



# Policy coherence between disaster risk reduction and climate change adaptation

CASE STUDY - BENIN



**UNDRR**  
UN Office for Disaster Risk Reduction



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# Acronyms and abbreviations

<b>CC</b>	Climate Change
<b>CCA</b>	Climate Change Adaptation
<b>DRM</b>	Disaster Risk Management
<b>DRR</b>	Disaster Risk Reduction
<b>EWS</b>	Early Warning System
<b>GCF</b>	Green Climate Fund
<b>GEF</b>	Global Environment Facility
<b>NAP</b>	National Adaptation Plan
<b>NDC</b>	Nationally Determined Contribution
<b>NGO</b>	Non-Governmental Organization
<b>SDGs</b>	Sustainable Development Goals
<b>RA</b>	Risk Assessment
<b>UNDP</b>	United Nations Development Programme
<b>UNDRR</b>	United Nations Office for Disaster Risk Reduction
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change

## Benin

<b>DGEC</b>	Directorate-General of the Environment and Climate (under the MLCSD)
<b>DG Water</b>	Directorate-General of Water (under the Ministry of Water and Mines)
<b>MD</b>	Ministry of Planning and Development
<b>MLCSD</b>	Ministry of Living Conditions and Sustainable Development
<b>NMA</b>	National Meteorological Agency
<b>NAP</b>	National Adaptation Plan
<b>NCCC</b>	National Committee on Climate Change
<b>NCPA</b>	National Civil Protection Agency
<b>NDP</b>	National Development Plan

**NP DRR-CCA**

National Platform for Disaster Risk Reduction and Climate Change Adaptation

# Introduction

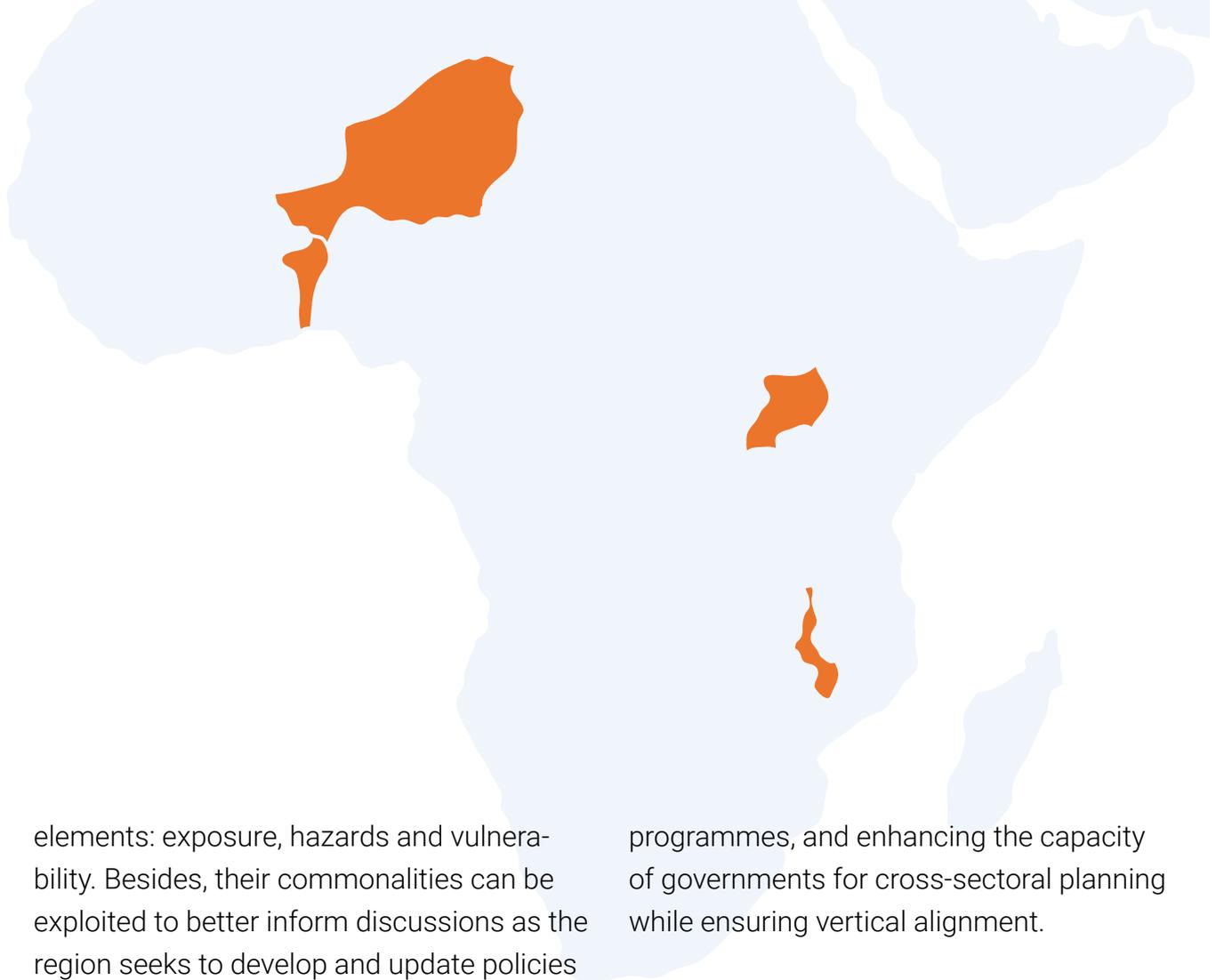
## Background

In the past ten years, 83 per cent of all disasters triggered by natural hazards were caused by extreme weather- and climate-related events, such as floods, storms and heatwaves, and killed more than 410,000 people worldwide (IFRC, 2020). In 2020 only, 80 disasters were recorded across 36 African countries. Among them, floods affected seven million people and caused 1,273 deaths, the highest figure since 2006 (CRED & UNDRR, 2020a).

Disasters in Africa are predominantly hydro-meteorological, comprising cyclones, storms, floods, extreme temperatures, wildfires, and droughts. Other forms of hazard affecting the region include earthquakes, epidemics, volcanic eruptions, and landslides (GFDRR, 2018), causing devastating socioeconomic impacts. The high vulnerability and exposure to disasters have been attributed to rapid population growth, fast but poorly planned urbanization, environmental degradation and climate variability and change (GFDRR, 2018). Climate change is expected to increase the frequency and intensity of natural hazards in the continent, leading to increased disaster risk and derailment of sustainable development. Thus, these disasters are posing a serious challenge to Africa's economic growth and achievement of the sustainable development agenda.

The Sendai Framework for Disaster Risk Reduction (2015-2030), the SDGs and the Paris Agreement are guiding countries towards sustainable development. In particular, the Sendai Framework recognizes that DRR is a cross-cutting agenda that needs coherence with other development frameworks, thereby requiring collaboration and cooperation with a wide range of stakeholders including scientists and the local communities, to help governments in its implementation. Design and implementation of effective disaster risk reduction strategies is one of the tools the countries in Africa are using to combat recurrent and future disaster risks, through a multi-hazard approach in prevention, preparedness, response, and recovery, as well as reconstruction. In addition, climate change adaptation strategies, National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) establish countries' ambitions and plans to achieve adaptation.

Several studies have shown that the two approaches of disaster risk reduction (DRR) and climate change adaptation (CCA) share commonalities and convergences in the problems they seek to solve in sub-Saharan Africa (UNDRR, 2020a; GFDRR, 2018). They also share similar approaches, tools, objectives and outcomes, including similar understanding of risk as a product of three



elements: exposure, hazards and vulnerability. Besides, their commonalities can be exploited to better inform discussions as the region seeks to develop and update policies and strategies.

In response to the need to support efficient implementation of the 2030 Agenda and the Sendai Framework in sub-Saharan Africa, the United Nations Office for Disaster Risk Reduction (UNDRR) is supporting closer engagement of DRR and CCA practices, communities, and institutions. This is aimed at fostering coherent implementation of DRR and CCA measures, taking advantage of their interlinkages underpinned by shared objectives, concepts, and activities, despite different institutional and political settings at global and national levels. To this end, UNDRR is supporting the application of comprehensive climate and disaster-risk management (CRM) principles and guidance. The latter aims to strengthen synergies between DRR and CCA, identifying mutually beneficial opportunities across policies and

programmes, and enhancing the capacity of governments for cross-sectoral planning while ensuring vertical alignment.

To gain a better understanding of coherence policies and practices from the perspective of practitioners involved in DRR, CCA and SDGs, UNDRR conducted three multi-stakeholders' workshops between 2019 and 2020, and undertook a desk review of DRR and CCA policies and strategies (including NAPs) in sub-Saharan Africa. Key Informants Interviews (KII) with researchers and colleagues from the UN system and the IFRC were also undertaken. The results of this analysis are reflected in the working paper titled *Disaster risk reduction and climate change adaptation, Pathways for policy coherence in Sub-Saharan Africa (2020)*. Building upon the recommendations from the working paper, UNDRR ROA sought to complement the regional analysis with case studies focusing on four national contexts in sub-Saharan Africa, namely **Benin, Niger, Malawi, and Uganda**.

## Objectives

The case studies aim to enhance the understanding of policy design and implementation practices in support of DRR and CCA, identify good practice examples and provide recommendations to advance coherence between DRR and CCA practices in the four countries. In addition to the policy and planning perspective, the case studies also aim at gaining a better understanding of the role that budgeting, finance and risk assessments can play in bringing DRR and CCA practices and communities together at national level.

The target audience for the case studies includes policymakers, technical partners and other stakeholders in Benin, Niger, Malawi and Uganda working on DRR, CCA and SDGs policy design and implementation. Furthermore, the case studies may provide useful insights for other government stakeholders in sub-Saharan Africa, UN System, the Red Cross Movement, INGOs, Civil Society Organizations (CSOs), academia, donors and other actors supporting policy coherence between CCA and DRR policies and practices in the region.

## Outline

All case studies have a common introduction presenting the overall objectives and methodology, as well as a summary of findings from the four case studies. In addition, each case study outlines the national policy landscape and institutional arrangements for the two practices, and presents the findings from the policy review according to strategic, conceptual, institutional, operational and financial considerations. Further to the policy landscape, the case

studies also include a particular focus on two areas of work that present entry points for policy coherence between DRR and CCA: budgeting and finance (Malawi and Uganda) and risk assessments (Benin and Niger). Drawing upon these insights, the case studies provide key messages and priority actions for enhancing policy coherence between DRR and CCA practices at national level in Benin, Niger, Malawi, and Uganda. Table 1 summarizes the case studies foci.

