GOVERNANCE OF CLIMATE CHANGE ADAPTATION AND RISK MANAGEMENT · GOVERNADAPT
OUTLINE

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1. WHAT IS GOVERNADAPT?

- **Governadapt** is a 1-year project funded by the **Basque Cooperation Agency**.

- The main goal of Governadapt is to assess **climate-induced coastal risks** in the city of **Dakar** and identify **adaptation options** in a **co-design and co-creation process** with local, regional and national **stakeholders**.

- Governadapt is led by the **Basque Centre for Climate Change (BC3)**, with a large experience in climate change socio-economics and policy; and by **IHCantabria**, a research institute specialised in delivering science based innovative solutions related to the water cycle in general, and coastal areas in particular.

- The project is developed in collaboration with local partners: **Dakar’s City Council**, and the **Centre de Suivi Écologique (CSE)**, a Senegalese institution with significant experience in coastal monitoring.
1. WHAT IS GOVERNADAPT?

The project has a strong **cooperation** and **capacity building** focus, build on three priorities:

i. participation and co-production

ii. mainstreaming the gender perspective

iii. including the needs and views of the vulnerable groups.

In order to respond to these three core objectives, involving stakeholders since the beginning and during the whole duration of the project will be key. We foresee this **co-production process** in two stages:

1. A first capacity building phase that aims to present the results of the risk assessment, discuss with stakeholders their understanding and perception of risk and reach a consensus about tolerable risk thresholds. Co-defining these thresholds will be a key input to phase 2 of the project, which deals with the adaptation solutions.

2. A second participation stage, in which several adaptation pathways will be shared to discuss and agree upon with the stakeholders. The adaptation pathways proposed will be based on the outputs of Phase 1 and the inputs from stakeholders.
2. MAIN OBJECTIVES OF THE PROJECT

• The general objective of Governadapt is to design and develop a dynamic planning process for adaptation to the risk of climate change in coastal areas, which is replicable in other African cities, and scalable to other levels of government, such as regions or state.

• In addition, it aims to involve stakeholders at local and regional level in the process of understanding and management of climate risk, specifically the risks from coastal events (erosion and flooding), to co-decide acceptable risk thresholds in the city of Dakar (Abadie et al., 2017; Galarraga et al., 2018).

• All this in the context of the Agenda 2030 for Sustainable Development, in close connection with the SDGs and other global challenges, such as the loss of biodiversity or disaster risk reduction.
2. MAIN OBJECTIVES OF THE PROJECT

- Governadapt’s contribution to coastal risks in Dakar is aligned with the objectives of several adaptation plans and development strategies at national and local levels.

  - Senegal’s NDC identified coastal challenges and Governadapt might contribute to the NDC’s objectives related to the protection of vulnerable coastal areas and communities, as well as to the development of scientific and technical studies on damaged ecosystems.

  - Governadapt shares the same concerns as the NAPA, which identified sea-level rise, and resulting coastal erosion as important risks. The project also finds synergies with the PSE, the national development plan, which also considers coastal erosion as a potential risk for the economy. Governadapt can contribute to assess the risk and identify and prioritise, through stakeholder participation, some adaptation pathways.

  - Apart from challenges determined at the national level, Governadapt can support subnational strategies: e.g. the PDU or Dakar Resilience Strategy. Governadapt can collaborate with local stakeholders to promote new partnerships that create opportunities for investment, as well as to enhance citizens’ understanding of resilience and participation.
3. PROJECT TEAM

Elisa Sainz de Murieta  Research Fellow

Ibon Galarraga  Research Professor

Ambika Markanday  Postdoctoral Researcher

Andrea Briones  Research Assistant

Anil Markandya  Former Scientific Director  Distinguished Ikerbasque Professor

Maria José Sanz  Scientific Director

Raúl Medina  General Director  Coastal and Hydraulic Engineering Area Head  Main Researcher

Íñigo J. Losada  Research Director  Scientific Director of the Cantabria Coastal and Ocean Basin  Head of the Climate, Energy and Marine Infrastructure Dept.

Íñigo Añiel-Quiroga  Post Doctoral Researcher
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<tr>
<th>Name</th>
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<td>Soham El Wardini</td>
<td>Mayor of the City of Dakar</td>
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<td>Ndiaga Dieng</td>
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<td>Amaia Celaya</td>
<td>DRR and Climate Resilience Senior expert</td>
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4. PROJECT DEVELOPMENT
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TASK 2. RISK ASSESSMENT (COASTAL EROSION)

- Coastal erosion. Overall recession 0.5-2 m/yr
  - Natural: sea-level rise (40 cm in 2050), sand deficit, land instability, runoff
  - Anthropogenic: sand extraction, beach building, inadequate design
- Coastal occupation
- Recurring flooding
- Salt intrusion

Sources: Ndour et al., 2018; Niang et. al, 2010; Birame Diadhiou et al. 2016; Faye et. al. (2010); Bakhoun et al (2017), among others.
4. PROJECT DEVELOPMENT

TASK 2. RISK ASSESSMENT: THE METHODOLOGICAL FRAMEWORK

Source: IPCC, 2014 (Summary for PM)
4. PROJECT DEVELOPMENT

TASK 2. RISK ASSESSMENT: MAIN OBJECTIVE

- The main objective of this task is to improve the approach of existing analyses and to update the results for Dakar. Some examples can be found in the next slides.


4. PROJECT DEVELOPMENT

INPUT DATA FOR THE ASSESSMENT

SPATIAL DATA

• Digital Terrain Model
• Bathymetry
• Storm Surge events Records
• Satellite Imagery
• Land Use
• Population
• Buildings categories/distribution
4. PROJECT DEVELOPMENT

TASK 3. RISK GOVERNANCE

**Survey**
- We plan to conduct a survey among stakeholders to determine their risk perception and knowledge, past experience, understanding of uncertainty or adaptive capacity.

**Workshop**
- Once the risk modelling work is advanced and we have analysed the results of the surveys, we plan to organise a workshop with stakeholders to present the preliminary results, gather comments and explore how risk thresholds could be co-designed and agreed upon.
4. PROJECT DEVELOPMENT

TASK 4. DEFINING ADAPTATION PATHWAYS

- We will explore different potential adaptation measures to cope with the climate-induced coastal risks identified.
4. PROJECT DEVELOPMENT

TASK 4. DEFINING ADAPTATION PATHWAYS

Nature-based solutions  Beach nourishment  Infrastructures  Land planning

Figure sources: 1. Mangrove restoration in Senegal; 2. Beach nourishment; 3. Rock armour; 4. pdu dakar.gouv.sn
5. EXPECTED OUTPUTS OF THE PROJECT

WHAT IS GOVERNADAPT’S CONTRIBUTION TO PREVIOUS WORK AND EXISTING KNOWLEDGE?

• Updated (new climate and socio-economic scenarios) and downscaled information on coastal risks in the city of Dakar.

• An inclusive co-production process with national, regional and local stakeholders to discuss on acceptable levels of risks.

• A network of stakeholders including institutions, academia, NGOs, the private sector and the citizens to address coastal risks.

• A prioritisation of pathways for adaptation based on existing and future risks, different technical solutions and stakeholders preferences.


7. CONTACT INFORMATION

For further information, please, contact:

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