crucial to manage potential risks. However, there is no harmonized method at the West African and Cameroonian littoral level to identify, characterize and manage coastal risks and plan the implementation of adaptation technologies.</p> <p>In this context WACOM and the National Designated Entities (NDEs) of the 9 countries request the assistance of the CTCN to strengthen their regional and national capacities to establish a robust diagnosis of multiple coastal risks and to identify technological adaptation options. The Coastal Hazard Wheel (CHW) was identified as the most relevant tool in the context of the West African and Cameroonian littoral.</p>
<b>CTCN Assistance</b>	<ul style="list-style-type: none"> <li>• Conduct a comprehensive assessment and analysis of data available at national and regional level and of their integration into the CHW system;</li> <li>• Train the experts of the national antennas and the regional coordination unit of WACOM and other relevant researchers on the data management available in the CHW system for the mapping of risks and adaptation options;</li> <li>• Identify, evaluate and formulate a series of recommendations for appropriate technological options to be implemented for the sustainable management of the main coastal risks.</li> </ul>
<b>Anticipated impact</b>	<ul style="list-style-type: none"> <li>• Through the Coastal Hazard Wheel (CHW) tool, the capacities and skills of the national branches of WACOM and its regional coordination unit as well as those of the Cameroon technical team are reinforced for better typology and assessment of coastal risks and appropriate technological options and their systematic integration into the national and regional planning policies of the West African and Cameroonian littoral</li> <li>• Number of people with increased capacity to adapt to the impacts of climate variability and change:             <ul style="list-style-type: none"> <li>○ 11 experts 7 national branches of WACOM and its regional coordination unit and Cameroon Technical team</li> <li>○ 135 experts from National offices and Regional Office and Cameroon Technical team</li> </ul> </li> </ul>
<b>Linkages and contribution to NDC</b>	<p>The technical assistance contributes to the needs in adaptation efforts in the following key aspects:</p> <ul style="list-style-type: none"> <li>• Technology Development and Transfer</li> <li>• Institutional strengthening through capacity building</li> </ul> <p>Therefore contributing to:</p> <ul style="list-style-type: none"> <li>• Early warning and disaster prevention</li> <li>• Resilience for gender and the vulnerable</li> </ul>
<b>The narrative story</b>	<p>Climate change is producing major challenges in coastal areas of the West African and Cameroonian regions. In fact, different coastal hazards are undermining economic dynamics on the region coastal areas, and the adaptation attempts are creating social and economic tensions. In order to face these numerous challenges, West African countries had established a</p>

	<p>coastal coordination mechanism known as “West African Coastal Observation Mission” (WACOM), which aims to coordinate and implement regional coastal hazard management activities.</p> <p>In order to complete and improve this mission, the CTCN Technical assistance is expecting to create a consistent system for managing key coastal hazards, improve regional coastal coordination and decision-base for national and regional adaptation activities, and continuously improve the data and facilitation data system.</p>
<b>Contribution to SDGs</b>	<ul style="list-style-type: none"> <li>• <b>SDG13</b> - The Technical Assistance will enable West Africa and Cameroon to integrate climate change considerations and adaptation measures and to improve the resilience of ecosystems reducing coastal hazards and their impacts.</li> <li>• <b>SDG14</b> – The Technical assistance will provide corresponding data in order to improve resilience in coastal zones in order to address vulnerabilities to coastal hazards.</li> <li>• <b>SDG17</b> – The Technical assistance will enhance cooperation between countries of the region, as well as, improving data sharing and management through multiple trainings.</li> </ul>

### Activity 1.4. Workplan for Closure and data collection report (Deliverable D 1.4.)

Based on the monitoring framework elaborated during the inception phase (activity 1.2) the team of consultant will provide a final report presenting the results of the TA. This will be based on a continuous work of monitoring during the project implementation presenting progress from the established baseline. The closure report will provide an assessment of progress and specific recommendations for the future implementation of the CHW in West Africa by the National Antenna of WACOM and Cameroon.

(A) Outputs and Activities as described in the Response Plan		Specific outputs	Due date
<b>Output 1:</b> The consultancy implementation is well planned and it is ensured that all relevant stakeholders are engaged and well informed throughout the different stages of the implementation.	<b>A.1.1:</b> Development of planning and communication documents	4 reports delivered	28 <sup>th</sup> February
<b>Output 2:</b> Update with the CHW the National and WACOM Coordination Unit’s databases	<b>A2.1</b> Comprehensive collection, evaluation and analysis of available national and regional data	2 reports delivered	30 <sup>th</sup> April
		1 database delivered	30 <sup>th</sup> April

	<b>A2.2.</b> Organize a regional training session for the focal points of the national antennas	2 Regional Workshops + 11 experts trained	24 <sup>th</sup> April
	<b>A2.3.</b> Train the experts of the national antennas and the regional coordination unit of WACOM	2 Regional Workshops + 135 experts trained	15 <sup>th</sup> July
	<b>A2.4.</b> Update the classification and mapping of coastal risks and adaptation options	2 reports delivered, 5 coastal mapping updates	20 <sup>th</sup> September
<b>Output 3:</b> Identify and promote specific adaptation options and technologies most appropriate for coastal risks	<b>A.3.1.:</b> Identify, evaluate and formulate a series of recommendations for technological options to be implemented for the sustainable management of the main identified coastal risks	1 report delivered, 5 to 10 technologies proposed	20 <sup>th</sup> September
	<b>A.3.2:</b> Formulate recommendations for a better optimization of the future application of the CHW tool in the context of MOLOA and Cameroon	1 report delivered	30 <sup>th</sup> September
	<b>A.3.3:</b> Organize a final regional workshop for sharing and capitalizing technical assistance	1 final report and 1 workshop delivered	15 <sup>th</sup> December