**TABLE 1. CASE STUDIES FOCI**

	Policy, planning and institutional arrangements	Finance and budgeting	Risk assessments
BENIN	✓		✓
MALAWI	✓	✓	
NIGER	✓		✓
UGANDA	✓	✓	

Source: author

## Methodology

A qualitative research methodology was the main approach used in the study, including (i) a desk review of DRR, CCA and sustainable development regulatory frameworks, policies, strategies, plans and project documents and, (ii) interviews with key stakeholders working on DRR, CCA and SDGs in the four countries, referred to as Key Informant Interviews (KIIs) in the document. The findings of the desktop review are incorporated with the findings of the KIIs. The full methodology for each of the three research areas (policy, budget and finance, risk assessments) is available in Annex 1.

The analytical framework below, adapted from UNDRR (2020a), served as basis for the analysis developed in the case studies. According to the analytical framework, policy coherence for DRR and CCA can be assessed through five aspects that help establish the extent to which consistency occurs between DRR and CCA within countries (Table 2). The level of integration depends on the extent to which any of the five coherence aspects are addressed. Accordingly, results of the analysis are presented considering the five dimensions outlined below.

**TABLE 2. SUMMARY OF THE FIVE DIMENSIONS OF DRR AND CCA COHERENCE**

Dimension	Characteristics
<b>Strategic</b>	Looks at whether DRR and CCA are explicitly addressed jointly or if there is an aim to strengthen the relationship and linkages between the two fields.
<b>Conceptual</b>	Explores how countries link DRR and CCA conceptually, in particular through the concepts of risk and resilience.
<b>Institutional</b>	Considers whether there are intentions to promote coordination between DRR and CCA institutions and the institutional provisions for such coordination.
<b>Operational</b>	Looks at measures, actions and activities that bring together DRR and CCA practices, and, to which extent planning is considered cross-sectoral.
<b>Financial</b>	Explores whether and how funding strategies and investments bring together DRR and CCA.

Source: UNDRR (2020a)



# Summary of findings



## Strategic coherence

- **Coherence between DRR and CCA occurs from both a technical necessity and a strategic focus.** From a technical perspective, there are a number of similarities between DRR and CCA, which leads to overlapping mandates, similar projects and duplication of funding and efforts. At a strategic level, the integration of both agendas makes sense, but in practice it is not straightforward, notably because DRR and CCA are managed within different departments and agencies, and horizontal and vertical collaboration has not been institutionalized.
- One of the main issues at strategic level is which one of the two policy agendas should be leading the strategic direction. Currently, climate change dominates international discussions and priorities (including funding), while DRR is often absent or secondary in national planning. **National development plans and funding have a strong role to play in bringing together the two practices.** National development plans can clarify the linkages, roles and responsibilities between the two fields, as well as promote joint mainstreaming into other sectors plans and budgets.



## Conceptual coherence

- **Conceptually, the notion of risk (i.e., hazard, exposure, vulnerability) is well understood by both DRR and CCA communities,** although they may not always use the same wording.  
A shared understanding of risk can be an entry point to fostering closer conceptual coherence, leading to more-aligned agendas.
- **At national level, DRR and CCA communities tend to work separately on the development of risk assessments and there are currently no harmonized methodologies for developing risk assessments (RAs).** RAs are conducted in the context of projects, and based on various procedures using different sources of data, methods, and approaches. Consequently, it is rare to see an integration of results from various assessments in other assessments. Harmonizing risk-assessment methodologies through the development of guidelines for DRR and CCA communities could provide a frame to

easily analyse and link results, avoid duplication of efforts and resources, and ensure the assessments are fit for purpose. The guidelines should also inform RAs at sub-national level.

**Developing risk assessments requires diverse data and information from a wide range of stakeholders** (including data providers, technical sectoral agencies, academic and research institutions, and the private sector). National working groups, committees (e.g., Niger on food insecurity) or a regular dedicated agenda point of the National DDR Platform (e.g., Benin) on risk understanding can facilitate exchanges across relevant stakeholders on risk assessments.

**Capitalizing on data collected and results produced in the context of risk assessments is important.** A common open knowledge platform could be established at national level to host DRR and CCA data, methodologies, and results of studies. Such platforms can foster use and application of data and results across the communities, particularly in planning processes where multiple sources of evidence are required.



## Institutional coherence

**DRR and CCA are managed by different departments with different mandates, but institutional coherence is being established through various coordination mechanisms** at national level such as national platforms (e.g., National DRR-CCA Platform in Benin) or technical committees (e.g., Technical committee on climate change and DRM in Malawi). In Malawi, the Technical Committees for DRR and CCA were merged in 2019 due to the practical necessity of optimizing resources. In Benin, the National DRR platform became the National DRR and CCA Platform in 2012 following the 2011 severe floods. Regular formal meetings and decision-making power

## Operational coherence

- **Operationally CCA and DRR share common measures and activities**, notably related to prevention of hydrometeorological hazards. However, joint planning for these actions seems to be limited.
- **Several planned activities at national level can bring coherence between DRR and CCA** through risk knowledge, the harmonization of methodologies and the development of a national framework for risk mapping.
- **Programming and planning are mostly driven by international funding mechanisms** such as the Green Climate Fund (GCF), the Adaptation Fund, and the Global Environment Facility (GEF), **which are mainly addressing CCA concerns**, while DRR is mostly driven by post-disaster funding.

## Financial coherence

- **To finance DRR and CCA common objectives, more focus should be put jointly towards investing in prevention against hydrometeorological hazards.** For example in Uganda, the NDP 3 (2021-2026) advocates for a programme approach for implementation, identifying lead implementers and other responsible parties across the different ministries and agencies. This approach provides opportunities for DRR-CCA stakeholder consultation, which could be focused on understanding climate risks, exploring common priorities for DRR and CCA, in order to prioritize resources and assess financial needs to implement them.
- **The financial architecture for DRR is donor-driven and with a focus on managing disasters rather than disaster risk.** At the moment, most international as well as domestic financing for DRR have been more reactive to disasters and not based on implementation of national plans.

- **Climate change budget-tagging is becoming institutionalized, but the disaster component is missing.** CCA financing often includes DRR activities especially if tagged as resilience or infrastructure-building activities. However, often this is not clearly understood, and is more accidental than programmatic. Ministries of Finance should foster the joint integration of DRR and CCA into sector plans and budgets. Furthermore, more capacity development is needed to both Ministries of Finance and a number of sectors on how to integrate CCA and DRR issues into budgeting and planning.
- **Domestic public spending on DRR and CCA is low, with DRR public spending being lower than CCA.** This is further exacerbated by a lack of national funds to mobilize domestic DRR and CCA financing. Reliance on foreign inflows to finance DRR and CCA is unsustainable since one cannot plan for donor funds because its scope and eventual release is beyond the control of the government.

# Case study - Benin

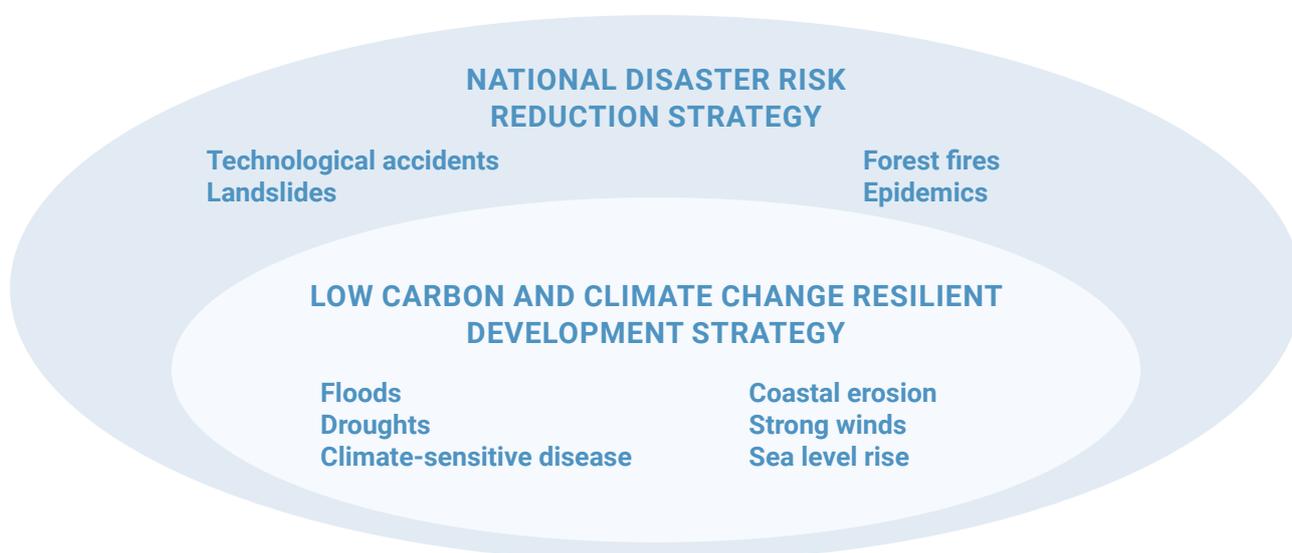
This case study examines the design and implementation of climate change adaptation (CCA) and disaster risk reduction (DRR) policies in Benin. First, it briefly describes the political landscape and institutional arrangements in which these two practices take place, before introducing the results of the policy review in light of 5 dimensions – strategic, conceptual, institutional, operational and financial. Moreover, the case study includes a preliminary analysis of risk assessments, considered as entry points to encourage the coherence of DRR and CCA practices. Lastly, the case study lists recommendations to improve the coherence of DRR and CCA policies in Benin.

## 1. National context

### 1.1 Main disaster and climate risks

All the planning documents (the National Disaster Risk Reduction Strategy, the Low Carbon and Climate Change Resilient Development Strategy, the National Development Plan, etc.) address or mention the following risks: **floods, droughts, sea level rise and storms**. The DRR Strategy and the CC Strategy also address **biological risks**, whereas the National Development Plan and the Nationally Determined Contribution mention extreme heat. Figure 1 shows the hazards mentioned in DRR and CCA planning documents and reveals the wider scope of hazards included in DRR, which encompasses technological accidents, landslides, epidemics and forest fires.

