



BUILDING LOCAL SCIENTIFIC CAPACITIES FOR THE NAP PROCESS IN SENEGAL

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ACTION AREA: ——— Adaptation

FOCUS AREA: ——— Engaging

COUNTRY: ——— Senegal

SECTORS

INVOLVED: ——— Cross-sectoral

TIMEFRAME: ——— 2016-2019

CASE SUMMARY: ——— The implementation of National Adaptation Plans (NAP) can be effectively used for building and strengthening local technical and scientific capacities, as has been proven by Senegal. Through a science-based support project for Senegal's National Adaptation Plan processes (PAS-PNA), the NAP process shall be based on a sound scientific information basis by strengthening the exchange between science and policy. More specifically, the PAS-PNA aims to: i) identify the current state of climate change issues considered in national policies as well as existing national and sectoral strategies; (ii) analyze approaches for the development of scientifically based climate information; and iii) help integrating this information into Senegal's political programming. Activities involve stock-taking of the current state of knowledge, organizational and strategic advice, technical trainings, and scientific analyses (such as vulnerability and impact analyses).

The approach constitutes a good practice because it is based on a strong stakeholder engagement process, it is innovative in terms its goal, and it includes safeguards to make sure the considerations of vulnerable communities are taken into account.





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BACKGROUND: Senegal faces immense risks due to climate change. The country is threatened by sea level rise, flooding, coastal erosion, salinization of water resources and agricultural soils, more erratic rainfall patterns and an increase in the frequency and severity of extreme weather events (e.g. heat waves, droughts, torrential rains) (Ly O. K., 2015). Agriculture, livestock, fisheries, tourism and health are severely affected, impairing efforts to fight poverty (MEPN, 2015). Rising sea levels and increasing river floods pose a threat to local populations and agricultural production.

Despite substantial progress in recent years, the institutional and operational frameworks to address climate change need to be systematically strengthened to allow for a better management of climate change adaptation efforts. As the impacts of climate change pose a serious threat to the country, the Government of Senegal has made climate change one of its core priorities. Already in 1999, Senegal adopted a first adaptation strategy. It aimed to integrate climate change issues into its economic and social development policy. Senegal's National Adaptation Programme of Action (NAPA) was adopted in 2006. It specified the role of policies and is characterized by a program-based approach. A National Committee on Climate Change (COMNACC) was appointed by presidential decree in 2011 in order to create a central platform for co-operation on climate change and to integrate climate information to support decisions and national strategies. As a result, climate change is linked to the promotion of sustainable development as defined in the Emergent Senegal Plan (Weissenberger et al., 2016). In 2015, Senegal developed its Intended Nationally Determined Contribution (INDC). It outlines the contribution of all sectors to the global effort to reduce greenhouse gas emissions and to adapt to climate change as well as to the implementation of the Paris Agreement more generally

A noteworthy approach to addressing the adaptation needs of several sectors while strengthening local scientific capacities was the one employed by the "Science-based support for National Adaptation Plan (NAP) processes in francophone Least Developed Countries of sub-Saharan Africa" project (PAS-PNA). It was initiated through a cooperation between the State of Senegal and the Federal Republic of Germany. Officially launched in April 2017, it supports the Government of Senegal in the process of adaptation planning in the sectors of agriculture, water resources and coastal areas. The project is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in cooperation with Climate Analytics gGmbH under the supervision of the Ministry of Environment and Sustainable Development (MEDD). Component 2 of the "PAS-PNA" focuses on scientific capacity building to support the NAP process. Doing so, it addresses a need that has been highlighted in the adaptation component of Senegal's INDC.

ACTIVITIES: The scientific capacity building for planning and programming adaptation measures had four goals:

1. STOCKTAKING OF CURRENT STATE OF KNOWLEDGE (IMPACTS, VULNERABILITY, ADAPTATION):

This activity took stock of the integration of climate change-related issues in national and sectoral policy documents and available climate information. The purpose was to review the scientific argumentation on which the policy documents are based, validate the information on climate change impacts, and take stock of available scientific publications. Interviews with actors from ministries and other institutions served to complete the stock-taking.

2. IDENTIFICATION OF EXISTING KNOWLEDGE GAPS (VULNERABILITY, IMPACTS AND ADAPTATION) AND PREPARATION OF IN-DEPTH VULNERABILITY STUDIES:

The second goal was to identify knowledge gaps and prepare the grounds to address them. In that context, three sectors (agriculture, water resources and coastal zones) were prioritized. Subsequently, three research consortia (one per sector) were created to conduct the vulnerability studies and a monitoring committee has been set up to follow up on the studies and to provide support to integrate the results into the policies. Existing methods were adapted to allow for an integrated approach and thus synergies between the sectors and the various research efforts. The validation of the

methodological approach led to the development of terms of reference for vulnerability studies. The research focused on the "Delta of the Saloum River".