**DELIVERABLES PHASE 1:**

D1.1. Work Plan

D1.2. Monitoring and evaluation plan

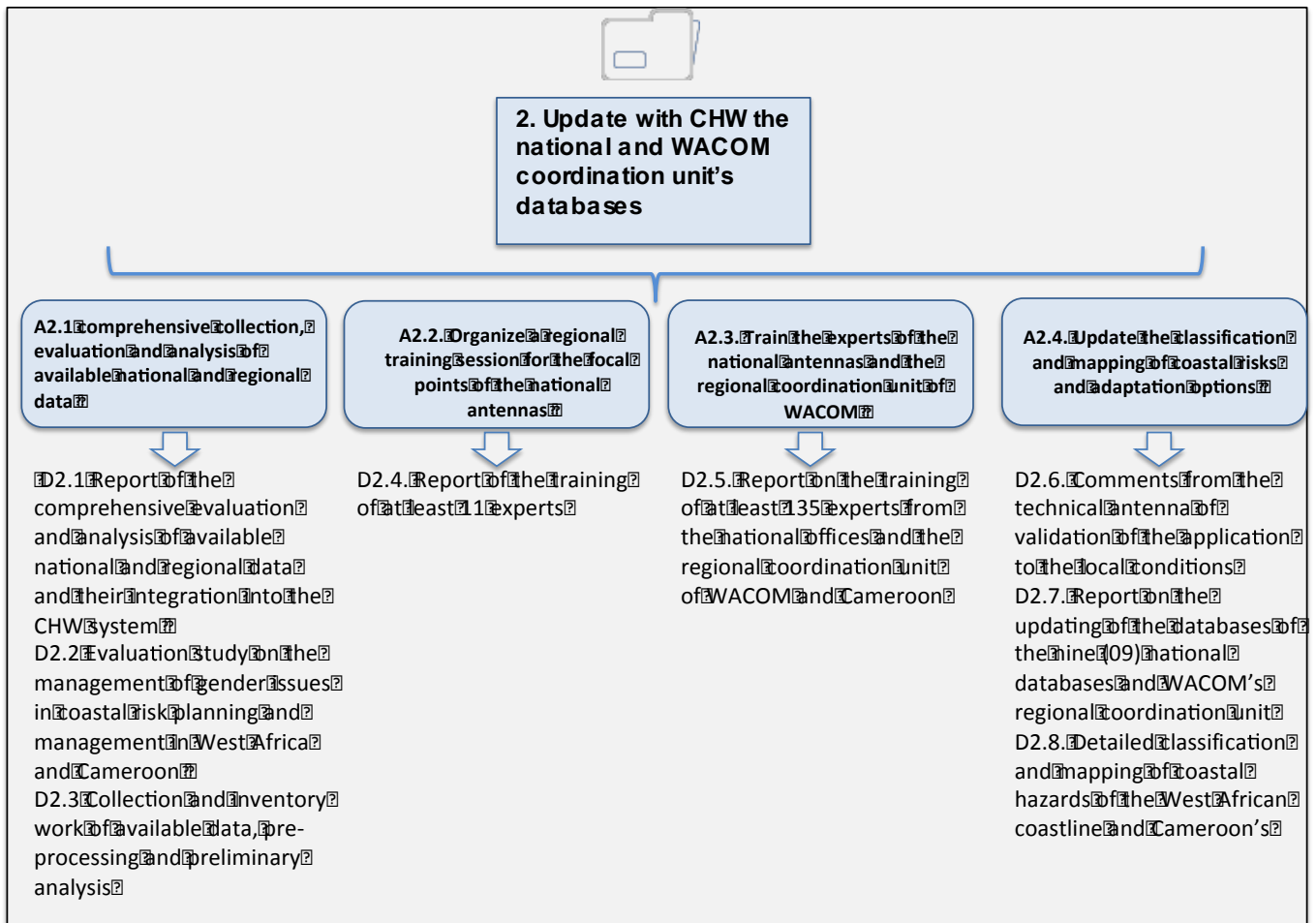
D1.3. CTCN impact description

D1.4. Closure and data collection report

## PHASE 2. UPDATE WITH CHW THE NATIONAL AND WACOM COORDINATION UNIT'S DATABASES

Phase 2 is characterized by four specific activities, which entail developing a data collection and analysis of available national and regional data (including gender analysis in coastal risk planning), proposing regional and national workshops to train experts, and updating the classification and mapping of coastal risks considering adaptation options (see Figure 3).

