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SENEGAL
CLIMATE CHANGE COUNTRY PROFILE

Climate impacts in Senegal include rising temperatures, heat waves and high humidity, decreasing rainfall, increased length and intensity of dry spells, and coastal erosion. Addressing climate impacts, along with air pollution and maritime safety is critical to Senegal's economic growth and low-emissions pathway as the country plans to extract oil and gas in 2024.

Climate change impacts threaten Senegal's infrastructure, food security and nutrition, health, productivity and economic growth. Heat stress, seasonal shifts in the prevalence of malaria, and respiratory diseases caused by short-lived climate pollutants and air pollution are likely to increase morbidity and mortality. Rising sea levels of up to one meter by 2100 along Senegal's coastline are impacting the country's urban coastal zone which is home to roughly 67 percent of the population and 90 percent of the country's industrial production. This low-lying zone is characterized by high water tables and poor drainage systems, putting the area at risk from flooding, erosion and impaired water quality. Rising temperatures, decreasing rainfall, increased length and intensity of dry spells, drought, and saltwater intrusion threaten the agriculture sector, exacerbating existing vulnerabilities. Rising temperature and droughts threaten incomes and yields of critical food crops, while increasing pests,

diseases, food costs and malnutrition. Climate impacts also have negative implications for the health of coastal mangrove ecosystems and fisheries. Already stressed from overfishing, fisheries are expected to be negatively impacted by climate change as rising surface water temperatures and ocean acidification alter species reproduction and migration. This in turn affects biodiversity and the livelihoods, incomes and nutrition that depend on fisheries. Due to climate change, mangroves could migrate or decrease significantly. These vital coastal resources protect the coastline by moderating storm and wave impacts, stabilize sand and soils, and provide biodiversity and wildlife habitat, among other benefits. A systems change approach is critical to address climate change impacts in Senegal and can include 1) scale-up integrated water resource management; 2) reduce land use practices that increase emissions, degrade landscapes, and increase vulnerability to climate change; 3) increase the adoption of natural climate solutions to conserve, manage, and restore forests and other lands to combat climate change while improving livelihoods and resilience.

Government of Senegal's Climate Priorities

The majority of Senegal's greenhouse gas (GHG) emissions come from the agriculture sector, largely driven by enteric fermentation from livestock and savanna burning. The extraction of oil and gas reserves is set to start in 2024, and likely to increase consumption in a country that used to be a net energy importer. In view of Senegal's high exposure and vulnerability to climate change and in response to the Paris Agreement, Senegal is implementing mitigation and adaptation measures in priority economic sectors, communities, infrastructure, ecosystems, and cities.

Senegal has recently completed sector specific National Adaptation Plans (NAPs) for infrastructure, agriculture, water resources, coastal zones, livestock, fisheries, and public health. Under the G7's Just Energy Transition Partnership (JETP), the goal is to increase the share of renewable energy to 40 percent of its electricity mix by 2030 under an investment plan and the installation of infrastructure and technologies that will accelerate deployment and use of renewable energy. Key goals related to mitigation and adaptation under Senegal's Nationally Determined Contribution (NDC) include reducing CO_2e emissions by up to 29.5 percent, increasing the share of renewable energy in the electricity mix to 40.7 percent by 2035, mobilizing $8.7 billion and $4.3 billion to fund mitigation and adaptation efforts, respectively, and reducing deforestation by 25 percent from 40,000 hectare/year to 30,000 hectare/year.

Senegal's Article 6 Strategy identifies the potential for carbon transactions across sectors and establishes a clear roadmap for implementation. This is an opportunity to elevate the country's ability to strategically manage and scale up mangrove and seagrass restoration while leveraging blue carbon. With support from the Comprehensive Action for Climate Change Initiative (CACCI), Senegal is improving data and analysis. It is also improving its Monitoring, Reporting and Verification (MRV) capabilities to implement its NDC. These are key to the implementation of high-integrity blue and terrestrial carbon projects. CACCI has also provided additional analytical capability to implementation, tracking and reporting, thus helping to clarify ambitions, improve data and mutual accountability as well as impact the NDC and NAPs targets.

Senegal developed a portfolio of green and climate projects under its Green PSE Plan, the greening component of Plan Senegal Emergent. The Green PSE Plan is a major tool for the country to chart a pathway to ecological transition. Projects have achieved the maturity that lends them to investment.

Senegal is deemed to be an ideal market for leveraging sovereign wealth funds from FONSIS (the National Sovereign Wealth Investment Fund) to test blue finance, carbon finance, infrastructure and other development-focused investments.

USAID'S Climate Change Program: Objectives and Results

USAID aims to expand access to clean energy while improving the resilience of most climate-sensitive economic sectors through climate change adaptation measures. These entail that USAID programs address overexploitation and agricultural practices that fail to prevent runoff, conserve soil organic matter, reduce salinization, and achieve other conservation and restoration objectives. Additionally, USAID is integrating a holistic approach in addressing the climate crisis, including its impact on the health of the Senegalese population through expanded malaria interventions, the improvement of health data systems, the optimization of supply chains, and the integration of climate-sensitive policies. Within the broader education system, USAID will consider the integration of climate change into education and youth workforce development curricula, youth advocacy, the solarization of water services to schools, climate smart practices in the textbook supply chain, and use of local context and national languages in messages and communication strategies. USAID climate actions also support the decentralization process and the transparent allocation and management of natural, mining, and oil and gas resources along with a better distribution of the revenues they yield in support of energy transition by the extractive industry.