3. IN-DEPTH SCIENTIFIC VULNERABILITY AND IMPACT STUDIES AND IDENTIFICATION OF ADAPTATION OPTIONS:

The third activity consisted of conducting vulnerability studies. A national inception workshop brought together all the consortia members, the monitoring committee as well as the decision-makers and stakeholders of the project. The goal was to validate a 10-month work plan, and come to a common technical understanding within the different sectoral groups. To conduct the studies (on the three sectors in the selected area), six post-docs were recruited: an agronomist, a hydrologist, a coastal geomorphologist, a climatologist, an economist and a sociologist.

To capture past and present vulnerabilities, the consortia used quantitative and qualitative approaches. Under the qualitative approach, the surveys were gender-sensitive, in the sense that they captured the needs of various vulnerable groups. The consortia have regular meetings with the post-docs. During the process of the studies and the different workshops, stakeholder capacity building sessions are organized. A working session will be held in November 2018 to identify and analyze various adaptation measures based on the results of the vulnerability studies with the stakeholders. This includes local governments and private sector representatives from the study region.

4. THE INTEGRATION OF SCIENTIFIC RESULTS INTO THE NAP PROCESS OF THE TARGET COUNTRIES:

The fourth activity centers on the integration of the results into the NAP Process. This activity has not yet been realized. The plan is to present the results in a suitable form to policy makers who are currently in the process of designing or updating national policies to allow for evidence-based policymaking.

INSTITUTIONS

INVOLVED:

- **GOVERNMENT AGENCIES:** Ministry of Environment and Sustainable Development (MEDD in French acronym); Ministry of Agriculture and Rural Equipment (MAER in French acronym); Ministry of Hydraulics and Sanitation (MHA in French acronym); Ministry of Economy and Finance (MEFP in French acronym); Ministry of Local Governance; Directorate of Environment and Classified Establishments (DEEC in French acronym); High Council of Territorial Governing Bodies (HCCT in French acronym).
- **IMPLEMENTATION PARTNERS:** Deutsche Gesellschaft für International Zusammenarbeit (GIZ) GmbH; Climate Analytics gGmbH.
- **INTERNATIONAL PARTNERS:** United Nations Development Programme (UNDP); United Nations Environment Programme (UNEP); French Development Agency (AFD in French acronym).
- **OTHER INSTITUTIONS:** Cheikh Anta Diop University of Dakar (UCAD in French acronym); Gaston Berger University of Saint-Louis (UGB in French acronym); Thiès University, Ziguinchor University, Senegalese Institute of Agricultural Research (ISRA); National Agency of Civil Aviation and Meteorology (ANACIM in French acronym); Laboratory of Physics of the Atmosphere and the Ocean (LPAO); Doctoral School Water Quality and Uses (EDEQUE in French acronym); Regional study Center for enhanced adaptation to drought (CEERAS in French acronym); National Climate Change Committee (COMNACC in French acronym); National Council of Consultation and Cooperation of the Rural Population (CNCR in French acronym).



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COOPERATION WITH: — German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU); research institutions; meteorological institutes; high-level national authorities; scientific experts from francophone sub-Saharan countries; private sector; civil society.

FINANCE: — German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

IMPACT OF ACTIVITIES: —

- **STRONG INVOLVEMENT OF THE SCIENTIFIC COMMUNITY THROUGH A PARTICIPATORY CO-DESIGN PROCESS:** Regular meetings allowed researchers to appropriate their roles and responsibilities. Hence, their involvement in political programming is effective and provided the scientific basis for the management of climate change issues. Their contributions consist mainly in providing technical and scientific support to young researchers in charge of carrying out vulnerability studies, making data available which were needed to carry out vulnerability studies and coordinating the consortium. Their role is also to review the deliverables of the vulnerability studies and to provide comments.

- **IMPROVED EXPERTISE OF RELEVANT STAKEHOLDERS:** The training of key stakeholders (national authorities, scientists, private sector, civil society, etc.) and the application of an integrated and interdisciplinary approach helped to raise the level of knowledge and scientific capacity. The involvement and training of recruited post-docs supports the creation of the next generation of scientists at the local level.

- **PRODUCTION OF SCIENTIFICALLY SOUND INFORMATION ON RISKS AND VULNERABILITIES:** The stocktaking and validation of climate information facilitate evidence-based policymaking. In line with this, the project is about to produce, publish and disseminate around five scientific documents in support of the NAP process. The output includes: one report on the scientific state of the art pertaining to existing vulnerabilities and adaptation strategies in Senegal, one report on the policy stocktaking focused on the analysis of scientific references used to justify impact and vulnerability to climate change in national and sectoral policies, and one report per sector on the vulnerability studies (three reports in total). The approach and methodology underpinning the vulnerability analyses have been schematized and reports and policy briefs on the vulnerability studies conducted for the three sectors will be published. Additionally, the project plans to publish the list of indicators and georeferenced digital vulnerability maps (in the sectoral report of the vulnerability studies). Subsequent policies will thus be put on a solid scientific basis. All of the aforementioned documents will be accessible in the media library AdaptationCommunity.net.

- **CROSS-SECTORAL SYNERGIES:** The numerous meetings between the various actors have improved the communication and the quality of the exchanges between various actors. The meetings with each consortium held every 2 months also secured the monitoring of the assignments of the different actors.