Figure 3. Strategic Activities considered in Phase Two



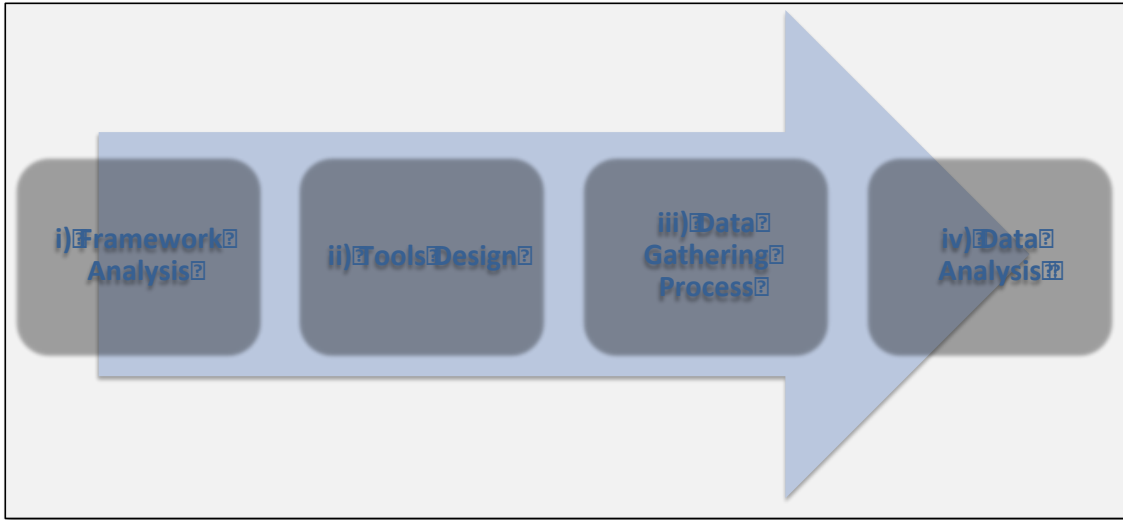
### Activity 2.1: Conduct a comprehensive collection, evaluation and analysis of available national and regional data and their integration into the CHW system

Activity 2.1. is divided into two main phases: 2.1. (a) Comprehensive evaluation and analysis of available national and regional data; and 2.1. (b) Evaluation study on management of gender issues in coastal risk planning and management in West Africa and Cameroon.

**2.1. (a) Comprehensive evaluation and analysis of available national and regional data**

The approach proposed to articulate the activities to be developed under the activities planned for Phase 2.1.a are the following (see Figure 4).

**Figure 4. Systematic approach to develop the data analysis framework**


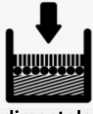







**i) Framework Analysis**

The first phase of the framework analysis will develop a thorough list of quantitative metrics that will quantify in detail the data availability as well as the data quality and reliability of the different dimensions related to coastal risk analysis.

This framework will consider all the data options and variables integrated on each dimension in order to quantify the data availability of quality of them (see Figure 5).

**Figure 5. Framework analysis from the coastal risk management dimensions**

Availability indicators		Quality & Reliability indicators		Availability indicators		Quality & Reliability indicators	
 <p><b>Coastal geomorphology</b></p> <ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>			<ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>	 <p><b>Sedimentology</b></p> <ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		<ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>	
 <p><b>Oceanographic data</b></p> <ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		<ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		 <p><b>Biodiversity</b></p> <ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		<ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>	
 <p><b>Climate</b></p> <ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		<ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		 <p><b>Socio-economic activities</b></p> <ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		<ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>	
				 <p><b>Integrated coastal zone management</b></p> <ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>		<ul style="list-style-type: none"> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> <li>Indicator</li> </ul>	

Based on this approach, a database framework analysis will be designed to include all the characteristics of the analysis based on each specific country included, as well as the regional dimension aggregating all the components from each country (see Figure 6).


**Figure 6. Country analysis and regional approach**

Thematic dimensions	Characteristics of evaluation and analysis	Benin	Cameroun	Cote d'Ivoire	Gambia	Ghana	Guinea	Senegal	Togo	Regional
Coastal geomorphology data	Availability									
	Quality & Reliability									
Oceanographic data	Availability									
	Quality & Reliability									
Climate	Availability									
	Quality & Reliability									
Sedimentology	Availability									
	Quality & Reliability									
Biodiversity	Availability									
	Quality & Reliability									
Socio-economic activities	Availability									
	Quality & Reliability									
Integrated coastal zone management measures	Availability									
	Quality & Reliability									

**ii) Tool Design**


Once the framework has been proposed, the consortium will develop and design a series of tools to perform the data gathering process. Part of the tools designed will be composed through the different strategic data gathering categories (see Figure 7).

