SENEGAL

ENSURING WATER, ENERGY AND FOOD SECURITY WHILE PRESERVING ECOSYSTEMS IN THE SENEGAL RIVER BASIN

PROJECT FEATURES

Year: 2017-2022

Benefiting zone:
Four West African nations: Senegal, Mauritania, Guinea, and Mali

Implementing agency:
European Commission Joint Research Centre (DG JRC), Italian Agency for Development Cooperation (AICS) and Senegal River Basin Development Organisation (Organisation pour la mise en valeur du fleuve Sénégal - OMVS)

Total cost of the project:
€6.1 million

EU contribution:
€5.6 million

Partners contribution:
AICS: €0.5 million

Type of EU support:
Grant

The challenge: Multisectoral management of Senegal River basin water resources

At 1 800 km[1], the Senegal River is the third longest river in Africa. It flows through four West African nations: Guinea, Mali, Senegal, and Mauritania, which have a combined population of over 54 million inhabitants. Of these, around 7 million live in the river basin area, which covers 289 000 km2 and provides essential water resources for electricity, agriculture, farming and fishing, and the preservation of delicate ecosystems such as Djoudj National Bird Sanctuary in Senegal and Diawling Natural Park in Mauritania.

The proper management of transboundary water resources in this vital basin, along with concerted efforts to tackle the effects of climate change, environmental degradation and waterborne diseases such as schistosomiasis, are crucial to sustain the riverside population.

According to Dr Mariama Sene Wade, a local researcher who has studied schistosomiasis for the past 30 years, '*Schistosomes were very localized in Senegal, but a series of hydraulic interventions for hydroelectricity and irrigation projects in the Senegal River Basin (SRB) which included the construction of two dams, resulted in an explosion and expansion of human Schistosomiasis. This is one of the main parasitic diseases causing premature death in Africa (...) I am convinced that to control and overcome this disease affecting humans and animals, concerted actions are required between the different development sectors.*'

[1] "Plan d'Action Stratégique de Gestion des Problèmes Environnementaux Prioritaires du Bassin du Fleuve Sénégal 2017-2037", OMVS, 2017

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KEY INDICATORS

7 million beneficiaries

4 research projects on Senegal river basin issues

3 water quality studies

Dr Mariama Sene Wade taking field samples to study schistosomiasis

Photo: © Mariama Sene Wade

The solution: The WEFE Nexus approach

The European Union's Joint Research Centre and the Italian Agency for Development Cooperation support the WEFE-Senegal project to strengthen information systems and organise the body of technical and scientific knowledge on the river basin. This project is led by the Senegal River basin development organisation (OMVS, for its French acronym), created in 1972 to coordinate the efforts of Mali, Mauritania, Senegal and, since 2003, Guinea, to jointly manage the Senegal River and its drainage basin.

The close interdependence between water, energy, food and ecosystems (the WEFE Nexus approach) is at the heart of the WEFE-Senegal project. This cross-sectoral approach offers the best chance to efficiently address difficult issues such as the expansion of schistosomiasis.

Impact: Applied research, dialogues and tools for water quality and health

Many of the objectives of this five-year project have already been achieved. Of particular interest is a science-based plan to combat land degradation in the Senegal river delta, supporting the establishment of governance and management bodies that reconcile environmental protection with socioeconomic development.

A wide-ranging series of research studies includes three water quality surveys and a modelling of schistosomiasis spread and biological control. The laboratory experiments provided strong evidence for the suitability of the snail biological control concept for schistosomiasis. These results will provide the basis for scaling up in other river basins where the same waterborne disease is prevalent. The project is also promoting improved agricultural productivity, the use of clean artisanal gold extraction techniques, and the definition of a communication strategy for the reform of the mining sector.

According to Dr. Lamine NDIAYE, Director of Environment and Sustainable Development of OMVS, *"Actions to combat land degradation and water quality will directly impact agricultural production, food security, economic-social development, and finally the lives of people who depend on crops in the Senegal river basin and in its delta, where the most important hydro-agricultural developments are located".*

To help authorities make well-informed decisions, the project is developing the **e-NEXUS Decision support tool** for monitoring and analysis of biophysical environmental variables in the Senegal River basin. Created in collaboration with local universities and research centres, it will track trends and anomalies in climate change, agricultural output and energy production, fostering improved management and exploitation of natural resources within the WEFE priorities established by the OMVS.

Public Group on Water and Sanitation

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