**FIGURE 1. HAZARDS ADDRESSED BY THE DRR STRATEGY AND THE CC STRATEGY**



In Benin, **most of the hazards included in the planning documents are linked to the climate** or influenced by climate change (malaria epidemics, cholera, etc.). Therefore, **coherence between DRR and CCA approaches in Benin is necessary in order to efficiently address disaster risks and climate change**. Table 3 below provides an overview of the main climate hazards in Benin and some of their links to climate change.

**TABLE 3. MAIN CLIMATE HAZARDS IN BENIN AND THEIR STRATEGIC INCLUSION**

<b>Floods</b>	Planning documents focus on floods which have caused significant damages and losses in Benin, notably in 2010. According to the Post-Disaster Needs Assessment of 2011, 680,000 people were affected and economic losses and damages amounted to 127.1 billion CFA francs (appr. USD 260 million) (GoB, 2011). This led to a major reform of the DRR field, with the creation of the National Civil Protection Agency (NCPA), the inclusion of CCA-related considerations in DRR planning documents and the creation of the National Platform for Disaster Risk Reduction and Climate Change Adaptation (NP DRR-CCA). Floods are becoming more destructive, in particular in the coastal region (WB, 2021).
<b>Droughts</b>	Droughts are a matter of concern in DRR and CCA strategic documents. Nevertheless, in the DRR Strategy, objectives and actions are not specifically focused on mitigating the risk of drought, whereas the CC Strategy includes measures to strengthen the drought resilience of the agricultural sector. According to projections, recurring droughts will continue to affect Benin, impacting the agriculture sector and water resources and threatening food security and agriculture, the main livelihood source of the population (WB, 2021).
<b>Coastal erosion</b>	Coastal erosion and sea level rise are mentioned in the DRR Strategy and in the CC Strategy. In particular, the CC Strategy includes a program whose aim is to reduce the risk of coastal erosion (sub-program 9). Sea level rise threatens the southern coastal region where more than 50% of the population lives. In the last 40 years, the coast has eroded by more than 400 meters in some areas, affecting populations and damaging houses and infrastructures (WB, 2021).
<b>Epidemics</b>	DRR and CCA documents both mention the risk posed by biological threats. Whereas the CC Strategy focuses on “diseases linked to climate change”, the DRR frameworks consider all epidemiological risks. In Benin, rising temperatures and floods will impact the spread of infectious diseases like malaria, which accounts for about 40% of visits to health centers (WB, 2021).

## 1.2 Institutional arrangements for disaster risk reduction and climate change adaptation

Table 4 below lists the institutions and coordination mechanisms for disaster risk reduction and climate change adaptation in Benin.

**TABLE 4. OVERVIEW OF INSTITUTIONAL ARRANGEMENTS FOR DRR AND CCA**

<b>LEAD INSTITUTION</b>	<b>DRR</b>	National Civil Protection Agency (NCPA) / Ministry of the Interior
	<b>CCA</b>	Directorate-General of the Environment and Climate (DGEC) / Ministry of Living Conditions and Sustainable Development (MLCSD)
<b>COORDINATION MECHANISM</b>	<b>DRR</b>	National Platform for Disaster Risk Reduction and Climate Change Adaptation (NP DRR-CCA)
	<b>CCA</b>	National Committee on Climate Change (NCCC) / Ministry of Living Conditions and Sustainable Development (MLCSD)

Source: author

### Key institutions

#### Disaster Risk Reduction Institutions

The **National Civil Protection Agency (NCPA)**, which operates under the Ministry of Interior, is the institution in charge of integrating DRR in policies in Benin. Created by decree in 2012, **the NCPA also became the Secretariat for the National Platform for DRR and CCA in 2018** (decree 2018-062, 2018). The NCPA is divided in 3 departments: the Department of Prevention; the Department of Rescue/Relief and the Protection of Refugees and Internally Displaced People; and the Department of Cooperation and Humanitarian Affairs. The NCPA is responsible, among other things, for identifying risks, including areas vulnerable to floods, risk prevention, increasing risk knowledge, capacity-building, awareness raising and emergency planning. **The NCPA also oversees the coordination of early warning systems in Benin** (decree 2018-062, 2018).

#### Coordination mechanisms

Benin has set up an **institutional arrangement** to insure coordination and coherence between CCA and DRR policies at the national and regional level. This arrangement brings together different ministries, departments and agencies as well as partners and civil society representatives.

#### Climate Change Adaptation Institutions

The **Ministry of Living Conditions and Sustainable Development (MLCSD)** outlines policies and monitors their implementation regarding urban development, land management, sanitation, the environment, the climate and ecosystem preservation, among others (decree 2019-547, 2019). The **Directorate-General of the Environment and Climate (DGEC)** of the MLCSD is the focal point for the United Nations Framework Convention on Climate Change in Benin and the lead department in charge of climate change in the country. The DGEC has the mandate to **initiate climate policies** and to implement environmental and climate change policies and strategies (GoB, 2019, p.47). Moreover, the DGEC/MLCSD conducts studies on the impact of climate change.

The **National Platform for Disaster Risk Reduction and Climate Change Adaptation (NP DRR-CCA)** replaced the National Committee for Civil Protection in 2011 and is responsible for the coordination of activities related to risk reduction, disaster management and climate change adaptation. The mandate, objectives and functioning of the Platform have been

defined by decree. The Platform's activities include: (i) promoting **the integration of risk prevention and disaster management in sustainable development and poverty reduction policies, plans and programs**; (ii) defining strategic directions and validating DRR programs; and (iii) facilitating the mobilization of resources necessary for the implementation of programs and projects in risk prevention, disaster management, rehabilitation and post-disaster development (decree n°2011-834, 2011). Even though the Platform is named "National Platform for DRR and CCA", **the main activities of this coordination mechanism focus on addressing disaster risk and do not mention climate change or climate change adaptation.**

The Platform is presided by the Minister of the Interior and includes three vice-presidents: the Minister in charge of the environment, urbanism and housing (first vice-president), the Minister in charge of health and the Minister in charge of social affairs. **The NP DRR-CCA is convened at the ministerial level and has the power to make decisions, which can be quickly approved by the Head of State.** The Platform also includes representatives of the government, the UN system, development partners, the Red Cross and humanitarian NGOs. Moreover, **the Platform is present at all administrative levels** (district, municipality and city) and information is shared between the local and the national level and vice-versa. Lastly, the NP DRR-CCA can rely on eight (8) technical committees for: disaster prevention; research and education; communication and raising awareness; emergency preparedness and response; capacity-building and resource mobilization; social protection and gender; prospective and strategic review; and monitoring and evaluation.

Among the constraints that weigh on the operationalization of the Platform, insufficient financial and human resources and a lack of dynamism are worth mentioning (GoB, 2019). **The Platform is an multi-sectoral coordination body in charge of addressing strategic and operational issues.** But the Platform is only convened once a year and in case of an emer-

gency. In order to revitalize the Platform, one of the recommendations included in the National Disaster Risk Reduction Strategy suggests separating its strategic and operational duties as follows :

- **A strategic orientation body composed of ministers involved in DRR that meets once or twice a year.**
- **An operational and intersectoral body composed of sectoral focal points, whose role would be to implement the national DRR policy in a concerted manner meeting as often as possible (at least once a month).**

The **National Committee on Climate Change (NCCC)** has been the coordination committee dedicated to climate change issues since 2003 (decree 2003-142, 2003). It supervised the development of the Low Carbon and Climate Change Resilient Development Strategy 2016–2025 and oversees its implementation. **All ministries must specify their climate change-related activities and present their action plan to the NCCC** (law 2018-18, 2018). The Committee is supervised by the Minister in charge of climate change, and it includes representatives from various governmental and non-governmental institutions such as sectoral ministries (Environment, Transport, Agriculture, Industry, Education, Energy, Health, International Affairs, Planning, Interior/Civil Protection, Communication, Justice, Finance), local authorities, the private sector and civil society organizations, with the support of technical and financial partners.

### 1.3 Policy landscape for DRR and CCA

A landscape of DRR and CCA policies and strategies was developed by mapping legal frameworks and strategic and planning documents for DRR, CCA and sustainable development in Benin. The list of strategic and planning documents is presented in Table 5. Although many sectoral policies and strategies include DRR and CCA considerations, they were not part of the scope of this study. The National Development Plan (NDP) was also included since it is the overarching framework for the implementation of all development activities in the country.

**TABLE 5. NATIONAL CCA, DRR AND SUSTAINABLE DEVELOPMENT POLICIES AND STRATEGIES**

Field	Document	Lead institution
<b>SUSTAINABLE DEVELOPMENT</b>	National Development Plan (2018-2025)	Ministry of Planning and Development
<b>DISASTER RISK REDUCTION</b>	National Disaster Risk Reduction Strategy (2019-2030)	National Civil Protection Agency (NCPA)
	Decree 2018-062 on the functioning of the National Civil Protection Agency (2018)	National Civil Protection Agency (NCPA)
	Decree 2011-834 on the creation of the National Platform for Disaster Risk Reduction and Climate Change Adaptation (2011)	National Civil Protection Agency (NCPA)
<b>CLIMATE CHANGE ADAPTATION</b>	Low Carbon and Climate Change Resilient Development Strategy 2016–2025	Ministry of Living Conditions and Sustainable Development (MLCSD) / DGCC--> became Directorate-General of the Environment and Climate (DGEC)
	National Adaptation Plan to Climate Change (2021)	MLCSD
	Decree 2019-547 on the creation of the Ministry of Living Conditions and Sustainable Development (2019)	MLCSD
	First Nationally Determined Contribution (2015) Updated Nationally Determined Contribution (2021)	MLCSD/ DGEC
	Law on Climate Change (2018)	Presidency

Source: author

## Legal framework relevant to CCA and DRR

Benin passed the **Law on Climate Change** (2018), which aims to strengthen the resilience of communities and **promote CCA and DRR approaches**. The Law pays particular attention to coastal erosion and floods, identified as major risks for Benin, as well as on water resources management and food security as key sectoral interventions. **DRR is one of the environmental objectives** (article 5) pursued by the Law and it is underlined that **all policies and strategies, at all levels, must integrate climate change and disaster risk reduction** (article 7). Among the strategies put forward by the Law, the following are included: producing and updating a climate risk and vulnerability mapping at the national level (article 50), strengthening early warning systems for agriculture and floods, drawing up building codes, the temporary evacuation of populations in the event of floods (article 16), investment in research to better understand climate change, raising awareness of sea level rise, integrating climate change and disaster risk reduction in education programs, the protection of wetlands and rare and fragile ecosystems to prevent coastal erosion, etc. The Law also reinforces the mobilization of national and international, governmental and non-governmental resources for the design and implementation of strategies and policies which fall under the scope of the Law (article 82) and allocates financing to CCA and DRR, including for setting up databases dedicated to the climate system and risk reduction (article 21).