**Figure 7. Tools for Data Gathering dimensions**




**Background information**

- Review available documentation
- Learn from case studies and examples
- Identify risks and opportunities
- Highlight insights & lessons learned




**Online Survey**

- Design survey content
- Identify organizations and key experts
- Distribute survey for data collection
- Aggregate and analyze results



**Key Interviews**

- Select key participants from survey selection
- Prepare interview structure
- Perform interviews with selected participants
- Aggregate and analyze data from interviews



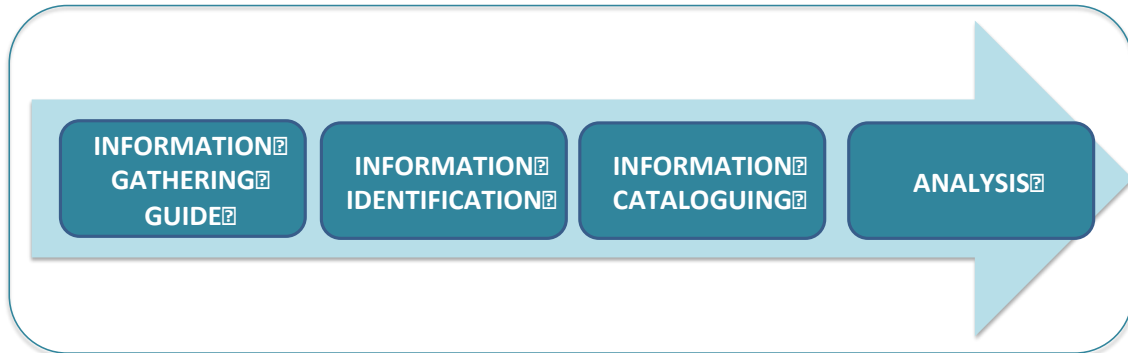
**Focus Groups**

- Organize focus groups formed by selected members
- Design workshop contents according to information needs
- Run workshops with key strategic members
- Aggregate and analyze data from focus groups

### iii-iv) Data gathering process & data analysis

This approach would be completed through a thorough data gathering process using the different tools designed. Such data gathering process will follow four specific steps (see Figure 8).

**Figure 8 – Data Gathering process**



(i) Information Gathering Guide: The consultants will develop a guide to evaluate, process and analyze the available information and how that information can be integrated into the CHW system. This guide will help all those involved in the data collection from inside and outside of the project consortium to collect the data in the same systematic way.

(ii) Identification of the information and information gaps: Based on a list of sources and documents defined in phase 1, the desk analysis will start with an exploratory activity. Gaps in the literature or data will also be identified as well as continuous data collection schemes.

(iii) Cataloguing the information collected: The literature reviewed will be catalogued by title, by relevance and by data available. The cataloguing will take the form of an Excel matrix table to allow for filtering and cross-referencing and to identify more easily the data gaps.

(iv) Analysing the information collected: The last step of the review process consists in the analysis of the information collected.

The information obtained from the data gathering process will be subjected to analysis through qualitative and quantitative methods. At each country level, using the data gathering guide as reference, the collection and inventory of the available data, pre-treatment and preliminary analysis will be carried out by the WACOM National Antennas and the Cameroon Technical Counterpart. This information will aid in preparing the work for Regional Workshop (Activity 2.2) This work will be done through the technical antennas.

## **2.1. (b) Evaluation study on management of gender issues in coastal risk planning and management in West Africa and Cameroon.**

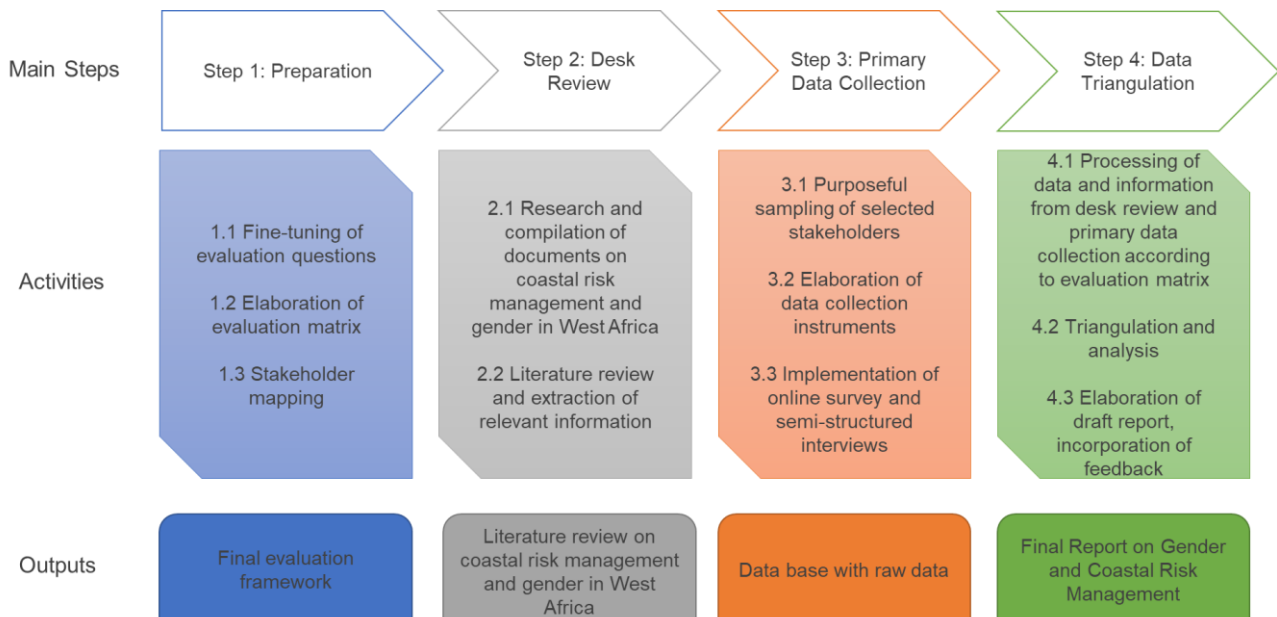
As presented in the proposal, included in this analysis will be an evaluation study of the management of the gender issue in the planning and management of coastal risks in West Africa and Cameroon. This assessment will identify specific vulnerabilities and needs related to gender in particular in terms of access to resilience actions, funding mechanisms and proposed capacity building programs, with the aim of providing differentiated responses.