WHY IS IT

GOOD PRACTICE: —

- **STAKEHOLDER ENGAGEMENT AND INTER-SECTORAL COOPERATION:** The program has been developed and implemented with extensive stakeholder engagement, involving government actors, civil society, the private sector and the scientific community. This has led to widespread acceptance and awareness for the implementation of the approach.

- **INNOVATION:** Senegal, Benin and Burkina Faso are the three Sub-Saharan French-speaking LDCs targeted to benefit from the scientific support process. The in-depth studies carried out in an unprecedented way made it possible to understand, systematize and prioritize the major drivers of vulnerability. The studies are helping the country to identify effective adaptation measures.

- **SAFEGUARDS:** The vulnerability analyses considered the different impacts of climate change on men and women. Gender-sensitive impact chains were developed to assess future vulnerability, alert vulnerable social groups and identify gender-sensitive adaptation options.

SUCCESS FACTORS:

- **AN INCLUSIVE APPROACH THAT INVOLVES SOLICITING RESEARCHERS, GIVING THEM RESPONSIBILITIES AND COLLECTING THEIR INPUTS:** One of the strengths of this approach lies in the establishment of a coordination framework for vulnerability studies. A well-drafted work plan helped to prepare the vulnerability studies, including the role and responsibilities of the consortia and its stakeholders, the timeline and the expected deliverables.
- **THE USAGE OF DIFFERENT COMMUNICATION CHANNELS** has contributed to a better dissemination of the knowledge created under component 2. The establishment of a French-language based dissemination platform further facilitated the exchange with other French-speaking sub-Saharan African countries and thus contributed to strengthening national and regional cooperation among researchers.
- **DESIGNATION OF A FOCAL POINT:** The project is hosted by the Directorate of Environment and Classified Establishments (DEEC in French acronym), under the Ministry of Environment. The DEEC as central focal point plays a unifying role in the communication process. Moreover, it contributes to enhancing the visibility of the project.

OVERCOMING BARRIERS / CHALLENGES:

WHAT WERE THE MAIN BARRIERS / CHALLENGES TO DELIVERY?

INFORMATION:

Unavailable or outdated (climate, bathymetry, topography) data

CAPACITY:

Constraints in terms of time, human and financial resources.

BUREAUCRACY:

Bureaucratic hurdles (e.g. numerous protocols) led to substantial delays in the development of the implementation.

HOW WERE THESE BARRIERS / CHALLENGES OVERCOME?

The remedy was to limit the geographic area of the study to one potential area. Based on available studies, the stakeholders selected the delta of the Saloum as a study area. This choice was motivated by several factors such as an orientation made by the institutional partner who wanted to have local studies and not national studies, budget constraints, the need to study the interrelationships between the three sectors (agriculture, water resources and coastal zones) and the easy access to the zone.

The solution was pragmatism. Adjustments in the planning of activities (such as the extension of the time limits) were made to address some of the constraints. Moreover, the project focused on those work areas for which sufficient resources were already available.

The solution was to formulate memoranda of understanding (MoUs). Information letters and MoUs signed with Climate Analytics and national partners and administrative structures facilitated the implementation of certain activities.



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LESSONS LEARNED: ———— • **COLLABORATE TIGHTLY BETWEEN STAKEHOLDERS TO STIMULATE TRANSVERSAL LEARNING:**
The success of this capacity-building model is largely based on tight collaboration between the various stakeholders involved. Discrepancies in backgrounds and levels of expertise between the various actors involved were taken well into account, which stimulated learning and facilitated the implementation of the process.

HOW TO REPLICATE

THIS PRACTICE: ———— • **INVOLVE A PUBLIC ENTITY TO SERVE AS TRUSTEE AND COORDINATING FOCAL POINT:** In the present case, the DEEC has the institutional capacities to effectively coordinate and make the advantages of the PAS-PNA project visible to the wider public.

• **EMPOWER STAKEHOLDERS BY ESTABLISHING A CONSORTIUM OF RESEARCHERS AND GROUPS OF EXPERTS TO TAKE THE LEAD IN THE CAPACITY BUILDING PROJECT:** This can guarantee the continued and successful implementation of the approach after the end of the project cycle.

• **DESIGN AN INTEGRATED METHODOLOGICAL APPROACH AND RECRUIT YOUNG NATIONAL RESEARCHERS TO FACILITATE THE REPLICABILITY OF THE ENTIRE PROCESS:** Through the holistic methodological approach taken in Senegal, synergies of the research conducted with respect to the three sectors (water resources, agriculture and coastal zones) could be uncovered and used.

• **PREPARE AGREEMENT LETTERS AND CONCEPT NOTES TO FORMALIZE COOPERATION WITH ADMINISTRATIVE STRUCTURES:** As was shown in the case of Senegal, a formalized cooperation can help overcome bureaucratic hurdles and ease the institutional implementation of such an approach.

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FURTHER KEY

RESOURCES:

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CASE STUDY

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