### **In terms of DRR, a law is currently being drafted.**

Several decrees (decree 2011-834 on the creation of the NP DRR-CCA; decree 2018-062 on the functioning of the NCPA) provide specifics on DRR activities. More precisely, NCPA activities include identifying and preventing all disaster risks, improving risk knowledge and research, capacity-building, raising awareness, the design and update of the national contingency plan and the coordination of all early warning systems in the country.

## Sustainable development policies and strategies

The National Development Plan (NDP) 2018-2025 is the guiding document in terms of sustainable development. 49 targets from the Sustainable Development Goals (SDGs) have been prioritized, including target "13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries". DRR and CCA practices are thus identified as priorities for the development of the country. The priority actions of the NDP are described in the Growth Program for Sustainable Development (PC2D) 2018-2021, with DRR and CCA actions specified under strategic priority 7.

## Disaster risk reduction policies and strategies

At the international and regional level, Benin is a **signatory of the Sendai Framework for Disaster Risk Reduction 2015-2030** and of the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa. Even though the country does not currently have a dedicated national DRR policy, Benin approved its National Disaster Risk Reduction Strategy (or DRR Strategy) for the period 2019-2030 and a plan of action is being developed. During the interviews, it was noted that the Ministry of Living Conditions and Sustainable Development (MLCSD) participated in the development of the DRR Strategy. The DRR Strategy encourages coherence between DRR and CCA practices, including at the institutional, operational and financial level. Indeed, the vision of the DRR Strategy is built around resilience to disasters, and it is recognized that climate change increases the frequency and intensity of disaster risks. Several activities planned in the framework of the Strategy can also foster coherence between DRR and CCA, by aligning risk assessment methodologies and designing a national framework for risk mapping, among others. In terms of financing, the Strategy plans for the creation of a system inciting resource mobilization for DRR and climate change action, also involving the Ministry of Finance, the National Civil Protection Agency and the MLCSD.

## Climate change adaptation policies and strategies

Benin **ratified the Paris Agreement** and presented its first **Nationally Determined Contribution (NDC)** in 2016 in the table of 2015, setting the main national priorities in its fight against climate change. The NDC was designed and coordinated by the Directorate-General of the Environment and Climate. The document is divided into two parts which set out mitigation and adaptation objectives respectively. It adopts a sectoral approach which focuses on the following areas: agriculture, water, the coastline, forests and health. It also refers to current and future strategies and programs which will contribute to the implementation of adaptation goals, including those outlined in the Climate Change Strategy (presented in detail below) such as the disaster and risk prevention and management program (Project PAG 2017-2021).

Benin also **adopted its Low Carbon and Climate Change Resilient Development Strategy 2016–2025** (or Climate Change Strategy) in order to coordinate the integration of climate change issues into other sectors. It was designed and coordinated by the DGEC in close collaboration with various other sectors. The Strategy adopts a sectoral approach focused on 6 sectors which are considered most vulnerable to climate change: agriculture, energy, forestry and land use, infrastructure and human

settlements, health and water resources. Taking into account the three specific objectives - adaptation, mitigation and climate risk reduction -, we can note that the resilience of the agricultural sector is considered an adaptation measure, and flood early warning systems, epidemic risk reduction (including monitoring and contingency plans) and strengthening irrigation infrastructure fall under climate risk reduction measures.

Finally, in 2021 Benin adopted its National Adaptation Plan to Climate Change with a focus on the following sectors: energy, forestry, tourism, infrastructure, agriculture, water, health and the coastline.

Table 6 below provides an overview of DRR and CCA policies and strategies in Benin. The table sheds a spotlight on several elements common to both fields as well as on potential areas for improvement.

**TABLE 6. OVERVIEW OF DRR AND CCA POLICIES AND STRATEGIES**

	DISASTER RISK REDUCTION	CLIMATE CHANGE ADAPTATION
<b>INSTITUTIONS</b>		
<b>LEAD INSTITUTIONS</b>	National Civil Protection Agency (NCPA) / Ministry of Interior	Directorate-General of the Environment and Climate (DGEC) / Ministry of Living Conditions and Sustainable Development (MLCSD)
<b>COORDINATION MECHANISMS</b>	National Platform for Disaster Risk Reduction and Climate Change Adaptation (NP DRR-CCA)	National Climate Change Committee (NCCC)
<b>REGULATORY FRAMEWORK</b>		
<b>LEGAL AND REGULATORY FRAMEWORKS</b>	<ul style="list-style-type: none"> <li>• Draft DRR law (under development)</li> <li>• Decree on the creation of the NP DRR-CCA (2011)</li> <li>• Decree on the functioning of the NCPA (2018)</li> </ul>	<ul style="list-style-type: none"> <li>• Law on Climate Change (2018)</li> <li>• Decree on the creation of the MLCSD (2019)</li> </ul>
<b>COMMONALITIES</b>	<p>The Law on Climate Change provides a general framework for CCA and DRR in Benin, without establishing a clear distinction between the two practices.</p> <p><u>Areas covered by DRR and CCA:</u> improving risk knowledge, capacity-building, awareness raising, early warning systems.</p>	
<b>IMPROVEMENT AREAS</b>	<p>The NP DRR-CCA does not explicitly cover adaptation.</p>	
<b>POLICIES AND STRATEGIES</b>		
<b>NATIONAL FRAMEWORKS</b>	National Disaster Risk Reduction Strategy (2019-2030)	Low Carbon and Climate Change Resilient Development Strategy 2016 –2025
<b>COMMONALITIES</b>	<p><u>Areas covered by DRR and CCA:</u> risk knowledge; meteorological information and early warning systems; awareness raising; capacity-building and emergency planning for floods.</p> <p><u>Sectors:</u> particular attention is given to agriculture, health and infrastructures. Land management is covered by both strategies.</p>	
<b>REMARKS AND IMPROVEMENT AREAS</b>	<p>The two strategies include activities that can be redundant: (1) dissemination of climate information for the agricultural sector; (2) capacity-building for institutions producing and disseminating warnings; (3) drawing a disaster contingency plan. In the absence of action plans defining roles and responsibilities, efforts might be duplicated. Lastly, DRR and CCA strategies do not address the issue of social protection nets and how to “rebuild better”.</p>	

Source: author



## 2. Results from the policy review

A summary of the results from the analysis of DRR and CCA strategies is presented below. Only strategic documents<sup>1</sup> have been analyzed using the analytical framework on coherence described in the introduction (see Annex 1 for the full methodology). The analysis was complemented by Key Informant Interviews in order to provide additional practical insights.

**TABLE 7. OVERVIEW OF THE LEVEL OF COHERENCE FOR DRR AND CCA INSTRUMENTS IN BENIN**

Dimensions	Strategic	Conceptual	Institutional	Operational	Financial
Plan national de développement (2018-2025)	●	●●	●	●	●
Stratégie nationale de réduction des risques de catastrophe (2019-2030)	●	●●	●●●	●●●	●●●
Stratégie nationale sur les changements climatiques	●	●●	●	●●	●●

● Limited    ●● Partial    ●●● Substantial

Source: author

Overall, the study revealed that **the integration in policies of DRR and CCA practices is improving**. The most recent document, the DRR Strategy, reaches more substantial levels of coherence, notably in terms of institutional, operational and financial coherence. But improvements are still possible at the strategic level to strengthen the links between the two fields.

<sup>1</sup> Only documents available before June 2021 have been analyzed. The National Adaptation Plan was adopted in October 2021 and is not included in the present study.

## 2.1 Strategic coherence



**Strategic coherence** looks at whether DRR and CCA are explicitly addressed jointly or if there is an aim to strengthen the relationship and linkages between the two fields.

**Strategic coherence is rather limited. The planning documents do not jointly address DRR and CCA in the vision, objectives or guiding principles and do not include a specific objective aimed at bringing the two practices closer.** In particular, the National Development Plan devotes more attention to CCA compared to DRR. Indeed, the NDP refers to global and regional processes related to sustainable development (the 2030 Agenda) and climate change (Paris and Kyoto Agreements, UNFCCC) but does not mention the Sendai Framework. Even though DRR and CCA are addressed jointly as part of strategic objective 3, the document explicitly mentions CCA but not DRR. Moreover, a provision includes the integration of CCA into sustainable development planning and budgeting at the national, regional and local level, but there is not equivalent provision for DRR.

**The DRR and CC Strategies also fail to bring both practices together at the strategic level, even though there are attempts to include DRR and CCA considerations in both instruments.** The DRR

Strategy refers to global and regional DRR and CCA processes. Even though the objectives of the Strategy do not refer to CCA, it does mention “taking into account the effects of climate change in the analysis, the definition of a vision and the orientations of the National Disaster Risk Reduction Strategy of Benin” (GoB, 2019, p.80). If climate change is not specifically mentioned in the rest of the Strategy, it was considered in the formulation of the vision and objectives. In the CC Strategy, disaster risk reduction is not mentioned as a field or sector, but it is integrated as a strategic objective aiming to increase the resilience of communities: “OS3 – strengthen the protection of communities, including those most vulnerable to natural disasters” (GoB, 2016).

During the interviews, it was underlined that the two practices are distinct and managed by two different institutions. Efforts are made to bring the two fields closer but to do so, coordination efforts and resources are needed.

## 2.2 Conceptual coherence



**Conceptual coherence** explores how countries link DRR and CCA conceptually, in particular through the concepts of risk and resilience.