Principally the following questions will be used in the evaluation (however these questions will be reviewed in the kick-off meeting):

- i) To what extent is vulnerability gender-specific in the West African and Cameroonian coastal area?
- ii) How does WACOM countries and Cameroon perceive and deal with vulnerability and resilience to coastal risks, taking into account gender?
- iii) How do WACOM countries and Cameroon intend to change the gender roles in coastal risk planning and management?
- iv) How do WACOM countries and Cameroon measure changes in gender roles in coastal risk management? and
- v) What are the factors that encourage changes in gender roles (drivers of change) and what are the limitations and challenges?

The consultants propose to conduct the study based on the following methodological steps:

**Figure 9: Methodological steps for gender evaluation study**



### Step 1: Preparation

As a first step, the consultants will review jointly with UNIDO the proposed evaluation questions and clarify the exact information needs and the purpose of the study. As a result, further adaptations to the main questions will then be made.

Following this, the consultants will elaborate an evaluation matrix that will contain the final evaluation questions, as well as related assumptions and sub-questions, and specific quantitative and qualitative indicators that will be used to answer each question. This matrix will be the main tool to be used throughout the study to maintain an adequate focus and to later on organize all collected data and information according to the indicators and questions included in the matrix for further data analysis.

In addition, the consultants will conduct a stakeholder mapping to identify at each country level, as well as at the regional level, relevant key stakeholders for the evaluation study. These can include but will not be limited to government representatives, experts on coastal risk management and gender, representatives from NGOs and international organizations working in the field, etc. While a focus will be on

the West African region and the country level, some international experts will also be considered. The consultants, with input from UNIDO and WACOM and Cameroon focal points, will compile a list of relevant individuals and organizations, which will be continuously updated throughout the desk review phase.

### **Step 2: Desk Review**

The consultants will then conduct an in-depth literature research and review to obtain relevant information that helps to answer the evaluation questions. Literature can include, among others, national development plans and gender policies of WACOM countries and Cameroon, coastal risk management plans, project and programme documents related to coastal risk management, vulnerability and gender, existing evaluations of policies, plans and projects/programmes, academic literature on the topic, etc. In addition, the consultants will look to identify international experiences with integrating gender aspects into the CHW methodology.

The consultants will review the compiled literature and extract all relevant information according to the questions and assumptions included in the evaluation matrix. They will then elaborate a first narrative document that aims to answer the key questions based on the literature review. This exercise will also allow for completing the stakeholder mapping with additional key informants.

### **Step 3: Primary Data Collection**

The literature review will allow the consultant team to gain a comprehensive overview of the available information and data, as well as for the identification of information gaps that need to be filled out through primary data collection. Based on this, they will conduct a targeted sampling of key stakeholders from the stakeholder mapping that are deemed most adequate for providing the necessary information for the evaluation study.

Data collection instruments will be elaborated per stakeholder type (e.g. government, thematic expert, representatives from NGOs or international organizations, etc.), and they will contain specific questions designed to collect quantitative and qualitative information to feed into the indicators in the evaluation matrix. The main data collection instruments will be:

- ❖ Online surveys that can be sent via email to a larger group of stakeholders, with a mix of open-ended and closed questions
- ❖ Semi-structured interviews to be conducted with a limited number of key informants, to collect more qualitative information.

The consultants will implement the data collection and process all collected information into standardized formats for further analysis.

### **Step 4: Data Triangulation**

As a final step, the consultants will triangulate the information obtained through the literature review with the primary data collected in order to cross-check the information and validate findings. To this end, they will first organize all information according to the indicators and questions in the evaluation matrix to compare information from different data sources. All data and information will be analyzed in-depth and will be used to elaborate the final draft evaluation study. A narrative analysis will be provided per country and a comparative analysis will be done at the regional level. The report will aim to answer the key evaluation questions and will provide conclusions and recommendations related to best practices on how to integrate gender issues into the CHW.

**QUESTIONS FOR POLL during presentation**

**General data**

- ❖ Country
- ❖ Name of organization
- ❖ Position in the organization

**On coastal risk management and gender**

1. Does your country already consider aspects of vulnerability and gender in coastal risk management?  
Yes    No    I don't know  
If yes, please briefly provide information:  
\_\_\_\_\_
  
2. Do you know of specific policies or programmes in your country that deal with vulnerability and resilience to coastal risks, taking into account gender?  
Yes    No    I don't know  
If yes, please briefly provide information:  
\_\_\_\_\_
  
3. Which are key institutions (governmental or non-governmental) in your country dealing with gender equality?  
\_\_\_\_\_ I don't know
  
4. Can you recommend any specific literature on the topic of gender in coastal risk management?  
\_\_\_\_\_ I don't know

**Activity 2.2: Organize a regional training session for the focal points of the national antennas and the regional coordination unit of WACOM as well as the Technical Counterpart of Cameroon on the methodology and the practical application of the CHW tool**

The West African Monetary and Economic Union (UEMOA) regional study (2016) underlined the weakness of national and regional technical and institutional capacities in terms of typology and coastal risk assessment and their integrated management, and also the multifaceted nature and uncertainty of the data available. Therefore in order to improve capacities specifically related to the CHW tool, the consultants will run a workshop to evaluate, validate and harmonize the approach and the procedures for collecting, processing and disseminating data.