Adaptation

USAID builds economic resilience in the agriculture and fisheries sectors to help reduce the impacts of climate shocks and stresses in communities while increasing revenues, and safeguarding livelihoods. Over the past seven years, USAID and IRI/Columbia University assisted the National Agency for Civil Aviation and Meteorology (ANACIM) to develop, process, and disseminate weather and climate information services (WCIS) to strengthen the resilience of farmers, fishers, and herders to climate change. This effort will be sustained in the next five years, calling for increased investment in the WCIS value chain, expanding access to pay-for-service WCIS products and advancing work on hydro-meteorological services for flood control and drought management as well as WCIS for nutrition services and health sector needs. Under Feed the Future, USAID supports smallholders in high potential horticulture and small ruminants value chains to uptake climate-smart agriculture (CSA) technologies and practices, the scaling up of use of WCIS including the development of index insurance products, along with ICT-enabled farmer subscription systems linked to mobile money payment and contracting models incorporating enhanced climate risk mitigation through financial mechanisms.

Key Results

- 82,143 people supported to adapt to the effects of climate change in the fisheries sector and agriculture and horticulture value chains in FY 23
- 71,246 people using climate information or implementing risk reducing actions in the fisheries sector and agriculture and horticulture value chains in FY 23

Key Adaptation Programs

Scaling up Investment in Weather and Climate Information Services (WCIS2) activities will enhance resilience, productivity, and nutritional outcomes in fishing, farming, livestock, pastoralism systems, and expand the use of products and services to flood forecast, drought management and public health in the face of increased climate uncertainty and weather hazards through scaling up investment in the WCIS value chain.

Senegal Water Resources Management (WRM) strives to achieve increased availability, efficient use, and equity of water resources by means of better data in the hands of water resource governance institutions that build on transparency and inclusiveness.

Feed the Future Senegal Dekkal Geej strengthens the fisheries constituency providing it with evidence for decision-making and enhanced technical and financial capacities in order to safeguard marine biodiversity and coastal ecosystems. At the same time, it seeks to enhance the economic livelihoods of artisanal fishing communities and their resilience to environmental and climatic threats.

Feed the Future Senegal Dooleel Mbay bolsters agriculture productivity and access to markets for high potential value chains while integrating climate from farm to market to help smallholders withstand climate shocks.

Feed the Future Nafoore Warsaaji fosters horticulture value chain linkages and facilitates smallholder engagement in increasingly lucrative business deals with private sector partners, including input suppliers, microfinance institutions (MFIs), banks, insurance companies, off-takers, and end market buyers. Risk transfer mechanisms and solar water pumping lie at the heart of interventions to reduce energy operating costs for producers, achieving adaptation co-benefits and reduced greenhouse gas emissions.

Governance for Local Development (GOLD) supported local government entities to improve domestic resource mobilization and service delivery to citizens in key sectors while promoting the active participation of citizen and civil society representatives in the transparent allocation and management of local resources, thus, offering a platform for promoting climate-sensitive budgeting.

Transparency and Accountability in the Extractive Sector (TRACES) aims to increase transparency and accountability mechanisms in the mining, oil and gas sectors for better revenue management and distribution in order to benefit all Senegalese citizens, facilitating energy transition by extractive resources firms to the extent that Senegal intends to use its natural gas resources as a transitional energy along the low-carbon path.

Renewable Energy

Through Power Africa, USAID provided technical assistance, transaction advisory services, and support to the policy and regulatory frameworks to the Government of Senegal and private sector partners to accelerate on- and off-grid access to renewable energy. USAID supported the development of the off-grid solar home system and mini-grid sectors in Senegal, where more than 55 percent of rural households lack access to electricity. USAID is leveraging catalytic financing through grants, harnessing new regulation on auto-production of renewable energy whereby the offtaker pays the renewable energy company to install the equipment, helping to close bankable projects and decrease operating costs. These investments are lowering diesel dependency and expanding solar services to businesses and enterprises servicing the agriculture, fisheries and WASH sectors. Senegal has a strong track record leveraging its renewable energy sources. In June 2022, Senegal joined the next round of the G7's Just Energy Transition Partnership (JETP).

Key Results

- Since 2013, Power Africa and USAID Senegal have contributed to the financial close of 803 megawatts (MW) of new generation capacity worth $770 million in investments. Power Africa partners have added 302 MW of new generation capacity contributing to over 58,059 new connections.
- In 2021, USAID's Power Africa Off-Grid Project achieved 22,706 new connections in Senegal while leveraging $36 million in private sector investment.
- In 2021, USAID's West Africa Energy Program supported Senegal's clean energy transition by mobilizing $173 million in investment, while facilitating 120 MW of additional generation capacity and 32,726 new connections.
- A three-year project with Oolu Solar that ended in 2021 brought renewable energy to 8,500 new households, benefiting an estimated 76,500 people and avoiding 484 tons in emissions.

Key Renewable Energy Programs

Scaling Up Renewable Energy (SURE II) Senegal unlocks private sector financing to lower operation costs and support the conversion of diesel water pumping systems and manual water pumps to solar to lower diesel dependency. The program helps incentivise private companies to provide solar pumping solutions to smallholder farmers, especially women and youth, in selected off-grid regions. Grants are leveraged to bring bankable processing and irrigation projects to financial close and to pilot solar-powered enterprise hubs and refrigeration-as-a-service models.

Natural Climate Solutions

USAID interventions to strengthen marine and coastal management towards increased sustainability have brought together biodiversity conservation, ecosystem management and ecosystem-based adaptation through the development and implementation of comprehensive sustainable stock management plan for five species, local conventions and the development and implementation of local

climate change adaptation plans that culminate into the National Adaptation Plan (NAP) for the fisheries sector. These comprised mangrove reforestation, oyster cultivation, and skill development for the youth and women in beekeeping and oyster farming in the estuaries of the Saloum and Casamance rivers.

Key Results

- 27 hectares of mangrove reforested.

Key Natural Climate Solutions Programs

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