**Conceptual coherence was assessed as partial in all strategic documents.** They all focus on hydrometeorological risks and identify the same main hazards – floods, droughts, sea level rise and winds (see section 1.1).

**The study revealed that the documents differ in their approaches to risk assessments and underlying concepts** (hazard, exposure and vulnerability). The definitions, approaches and risk analyses are not harmonized between the different planning documents. For example, the CC Strategy does not use the term “hazard”, instead preferring “climate phenomena”. Besides, even though the concept of vulnerability does appear in all three documents, different approaches and concepts are mobilized. For instance, in the glossary of the CC Strategy, the definition of vulnerability centers on the impacts of climate change and not on the physical, social, economic and environmental conditions which make people more vulnerable to the impacts of hazards, which is the usual definition of vulnerability adopted by other documents, including UNDRR publications.

In terms of data, the DRR Strategy relies on historical disaster data for the risk analysis (this dataset is not used in the other documents). All the planning documents under review also use projections to gauge the impact of climate change on the frequency and intensity of disaster risks. **But these projections use different data and timeframes.** In the National Development Plan, the risk assessment includes projections for 2050 and 2100 on sea level rise, rainfall and the evolution of temperatures, as well as an assessment of soil degradation. The DRR Strategy uses probabilistic modeling to estimate the impacts of climate change until 2050.

Lastly, **none of the documents define the synergies and the differences between DRR and CCA.** The National Development Plan does differentiate DRR from CCA and describes the political landscape of each field as well as their respective coordination mechanisms, but it does not provide any information on the synergies and differences between them. It is therefore necessary to **further clarify these aspects and to harmonize risk analyses in order to gain a shared understanding of the main risks in the country and to design strategies on a common basis.**

Regarding risk assessments, interviews and consultations revealed that communication channels do exist, including through the National Platform for Disaster Risk Reduction and Climate Change Adaptation, which ease the exchange of information related to risk assessments. Moreover, it was mentioned that a methodology for climate risk assessment and vulnerability analysis existed at the national level. This methodology could be relevant beyond climate risks.

## 2.3 Institutional coherence



**Institutional coherence** considers whether there are intentions to promote coordination between DRR and CCA institutions and the institutional provisions for such coordination.

**The National Development Plan and the Climate Change Strategy were assessed as limited in terms of institutional coherence.** Both documents do not include a multisectoral plan detailing roles and responsibilities for the implementation of DRR and CCA activities. Besides, even though the NDP refers to the main coordination mechanisms for DRR and CCA (NP DRR-CCA and NCCC) and to the lead institutions (NCPA and MLCSD) involved in the monitoring and evaluation of DRR and CCA indicators, it does not assign responsibilities regarding implementation. Moreover, the NP DRR-CCA, which was created in 2011, is not mentioned in the Climate Change Strategy of 2016.

In contrast, the **National Disaster Risk Reduction Strategy** achieved a substantial degree of institutional coherence. The document **describes an intersectoral mechanism for the coordination of DRR and CCA activities at the national and decentralized level.** According to the DRR Strategy, the NP DRR-CCA is the coordination mechanism for all DRR and CCA activities. Moreover, in its Action Plan for 2019-2023, the NP DRR-CCA and the MLCSD are jointly involved in the implementation of numerous activities.

The study has shown that **efforts have been led at the institutional level to increase coordination between DRR and CCA actors through the creation of the National Platform for Disaster Risk Reduction and Climate Change Adaptation.** But in spite of its name, this structure seems to be a coordination mechanism mainly focused on DRR and it does not manage to be recognized as a joint coordination mechanism. In this regard, the National Development Plan refers to the “National Disaster Risk Reduction Platform” (and not the National Platform for Disaster Risk Reduction and Climate Change Adaptation) and the CC Strategy does not refer to it at all, even though the creation of synergies between the National Civil Protection Agency and institutions that have climate information is mentioned. **The NP DRR-CCA should be further strengthened in order to improve synergies between disaster risk reduction and climate change adaptation.**

## 2.4 Operational coherence



**Operational coherence** looks at measures, actions and activities that bring together DRR and CCA practices and, to what extent planning is considered cross-sectoral.

The level of operational coherence varies depending on the document. The DRR Strategy was assessed as high in terms of operational coherence, the CC Strategy as partial and the NDP remained limited.

According to the National Development Plan, adaptation measures cover waste management, protecting coastal areas from erosion, marine and coastal ecosystem management and protection and a climate-resilient agriculture. Disaster risk reduction in the NDP includes the following elements: strengthening risk and disaster prevention and disaster management, modernization of the structures and capacities of the civil protection. CCA and DRR activities are implemented by the MLCSD and the NCPA respectively. **Even though the NDP describes the activities and responsibilities of these two fields, it does not contain any provisions to strengthen coherence between them.** For instance, there are no activities aimed at reinforcing the capacities of DRR and CCA stakeholders, boosting coordination at the technical level (by aligning methodologies, conducting joint risk assessments, etc.) or integrating both fields together in other sectors, among others.

**The DRR Strategy and the CC Strategy both make provisions to strengthen the cohesion between DRR and CCA practices in order to improve risk understanding for better preparedness and prevention.** In the CC Strategy, pillar 3 (sub-program 7 on early warning systems) includes the development of synergies between institutions responsible for the collection, collating and sharing of climate information and civil protection institutions. But the document does not provide any further details on how to carry out this activity. On the other hand, the DRR Strategy describes more specific and comprehensive measures aimed at bringing DRR and CCA practices closer, including the harmonization of methodologies, the development of a national framework for risk map-

ping and the development of risk and vulnerability profiles for floods. These activities include the main DRR and CCA institutions.

Beyond identifying measures and activities aimed at increasing coherence between DRR and CCA actors and practices, the analysis also investigated whether some activities overlapped or complemented each other that could be leveraged.

The DRR Strategy and the CC Strategy include activities that can overlap such as: (1) data collection on disasters and climate change for the **agriculture sector**; (2) **capacity-building for institutions preparing and disseminating warnings**; and (3) **designing a disaster contingency plan**. **In terms of sectors, the two strategies include activities linked to the agriculture sector, land management, infrastructures and housing**, which could be used as entry points to increase synergies between DRR and CCA practices. Even though there is not necessarily an overlap in practice, in the absence of detailed action plans describing the roles and responsibilities in some of the documents, these activities could lead to redundant efforts. This preliminary analysis could serve as a basis to gather together DRR and CCA stakeholders at the strategic and technical level in order to discuss and clarify potentially redundant areas and areas where synergies can be leveraged. The results of the analysis are presented in Table 8 below.

**TABLE 8. COMPARISON OF ACTIVITIES INCLUDED IN DRR AND CCA STRATEGIES**

Overlaps	Complementarities	
	DRR STRATEGY	CC STRATEGY
<b>RISK KNOWLEDGE</b>		
Climate information dissemination for agricultural purposes	<ul style="list-style-type: none"> <li>• Set up multi-hazard databases at the NCPA</li> <li>• Establish partnerships with regional institutions specialized in risk mapping and multi-hazard databases.</li> </ul>	<ul style="list-style-type: none"> <li>• Climate information production for agricultural purposes</li> <li>• Vulnerability analysis</li> <li>• Strengthening of climate knowledge and tools for climate and hydrological information and climate risk forecasting.</li> </ul>
<b>METEOROLOGICAL INFORMATION AND EARLY WARNING SYSTEMS</b>		
Strengthening the capacities of institutions producing and disseminating warnings.	<ul style="list-style-type: none"> <li>• Rehabilitate, strengthen and modernize the hydrometeorological observation network.</li> </ul>	<ul style="list-style-type: none"> <li>• Create synergies between the different institutions that collect, collate and disseminate climate information and those in charge of civil protection.</li> <li>• Develop and reinforce early warning systems in the agriculture and health sectors.</li> </ul>
<b>AWARENESS RAISING</b>		
No direct overlap but it is important to establish links between activities raising awareness about climate change and about DRR.	<ul style="list-style-type: none"> <li>• Disseminate information on DRR</li> <li>• Provide free information on risk-prone areas to municipalities</li> <li>• Insure the dissemination of risk information via community and commercial radios et the use of information dissemination channels.</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness raising, training and support actions are developed and led for different actors involved.</li> <li>• Inform, raise awareness and mobilize the population so that it can contribute to the fight against climate change.</li> </ul>
<b>CAPACITY-BUILDING</b>		
	<ul style="list-style-type: none"> <li>• Strengthen the capacities of institutions that produce and disseminate warnings.</li> <li>• Insure the translation of the various hydrometeorological information products into accessible content in terms of language and format.</li> </ul>	<ul style="list-style-type: none"> <li>• Decision-making training for local development and climate change actors (NGOs, private sector).</li> </ul>
<b>CONTINGENCY PLANS</b>		
Draw an emergency response plan in the event of a disaster.	<ul style="list-style-type: none"> <li>• Establish, update, test and implement national and local emergency plans.</li> </ul>	

Chevauchements

Complémentarités

	DRR STRATEGY	CC STRATEGY
	<b>"BUILD BACK BETTER"</b>	
	<ul style="list-style-type: none"><li>• Post-disaster recovery and improvement of DRR governance modalities, to relocate frequently flooded public infrastructure (schools, hospitals).</li><li>• Set up a national framework for post-disaster recovery.</li></ul>	
	<b>ECOSYSTEM-BASED APPROACHES</b>	
		<ul style="list-style-type: none"><li>• Adaptation based on ecosystems for agriculture and the protection of coastal areas.</li></ul>

Source: author

## 2.5 Financial coherence



**Financial coherence** explores whether and how funding strategies and investment bring together DRR and CCA.

The degree of financial coherence varies from document to document. Even though all documents include a budget estimate, they do not include estimates for joint DRR and CCA activities and they do not define a minimal provision for DRR and CCA activities. But **all documents recognize the necessity of utilizing international climate financing to fund activities related to development, climate change action and disaster risk reduction.** For instance, as part of pillar 3, the CC Strategy encourages the use of international adaptation funds (Global Environment Facility, Green Climate Fund, Adaptation Fund) in order to finance early warning systems and DRR activities. The National Development Plan describes the different existing mechanisms to finance environment and climate-related activities in Benin, including the National Fund for the Environment and Climate, which can receive funding from international climate financing mechanisms. A Commission for the modelling of economic impacts due to climate change and the integration of climate change into the State budget has also been created.