The workshop will be regional in nature and include the focal points of the national antennas and the regional coordination unit of MOLOA as well as the technical counterpart in Cameroon. It is proposed to prepare and implement the online training event through the following approach:

**Preparation:** Firstly, the consultants will draw-up a training framework document which will include all the relevant information from phases 2.1. to prepare the training modules. These will focus on the CHW tool use and the gender mainstreaming. The content proposal will include the final training scope, format of the training, key messages, location, invitations and reviewing the framework that will be undertaken.

**The training workshop:** The participants will hear from, share experiences and learn from what has worked and what has not worked in terms of the CHW. The participants will harmonize the approach and the procedures for collecting, processing and disseminating data of the CHW. The CHW and GIS expert together with the workshop

and gender experts will implement the training and provide support in order to ensure appropriate understanding and assimilation of the training modules. The Consultants will also be responsible for distributing the materials necessary for the exchange (agenda, resources links, bios of resource persons, modules, etc.).

**Follow-up:** As the most important aspect of the training workshop is to ensure that the focal points of the national antennas and the regional coordination unit fully grasp the ins and outs of the CHW, the consultants will organize a follow-up with each workshop attendee. The objective of the follow-up will be to see if there are any remaining questions or doubts with regards to the training that they undertook. The consultants will thus be available to ensure that all participants are fully comfortable with the CHW tool.

#### Training Approach Components

- Two training events (one in English, one in French) to include all West African countries focal points (9 National Focal Points and the Regional Coordination Unit)
- Online support provided by CAD, WE&B, WASCAL and MeteoSim
- Training modules to include the validation and training on CHW tool and a module on gender mainstreaming and assessment in coastal risk planning and management programmes and policies.
- A training workshop framework will be developed by the consultants for review by UNIDO, to achieve a common understanding of the training workshop implementation.
- The consultants will use the CTCN GoToWebinar platform

### Activity 2.3: Train the experts of the national antennas and the regional coordination unit of WACOM as well as the Technical Counterpart of Cameroon and relevant researchers on the data management available in the CHW system for risk mapping and adaptation options

Following the first training workshop on the methodology and the practical application of the CHW tool, a second training workshop will be held with relevant researchers on data management. It is proposed to prepare and implement the online training event through the following approach:

**Preparation:** As in the first training module of Activity 2.2., the consultants will draw-up a training framework document which will focus on inventory, aggregation and evaluation of available data and harmonization of procedures for collecting, processing and sharing information as well as a module on gender main streaming.

**The training workshop:** The participants will hear from, share experiences and learn about the inventory, aggregation and evaluation of available data and harmonization of procedures for collecting, processing and sharing information in the CHW tool.

**Follow-up:** Again, as in the previous training module, the follow-up will be to see if there are any remaining questions or doubts with regards to the training that they undertook. The consultants will be available to ensure that all participants are fully comfortable with the CHW tool and ensure that the results will be integrated into the work of adaptation options and recommendations of activities 3.1 and 3.2.

### Training Approach Components

- Two events will be held (one in English and one in French) to include at least 135 experts from the national branches and the regional unit of WACOM and the technical team of Cameroon (15 experts per country) on the method and its practical application
- Online support provided by CAD, WE&B, WASCAL and MeteoSim
- Training modules to include the validation and training on CHW tool and a module on gender mainstreaming and assessment in coastal risk planning and management programmes and policies.
- A training workshop framework will be developed by the consultants for review by UNIDO, to achieve a common understanding of the training workshop implementation.
- The consultants will use the CTCN GoToWebinar platform

### Activity 2.4: Update the classification and mapping of coastal risks and adaptation options (including Early Warning Systems), using the CHW and / or Google Earth web application

The results of the data evaluated and processed during the practical trainings at national and regional level (see Activities 2.1, 2.2 and 2.3) will constitute the basic elements to update the classification and cartography of the coastal risks and the adaptation measures. Identified gaps in the data will be filled out through further analysis through field verifications in close collaboration with national offices as part of the on-going data collection. The consultants will provide recommendations to national antennas to conduct these field verifications.

This activity will be conducted in the form of an online regional workshop and will be linked to Activity 3.1. so it helps to identify the technological adaptation options best suited to these coastal contexts.

Therefore, a detailed classification of the typology of the West African coastline and risk areas will be organized in the eight (08) countries involved in the technical assistance in order to identify the corresponding technologies needed for activity 3.1. This CHW classification will be integrated into the WACOM and Cameroon National Climate Change Observatory databases and updated on a continuous basis, for the benefit of country offices and regional coordination for planning and integrated management of West Africa and Cameroon coastal zones.