The National Disaster Risk Reduction Strategy goes further and describes **provisions aimed at developing joint approaches to finance DRR and CCA.** This includes the design of a national DRR financing strategy and the establishment of a system to incite resources mobilization for disaster risk reduction and climate change-related activities. These provisions involve the Ministry of Finance and the institutions in charge of DRR and CCA. Moreover, the Strategy encourages the use of insurance to reduce the impacts of climate change and disasters and support post-disaster recovery (including the African Risk Capacity).

Recently, progress has been made in terms of budgeting and mobilizing financing for DRR and CCA in Benin. The Law on Climate Change insists on the importance of mobilizing governmental and non-governmental financing (including the Global Environment Facility, the Green Climate Fund and the Adaptation Fund) to address climate change. In terms of DRR, a national disaster response fund called “FondsCat” was set up in 2020 (decree 2020-414, 2020) to address disasters and epidemics. This mechanism also promotes institutional coherence since its steering committee includes the General Director of the National Civil Protection Agency and a representative of the Directorate-General for the Environment and Climate.

**Additional studies dedicated to DRR and CCA budgets and expenses are needed to better understand how resources are mobilized and disbursed in Benin.** It is also necessary to design financing strategies which will contribute to improve the coherence of these two activities.



# 3. Risk assessments as entry points for DRR and CCA coherence

The study of risk assessments was undertaken to better understand how to promote conceptual coherence. In this regard, the analysis focused on the way risk information is produced and used to guide CCA and DRR projects in Benin. It includes a description of the projects selected for the present study, a mapping of stakeholders involved in these projects, an analysis of the methodologies used in the risk assessments of these projects and lastly, the results of the analysis.

## 3.1 Projects selected for the analysis which use risk assessments in the context of DRR and CCA

**The Support Project for Science-based National Adaptation Planning (PAS-PNA)** of 2019 aims to support governmental and scientific actors in the design, implementation, monitoring and evaluation of the National Adaptation Plan, in collaboration with civil society and private sector actors. The project focuses on evaluating vulnerability to climate change in four sectors: water resources, agriculture, the environment and health. Risk assessments are developed for each sector, based on the measure of the three components of risk: hazard, exposure and vulnerability. Each sectoral risk assessment is conducted in various municipalities or regions of Benin, on the basis of available climate data (observations and future projections) and a mapping of vulnerable areas. Regarding water resources, the results show the current and future vulnerabilities of municipalities to floods and the lack of water; in the agricultural sector, the trends in cotton and maize yields and in the health sector, the trends in the incidence of malaria<sup>2</sup>. The project was led by the Ministry of Living Conditions and Sustainable Development, in partnership with the German cooperation agency GIZ,

with the financial support of the German Ministry of the Environment. The Center for Partnerships and Expertise for Sustainable Development and Climate Analytics provided technical support.

**The National Capacity Assessment for Risk Reduction, Emergency Preparedness and Response in Benin (NCA-DRR)** was conducted in 2015 and aimed to assess the needs in institutional capacities for disaster risk reduction, using the method of the Capacity for Disaster Reduction Initiative (CADRI). **Results showed that several national institutions collected data on disaster risks.** The country does have capacities in data collection as well as capacities in disaster risk and vulnerability analysis across stakeholders involved in environmental, social, economic and climate sectors. However, **it is necessary to centralize data in order to be able to use it in integrated risk assessments. It should be noted that no risk assessment** was produced using a quantitative approach. The project was led by the National Civil Protection Agency (NCPA) with financial support from UNDP and CADRI partners<sup>3</sup>.

<sup>2</sup>For more information: <https://climateanalytics.org/projects/pas-pna-science-based-national-adaptation-planning-in-sub-saharan-africa/>

<sup>3</sup>For more information : <https://www.cadri.net/sites/default/files/Benin0%20-%20National%20Capacity%20Assessment%20Report.pdf>

**A Post-Disaster Needs Assessment (PDNA)** was led by the NCPA with support from the UN system following the 2019 floods. The PDNA extended to six municipalities and used the Damage and Loss Assessment method. The results provide an estimate of the cost of losses and damages by sectors.

**The Benin Emergency Urban Environment Project (PUGEMU)** of 2012-2017 aimed at improving infrastructures and mitigating negative environmental impacts caused by the 2010 floods in the Grand Nokoué area, as well as increasing the level of preparedness for future floods in Benin. This project included five components: (i) improvement and rehabilitation of the drainage system; (ii) solid household waste management; (iii) support to wastewater management; (iv) support for the prevention and management of floods and natural disasters; and (v) project management and monitoring and evaluation. The risk assessment was conducted in the context of component (iv), in connection with the design or update of contingency plans for municipalities. The risk assessment was quantitative, based on a statistical analysis of disaster incidence in the selected municipalities. The project was implemented by the Directorate-General of Urban Development at the Ministry of Living Conditions and Sustainable Development with funding from the World Bank.

The **Strengthening Climate Information and Early Warning Systems Project (SAP Benin)** of 2014 aimed to implement an early warning system for floods. A study was undertaken to develop a simplified forecasting model which would determine warning thresholds for floods. Quantitative and qualitative methods were used to determine these warning thresholds and socio-economic impacts. The results highlighted the return period computation of discharge and the update of rating curve to establish a statistical relationship between the main hydrometric stations. The potential cost in damages and losses was also estimated. The project was led by the Directorate-General of Water with financial support from UNDP.

A summary table of the abovementioned projects is provided in Annex 4.

## 3.2 Analysis

### Comparison of risk assessments for DRR and CCA projects

For the analysis, the following projects were selected:

- The Benin Emergency Urban Environment Project (PUGEMU) for disaster risk reduction and
- The Support Project for Science-based National Adaptation Planning (PAS-PNA) for climate change adaptation.

**TABLE 9. ANALYSIS OF PUGEMU AND PAS-PNA PROJECTS**

Name	PUGEMU	PAS-PNA
<b>TYPE</b>	DRR	CCA
<b>DATA</b>	Damage and loss, flooded area	Hydroclimatic, topographical, soil, heath
<b>METHOD</b>	Qualitative (current risk profile from contingency plans)	Quantitative (current and future risk projection)
<b>PROCESS</b>	<ul style="list-style-type: none"> <li>• Investigating the occurrence of disasters in specific municipalities</li> <li>• Identifying losses and damages</li> </ul>	<ul style="list-style-type: none"> <li>• Quantifying the three components of risk (current and future)</li> <li>• Risk variability and mapping (current and future trends)</li> </ul>
<b>APPLICABILITY</b>	Relatively simple to implement	Climate-science expertise needed
<b>RESULTS</b>	Mapping of risk areas	Identification of risk areas
<b>PRECISION</b>	Weak precision of the results	Relatively high precision of the results
<b>FUTURE RISK KNOWLEDGE</b>	NA	Projection of future risks available for scientifically-based prevention
<b>LEAD</b>	Directorate-General of Urban Development / MLCSD	Directorate-General of the Environment and Climate / MLCSD

Source: author

As shown in Table 9, both projects result in the mapping and identification of areas potentially exposed to risks but use different scientific methods and approaches. The DRR project uses qualitative methods and relies on risk information from contingency plans whereas the CCA project uses quantitative methods and very technical analyses.

## Stakeholder mapping

A map of the projects led by stakeholders is presented in figure 2 below. The projects included in this analysis were conducted by CCA and DRR stakeholders.

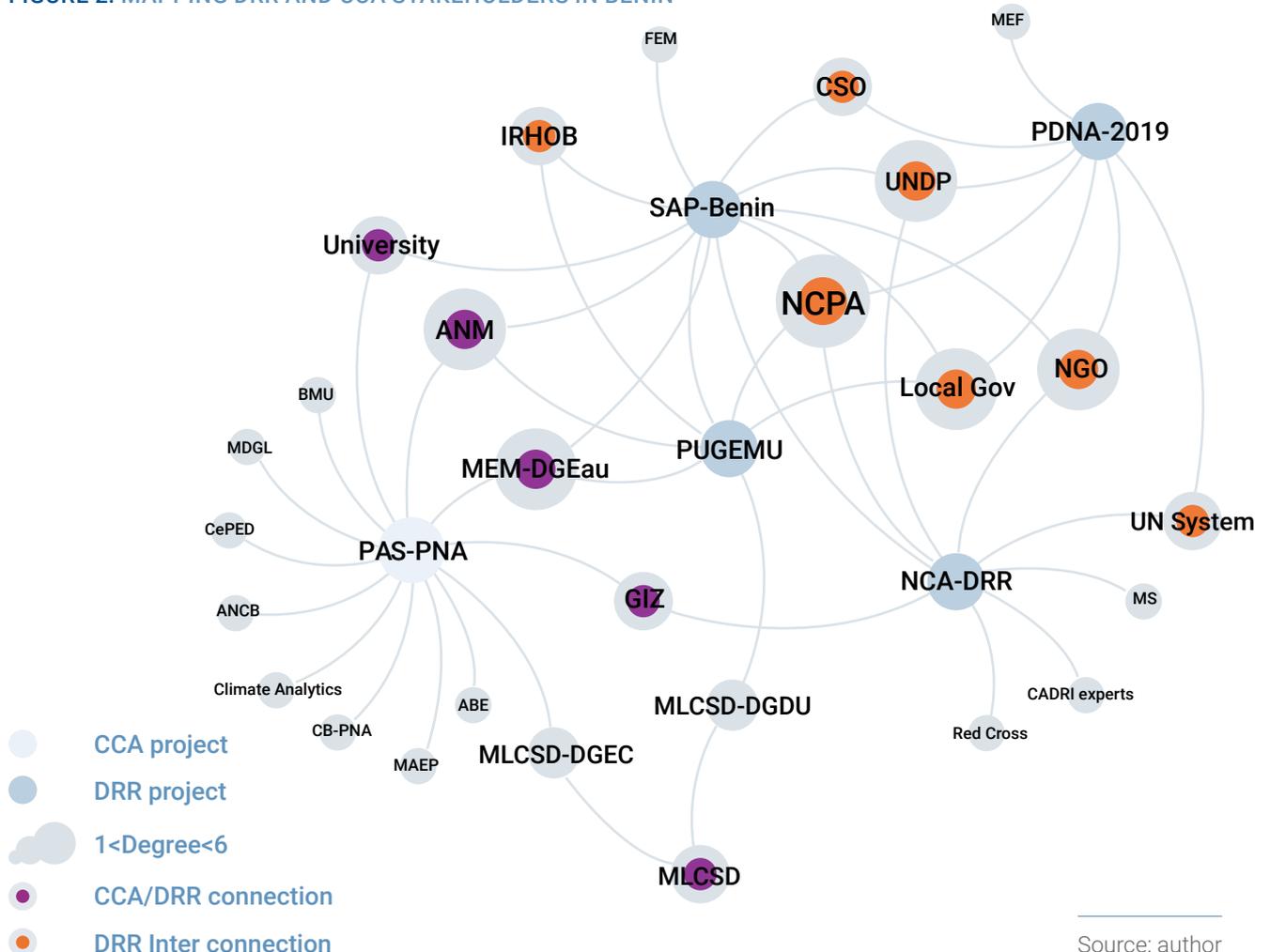
The projects led by CCA actors are in light blue and the ones led by DRR actors are in dark blue. The actors involved in both CCA and DRR projects are in purple and DRR actors involved in several DRR projects are in orange and identified as “DRR inter-connection” in the caption.