Following the training workshop the results of the updating of the WACOM database and the Cameroon National Observatory of Climate Change and of the classification and risk assessment will be presented in the form of statistical tables on the typology and levels of major risks and a series of 5 national and regional overview maps including:

- (i) National and regional maps of the risks of ecosystem disruption;
- (ii) National and regional maps of flood risk due to climate change;
- (iii) National and regional coastal erosion risk maps,
- (iv) National and regional salt water intrusion risk maps, and
- (v) National and regional flood hazard maps in relation to sudden changes in climatic factors (storm surges, extreme tides).

**DELIVERABLES AND DEADLINES FOR PHASE 2:**

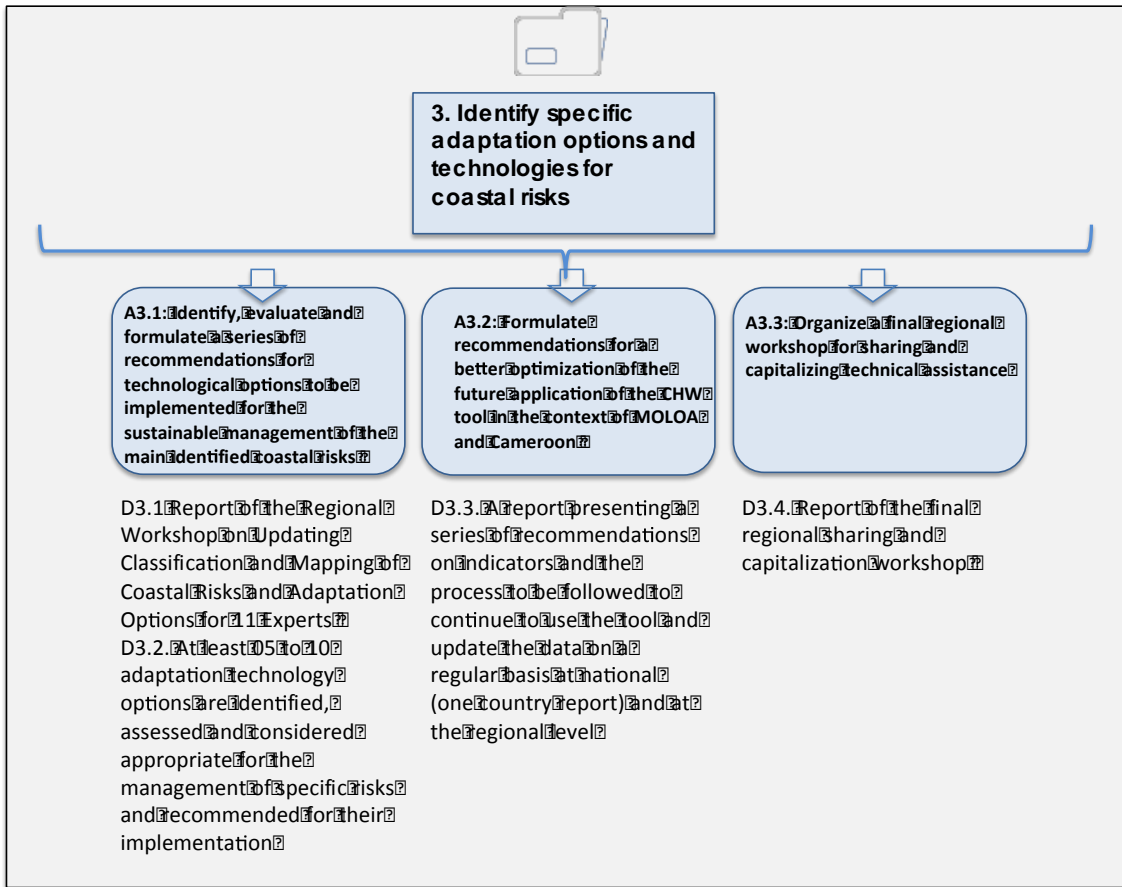
- 2.1 Report of the comprehensive evaluation and analysis of available national and regional data and their integration into the CHW system
- 2.2 Evaluation study on the management of gender issues in coastal risk planning and management in West Africa and Cameroon
- 2.3 Collection and inventory work of available data, pre-processing and preliminary analysis (shared by technical antennas)
- 2.4. Report of the training of at least 11 experts
- 2.5. Report on the training of at least 135 experts from the national offices and the regional coordination unit of WACOM and Cameroon
- 2.6. Comments from the technical antenna of validation of the application to the local conditions
- 2.7. Report on the updating of the databases of the nine (09) national databases and WACOM's regional coordination unit
- 2.8. Detailed classification and mapping of coastal hazards (production of national and regional maps and statistical tables) of the West African coastline and Cameroon's

### PHASE 3. IDENTIFY AND PROMOTE SPECIFIC ADAPTATION OPTIONS AND TECHNOLOGIES MOST APPROPRIATE FOR COASTAL RISKS

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Phase 3 is characterized by three specific activities, which entail the identification, evaluation and formulation of a series of recommendations for technological options; formulate recommendations for better optimization of the CHW and the organization of a final regional workshop for sharing and capitalizing technical assistance (see Figure 10).

**Figure 10. Strategic Activities considered in Phase Three**



### Activity 3.1: Identify, evaluate and formulate a series of recommendations for technological options to be implemented for the sustainable management of the main identified coastal risks

As proposed in the methodological approach, activity 3.1 and Activity 2.4 will be combined into one regional workshop that will include 9 National Focal Points and 2 Regional coordinators. The workshop will focus on the updating of the classification and mapping of coastal risks and adaptation options using the CHW and Google Earth.

The consultants will take into account their experience of implementing the CHW in Timor Leste which confirmed the ease of application of the CHW climate change sensitive coastal hazard identification tool. Using this experience the consultants will be able to generate management-useful maps describing coastal susceptibility to various hazards and hazard levels.

In addition to the coastal risk classification and mapping exercise, a work of identifying options and appropriate adaptation technologies for the sustainable management of the main risks will also be carried out simultaneously. Therefore a corresponding mapping of appropriate adaptation options and technologies will be developed. As stated above, this will contribute to improved planning and integrated management of the West African coastline.

As an outcome of this activity, the consultants will produce a list of between 5 to 10 most relevant strategic options, measures and/or technologies to be implemented for future programmes and projects for WACOM and Cameroon.

For each strategic technology option selected, the following information will be provided

<b>Definition of the technology</b>	
<b>Description of the technology</b>	
<b>Benefits</b>	<b>Disadvantages</b>
<b>Financial costs and needs</b>	
<b>Institutional and organizational capacities required</b>	
<b>Factors hindering its implementation</b>	<b>Factors favoring its implementation</b>
<b>Case study narrative</b>	

In addition, following the gender assessment study conducted in Activity 2.1 and the recommendations to come out of that, the main findings and perspectives of the gender mainstreaming in the planning and implementation of adaptation technologies in coastal areas of West Africa and Cameroon will also be included.

**Activity 3.2: Formulate recommendations for a better optimization of the future application of the CHW tool in the context of WACOM and Cameroon**

Following on from Phase 1 and Phase 2, in activity 3.2 the consultants will be able to draw lessons on achievements, weaknesses, difficulties and the gaps in the available data. On the basis of this progress report, recommendations will be made for updating

the data on coastal risks, the optimization of the use of the CHW tool and the preparation of standardized reports for each of the nine countries.

Finally as part of this activity, recommendations will be made that will relate to the following aspects:

<b>a. The typology of the data</b>
<b>b. Procedures for collection and processing and interpretation of physical, social and economic data</b>
<b>c. Handling the Wheel software</b>
<b>d. The format and quality and frequency of submission of reports</b>

### **Activity 3.3: Organize a final regional workshop for sharing and capitalizing technical assistance**

At the end of the technical assistance, the consultants will organise a final workshop that will be organized in Dakar. The venue of the final workshop will be discussed during the project implementation and specifically during the kick-off meeting to ensure the most adequate venue for all to attend. With WASCALs presences in Dakar specifically related to their Climate Change Economics programme, it will be easy to organise a successful workshop there. The workshop will provide simultaneous translation for the presentation and capitalization of the results.

The main targets of this regional sharing and capitalization workshop are the NDEs, the WACOM national branches and the WACOM Regional Coordination Unit and Cameroon’s technical counterpart. However, we will ensure the participation of regional initiative representatives and relevant donors to enable the NDEs and WACOM to present adaptation options and recommendations formulated during CTCN technical assistance. Therefore the workshop will be dynamic and engaging where we will consider taking a “field trip” to a coastal area nearby to show in situ the capitalization of the results.

<p><b>DELIVERABLES PHASE 3:</b></p> <p>3.1 Report of the Regional Workshop on Updating Classification and Mapping of Coastal Risks and Adaptation Options for 11 Experts</p> <p>3.2. At least 05 to 10 adaptation technology options are identified, assessed and considered appropriate for the management of specific risks and recommended for their implementation</p> <p>3.3. A report presenting a series of recommendations on indicators and the process to</p>
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be followed to continue to use the tool and update the data on a regular basis at national (one country report) and at the regional level

### 3.4. Report of the final regional sharing and capitalization workshop

## Challenges and Mitigation measures

As part of the challenges that may come up during implementation of the assignment, the following risks and assumptions have been identified during the inception phase and presentation webinars with Francophone and Anglophone counterparts:

Challenges	Mitigation measures
Lack of cooperation, involvement and willingness of the experts of the national antennas and the WACOM regional coordination unit and the Cameroon Technical Counterpart all along the project implementation (and especially during activities A2.1. A2.2. A2.4 A3.1)	<ol style="list-style-type: none"> <li>1) Maintain a close communication and relation with local partners and engage them. Creation of a guide for supporting them.</li> <li>2) Support from CTCN contacting party (UNIDO) in order to engage National Antennas.</li> <li>3) Increased involvement of the NDEs</li> <li>4) Identification of new local counterparts</li> </ol>
Challenges in data availability	<ol style="list-style-type: none"> <li>1) Methodology integrating data availability, quality and reliability in order to work with the most appropriate indicators</li> <li>2) Increased involvement of WACOM Antenas.</li> <li>3) In case of no availability support from CTCN (NDEs) will be needed</li> </ol>
Lack of connectivity for online trainings and online webinars	<p>Off line webinars through recorded training sessions</p> <p>Organisations of sessions in WASCAL facilities (Ghana, Senegal, Togo, Gambia) or other identified partners (UNIDO)</p>