The size of the elements depends on their **degree of centrality**. The degree of centrality by closeness is the simplest measure of centrality since it counts the number of connections of a given element. In general, elements with a high degree of centrality by closeness are local hubs but they are not necessarily the most well-connected to the wider network (betweenness). For instance, the National

Civil Protection Agency is the stakeholder with the highest degree of centrality by closeness. It is a DRR stakeholder which links all DRR projects analyzed here but it is not necessarily connected to other projects outside of its domain, such as the PAS-PNA project which belongs to CCA.

Some actors such as the University, the National Meteorological Agency (ANM in French), the Ministry of Living Conditions and Sustainable Development (MCVDD in French), the Directorate-General of Water (DGEau in French) and GIZ interconnect CCA and DRR projects (betweenness). These include data providers, data processing institutions, central implementing institutions and donors. These institutions can serve as discussion channels on DRR/CCA coherence.

FIGURE 2. MAPPING DRR AND CCA STAKEHOLDERS IN BENIN



Source: author

Figure 3 shows the closeness and betweenness of actors in Benin. The study revealed that the Directorate-General of Water at the Ministry of Water and Mines was the best placed stakeholder to spread information through DRR and CCA networks since it had the highest degree of centrality by closeness. GIZ had the highest degree of centrality by betweenness. GIZ is thus well-positioned to act as a network connector between DRR and CCA stakeholders, including between the PAS-PNA project and the National Capacity Assessment for Risk Reduction in Benin (NCA-DRR).

**FIGURE 3. CENTRALITY BY CLOSENESS AND BY BETWEENNESS**



Source: author

### 3.3 Results

#### Key elements to consider from risk assessments in a discussion of coherence

The three components of risk – hazard, exposure, vulnerability – are not clearly covered in a separate manner in most risk assessments.

Risk assessments produced by DRR stakeholders and analyzed here are mostly the result of a qualitative analysis, which may be narrative and based on a literature review or contingency plans. For instance, in the Benin Emergency Urban Environment Project (PUGEMU), information about municipalities was taken from emergency plans. In contrast to CCA projects, DRR project rarely conduct a quantitative risk assessment which would provide a quantification of risks and potential impacts caused by disasters of varying magnitude. A deeper collaboration between DRR and CCA practitioners and risk assessment experts might foster the transfer of scientific com-

petencies, including quantitative analysis as well as a better understanding of the value in diversified approaches and methods in risk assessments.

Besides, the study revealed it was often difficult to identify the entity(ies) responsible for the production of risk assessments. Various divisions, directions and departments of a same ministry could launch different risk assessments, leading to different approaches and a difficult integration of results. The lack of interaction between the PAS-PNA and PUGEMU projects exemplifies this issue.

## The importance of mapping actors

Relationships between actors are showcased by mapping their interconnections. The analysis of centrality provides insights into the elements at the center of DRR and CCA networks. According to the analysis, **the National Civil Protection Agency is the central actor**, but it is not necessarily the best connected to the larger network encompassing DRR

and CCA. A more detailed mapping of actors involved in risk assessments might be useful in order to refine the analysis and could be a starting point to strengthen institutional and operational coherence.

## Institutional mandates as obstacles to coherence

**The study showed that DRR and CCA communities tend to work separately when it comes to conducting risk assessments.** For instance, the Ministry of Living Conditions and Sustainable Development (MLCSD) has a mandate to manage climate change, forest and fauna resources as well as housing, urban planning and development. So, projects to build hydraulic infrastructures to reduce the risk of floods and climate change adaptation projects fall under the purview of the MLCSD. But regarding the implementation, infrastructure projects are managed by the Directorate-General of Urban Development whereas CCA projects are supervised by the Directorate-General of the Environment and Climate (RoB, 2019). Overstepping the bounds of established mandates can cause internal tensions, even when the integration of risk assessments might seem relevant.

Because of its involvement in the National Platform for DRR and CCA through its Direction of Prevention, **the NCPA is the most central actor of the DRR network.** It is mandated to contribute to the national mapping of areas exposed to risks (République du Bénin, 2012) and it is involved in the developing of contingency plans at the national and community level. But the NCPA is not involved in certain CCA projects such as the PAS-PNA. The fact that the NP DRR-CCA does not directly address adaptation might explain the lack of interconnectivity (see section 1.2).

## The quality and relevance of risk information and its use

During the study, it was noted that environmental impact assessments are required for projects financed by the World Bank such as the PUGEMU project. Environmental impact assessments are a tool to identify and measure the real and potential environmental impacts of a project before its start. In contrast, risk assessments are geared towards solutions and strive to identify the most suitable measures to reduce

and/or manage risks. Risk assessments do not seem to be mandatory for the implementation of a project, even though donors who support climate change adaptation projects are more and more driven by climate risk assessments and cost advantage analyses of adaptation options.

# 4. Recommendations



## Strategic

- 1. Clarify the links between DRR and CCA in the new action plan of the National Development Plan** in order to insure synergies in actions and their joint integration into other sectors.
- 2. Establish a set of objectives aimed at stimulating coordination** between DRR and CCA actors and practices at the institutional, operational and financial level.



## Conceptual

- 3. Conduct capacity-building activities for DRR and CCA actors in order to develop a common understanding of the main disaster and climate risks** and inform the planning process.
- 4. Prepare a more in-depth mapping of actors conducting risk assessments for DRR and CCA** in the governmental sector (including at the level of departments and divisions) and in the non-governmental sector.
- 5. Establish a harmonized framework and guiding principles for the design of risk assessments in DRR and CCA**, building on the existing methodology for climate risk and vulnerability assessments, developed in the context of the PNA process.
- 6. Establish a public platform to capitalize on the data collected and the results produced in the context of risk assessments.** This platform could compile data, methodologies and results used or generated by assessments. .



## Institutional

**7.** Strengthen the role of the National Platform for Disaster Risk Reduction and Climate Change Adaptation as a coordination mechanism.

**8. Revise the regulatory framework of the Platform to explicitly include climate change adaptation** and clarify mandates and responsibilities.



## Financial

**11. Design a financing strategy for DRR in close coordination with CCA actors.**

**12. Conduct a study on DRR and CCA budgets and expenditures** in order to better understand how resources are mobilized and disbursed.



## Operational

**9. Strengthen the capacities of DRR and CCA governmental actors at the national level** in order to increase understanding of synergies between the two fields and clarify roles and responsibilities in the implementation of DRR and CCA activities. Conduct workshops involving the NCPA, the MLCSD, the meteorological services, social affairs and other sectoral ministries.

**10. Establish common criteria and monitoring and evaluation frameworks** to analyze the operations and projects implemented for DRR and CCA.



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# Annex 1: Methodologies

## Full methodology for policy review

### Desk review and mapping methodology

The following documents were analyzed for this study: regulatory frameworks (laws, acts, decrees), national government policies, strategies and plans for DRR and CCA as well as National Development Plans (NDPs). The documents were sourced from online sources such as UNFCCC, respective country and UNDRR websites. In some instances, the DRR and CCA focal persons in the country supplied these documents.

### Analysis of documents

The desk review of documents included two parts: (i) a preliminary screening and (ii) an analysis of how CCA is considered in DRR documents and how DRR is considered in CCA documents. During preliminary screening, the following information was gathered from the instruments :

- Basic information of the document (e.g., name, timeframe, from DRR or CCA etc).
- Stage of development (e.g., draft; adopted; implemented).
- Scope of disasters addressed by the document.
- Leading institution and coordination mechanism.

In-depth analysis of the DRR, CCA and development documents followed the basic screening guided by the UNDRR coherence analytical framework called the «integration spectrum», which looks at strategic, conceptual, institutional, operational, and financial aspects in order to establish the overall level of coherence of the documents. To determine the level of integration of DRR and CCA into the policy instruments, the five dimensions were examined as explained in the table below. .

Dimension	Characteristics
<b>Strategic</b>	Looks at whether DRR and CCA are explicitly addressed jointly or if there is an aim to strengthen the relationship and linkages between the two fields.
<b>Conceptual</b>	Explores how countries link DRR and CCA conceptually, in particular through the concepts of risk and resilience.
<b>Institutional</b>	Considers whether there are intentions to promote coordination between DRR and CCA institutions and the institutional provisions for such coordination.
<b>Operational</b>	Looks at measures, actions and activities that bring together DRR and CCA practices, and, to which extent planning is considered cross-sectoral.
<b>Financial</b>	Explores whether and how funding strategies and investments bring together DRR and CCA.

A rating of either limited, partial, or substantial, depending on the level of coherence of the instrument, was assigned. A matrix comprised of 15 questions was used for the analysis. The matrix includes detailed questions which are more adapted to the review of strategies, but the same questions can guide the analysis of the other documents (regulatory frameworks and NDPs).

#### Characteristics of the dimensions

<b>Strategic</b>	<ul style="list-style-type: none"><li>• Adheres to international and regional guidance and processes related to DRR and CCA</li><li>• Addresses DRR and CCA jointly in the vision, goals and principles</li><li>• Aims to mainstream DRR and CCA jointly into other sectors.</li></ul>
<b>Conceptual</b>	<ul style="list-style-type: none"><li>• Aims to build resilience to climate and disaster risks</li><li>• Establishes linkages between disasters and climate-change risks</li><li>• Discusses synergies or differences between DRR and CCA</li></ul>
<b>Institutional</b>	<ul style="list-style-type: none"><li>• Describes coordination mechanisms to support coordination between CCA and DRR stakeholders and activities</li><li>• Identifies the lead agency for DRR and CCA</li><li>• Refers to coordination of DRR and CCA practices at the decentralized level</li><li>• Identifies roles and responsibilities of DRR and CCA actors through a cross-sectoral plan</li><li>• Identifies external actors who support coherence between DRR and CCA</li></ul>
<b>Operational</b>	<ul style="list-style-type: none"><li>• Includes objectives and activities aiming to boost coherence between DRR and CCA</li><li>• Identifies specific activities and sectors for which DRR/CCA are relevant</li></ul>
<b>Financial</b>	<ul style="list-style-type: none"><li>• Includes an estimation of budget in support of joint DRR/CCA activities</li><li>• Refers to joint funding for DRR and CCA</li><li>• Promotes risk insurance schemes to reduce the impacts of climate change and multiple hazards.</li></ul>

#### Limits of the methodology

The analytical frame was initially developed to read and analyze DRR and CCA policies, strategies, and plans. In the context of this research, it was also used to analyze the DRR and CCA coherence in other national documents such as national development plans, laws, decrees, and sectoral plans. The analysis revealed that although the five dimensions are useful in order to look at different aspects of these documents, the screening questions are not always relevant when reading more general documents, as DRR and CCA practices may not be explicitly mentioned. The analysis is thus subject to interpretation as to what DRR and CCA practices entail and how they can contribute to achieving planned outcomes (enhancing resilience of vulnerable people etc.). Although some laws and decrees were analyzed through the matrix, the lack of elements to fill in the matrix systematically led to a score of 0 and as such, the scoring system was not used for these documents. For NDPs, the matrix helped identify some strategic, conceptual and operational elements of coherence, but was very weak for assessing institutional and financial coherence. This result has been anticipated as NDPs usually do not explicitly mention DRR and CCA.

#### Key Informant Interviews

After the desk review, detailed KIIs were conducted over a period of two weeks focusing on the DRR and CCA focal persons and stakeholders using the five dimensions of coherence. The information gathered from the KIIs helped to further analyze coherence achievements and practices. Interviews also helped capture organizational practices and activities that support coherence with regard to DRR and CCA.

## Methodology for the risk assessment review

### Identification of projects related to floods and droughts

Based on a literature review and information collected during the interviews, five projects were selected. The PUGEMU and PAS-PNA were selected for further analysis. PUGEMU was led by the Directorate-General of Urban Development at the MLCSD using qualitative methods and was based on information from emergency plans. PAS-PNA is a quantitative risk assessment project led by the Directorate-General of the Environment and Climate at the MLCSD.

The analysis focused mostly on the risk of floods in Benin because floods are among the most common risks in the country. Projects related to riverine and pluvial floods were taken into account. This includes projects dedicated to infrastructure building, early warning and climate risk profiling in the water and agriculture sectors.

### Scientific aspects of risk assessments

The three components of risk – hazard, exposure and vulnerability – were considered in the analysis. According to the Report of the open-ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction, hazard is defined as a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation (UNDRR, 2020b). Exposure is understood as the situation of people, assets, systems or all other elements present in hazard-prone areas that are exposed to potential losses. Vulnerability encompasses the characteristics and circumstances of a community, a system or an asset which expose it to the damaging effects of a hazard.

Risk assessments can be qualitative or quantitative and aim to determine the probability of a disaster occurring and estimate its potential impacts. The approach is considered quantitative when it uses smooth statistics, or a very solid scientific analysis based on observations and future projections.

### Interviews

The main actors were consulted to complement the analysis of projects and methodologies used in the risk assessments.

An initial list of actors was established based on the project reports, participant lists and interviews. A network analysis software was used to map stakeholders. Thanks to this mapping, the degree of centrality by closeness and by betweenness of the actors was calculated to measure how much actors participate in the network.

- The degree of centrality is measured by the number of direct links with the other elements (Zhang J. et Luo Y., 2017). But entities with the highest degree of centrality are not necessarily the most influential or the best connected to the larger network.
- The degree of centrality by closeness is measure by the distance between an element compared to the other elements and the identification of those that have a large visibility on the network. These people or entities can spread information efficiently through the network.
- The degree of centrality by betweenness between two elements is measured by the number of times an element is on the shortest path between two other elements. It enables the identification of the main relays, the actors who control the information flows in a network.

### Analysis of the risk assessment reports and interviews

The analysis of risk assessments relied on the analysis of the project reports and interviews. In the reports, the following elements were identified:

- The actors involved in the risk assessments (name and role),
- The risks analyzed,
- The data and risk assessments methods used,
- The results that were obtained.

In order to understand the commonalities and differences between the risk assessments conducted for CCA and DRR projects, a CCA project and a DRR project were compared. The comparison was based on the following elements: dataset, methods, process (details on the method used – quantitative or qualitative), applicability, results (hazard map, data on exposure and vulnerability, disaster frequency, adaptation measures recommended), precision of results (for a designated area or at the administrative level of the municipality/country), future risk knowledge/ prospective risks and lead institution.

# Annex 2: List of documents analyzed

Field	Document
<b>SD</b>	Plan National de Développement 2018-2025 (EN) <i>National Development Plan 2018-2025</i>
<b>DRR</b>	Stratégie Nationale de Réduction des Risques de Catastrophe (2019-2030) (EN) <i>National Disaster Risk Reduction Strategy (2019-2030)</i>
	Décret 2018-062 du 15 février 2018 portant attributions, organisation et fonctionnement de l'Agence Nationale de Protection Civile (EN) <i>Decree 2018-062 of February 15, 2018, on the attributions, organization and functioning of the National Civil Protection Agency</i>
	Décret 2011-834 portant création, attribution, composition et fonctionnement de la PN RRC-ACC (EN) <i>Decree 2011-834 of December 30, 2011, on the creation, attributions, composition and functioning of the national platform for disaster risk reduction and climate change adaptation</i>
<b>CCA</b>	Stratégie de développement à faible intensité de carbone et résilient aux changements climatiques 2016-2025 (EN) <i>Low Carbon and Climate Change Resilient Development Strategy 2016-2025</i>
	Décret 2019- 547 du 11 décembre 2019 portant attributions, organisation et fonctionnement du Ministère du Cadre de Vie et du Développement Durable (EN) <i>Decree 2019-547 of December 11, 2019, on the attributions, organization and functioning of the Ministry of Living Conditions and Sustainable Development</i>
	Loi 2018 - 18 du 6 aout 2018 sur les changements climatiques (EN) <i>Law 2018-18 of August 6, 2018, on climate change</i>
	Première CDN (EN) <i>First Nationally Determined Contribution</i>

# Annex 3: List of institutions interviewed

For this analysis, there were three rounds of consultations:

- Key informant interviews during the development of the analysis.
- Written consultation on version 1 of the document. The document was shared with those consulted during the research phase, and other stakeholders identified afterwards.
- A multi-country virtual consultation was held on version 1 of the document.

## Institutions

Agence Nationale de Protection Civile (ANPC)  
*(EN) National Civil Protection Agency (NCPA)*

Ministère du Cadre de Vie et du Développement Durable (MCVDD)  
*(EN) Ministry of Living Conditions and Sustainable Development (MLCSD)*

Ministère du Plan et du développement (MPD)  
*(EN) Ministry of Planning and Development*

GIZ

Ministère de l'Eau et des Mines  
*(EN) Ministry of Water and Mines*

# Annex 4: Projects analyzed for the risk assessment study

Projects	Title of the reports	Authors/ Lead institutions	Year/ Period	Type	Sector	Risk type	Study area	Assessment method	
1	The Support Project for Science-based National Adaptation Planning (PAS-PNA)	Étude de Vulnérabilité Sectorielle face aux changements climatiques au Bénin ; Secteur : Ressources en Eau (only in French)	Luc O. SINTON-DJI / GIZ	2016-2019	DRR/CCA	Water	Floods	Ouémé catchment at Bonou Outlet	Quantitative
							Water shortage	Ouémé catchment at Savè Outlet	
		Étude de Vulnérabilité Sectorielle face aux changements climatiques au Bénin ; Secteur : Agriculture (only in French)	Pierre A. Irénikatché AKPONIKPE / GIZ	2016-2019	CCA	Agriculture	Cotton and maize cultures	Development pole IV (PDA IV)	
		Étude de Vulnérabilité Sectorielle face aux changements climatiques au Bénin ; Secteur : Santé (only in French)	Razack OSSE / GIZ	2016-2019	CCA	Health	Malaria	Ouémé valley	Quantitative/Qualitative
2	National Capacity Assessment for Risk Reduction (NCA-DRR)	Rapport d'évaluation des capacités nationales pour la réduction des risques, la préparation et la réponse aux urgences au Bénin (only in French)	NCPA	2015	DRR	Water	Floods	Benin	Qualitative CADRI
3	Post-Disaster Needs Assessment (PDNA)	Inondation de 2019 au Bénin : rapport d'évaluation des besoins post-catastrophe (only in French)	NCPA	2020	DRR	Water	Floods	Athiémé, Grand-Popo, Aguégués, Zagnanado, Karimama and Malanville municipalities	Qualitative DaLA
4	Benin Emergency Urban Environment Project (PUGEMU)	Rapport d'achèvement du projet d'urgence de gestion environnementale en milieu urbain (PUGEMU) (only in French)	DGDU	2012-2017	DRR	Sanitation	Floods	Grand Nokoué municipalities	Qualitative
5	Strengthening Climate Information and Early Warning Systems Project (SAP Benin)	Conception de modèles simplifiés de prévision et détermination des seuils et niveaux d'alerte relatifs aux inondations au Bénin (only in French)	Abel AFOUDA / SAP-Benin	2014	DRR	Water	Floods, droughts and coastal erosion	Benin	Quantitative/Qualitative

