

SUDAN

Ecosystem-based Adaptation 2017-2023

Supported by the
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SUSTAINABLE DEVELOPMENT GOALS



Regenerating 6,600ha of rangeland with climate-resilient species, which will benefit 6,800 households. Revolving funds will be set-up for 480 people to purchase inputs for adaptation, like drought-tolerant seeds.



Training 1,600 women on 'backyard gardening' to diversify their sources of income. 4 state/locality development plans will be revised to mainstream gender-sensitive adaptation.



Installing 200 rainwater harvesting pits on 2,000 community farms, and building/restoring 10 water reservoirs with wells. These activities will give 3,200 people better water access.



Planting 1,500ha of forests with climate-resilient trees, establishing community-led tree nurseries, and promoting alternative building materials and efficient cookstoves to reduce unsustainable tree felling.

PROJECT TITLE:

ENHANCING THE RESILIENCE OF COMMUNITIES LIVING IN CLIMATE CHANGE VULNERABLE AREAS OF SUDAN USING ECOSYSTEM-BASED APPROACHES TO ADAPTATION

EXECUTING ENTITY:



Higher Council on the Environment and Natural Resources (HCENR)
Republic of Sudan

KEY TARGETS:

8,100

Hectares of forests, rangelands and shelterbelts rehabilitated

3,200

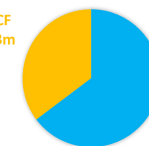
People have new access to solar-powered pumps for wells.

6,800

Households have new access to 'climate-proof' food and water sources.

FUNDING:

LDCF
\$4.3m



Cofinance
\$7.9m

PROJECT PARTNERS:

National Ministry of Agriculture; National Ministry of Animal Resources; National Ministry of Gender; State Ministry of Agriculture; State Range and Pasture Administration; State Ministry of Animal Resources; White Nile State's Women's Union; Range and Pasture Administration; National Forest Corporation; UNDP; IFAD.

INTRODUCTION

- Sudan sits in north-eastern Africa and is the third-largest country on the continent. With a population of 39 million, the country is constrained by widespread poverty, where 46.5% of the population subsist on less than US\$1.25 a day.
- **Small holder rainfed farmers and pastoralists (SRFP)** are particularly vulnerable, relying on rainfall and traditional practices that are decreasing in productivity, such as grazing in degraded grasslands. Current climate impacts, including erratic rainfall and rising temperatures, are devastating these families.
- UN Environment is helping the government of Sudan to build resilience among SRFPs in the White Nile State. The project's main approach is **ecosystem-based adaptation (EbA)**, which involves protecting and restoring healthy ecosystems. EbA is proven to be highly cost-effective for withstanding extreme weather, and 80% of Sudan's population directly depend on ecosystem services for their livelihoods.

TECHNOLOGIES & METHODS

- **Ecosystem-based adaptation (EbA)** is central to the project's activities. EbA is the strategy of using nature and healthy ecosystems to reduce the impacts of climate change on people.
- The project is **restoring degraded ecosystems** such as rangelands, forests and riparian zones. This gives protection against desertification and retains water in the soil.
- The reforestation is prioritizing **native species** that generate **multiple goods and services** (like fruit trees) for local families, and that are resilient to climate change. Community-managed tree nurseries are under construction to support the planting.
- **2,000 community farms** (4 ha each) in total are being developed with climate-resilient land management practices using **drought-tolerant fruits and vegetables** and Integrated Pest Management.

CLIMATE IMPACTS

- The White Nile State is one of the most climate-vulnerable regions in the country. Approximately 70% of the population in this area depend on rainfed agriculture and pastoral practices, which are severely threatened by erratic rainfall and rising temperatures.
- Climate impacts have already manifested in declining crop productivity, land degradation, decline in grazing potential, loss of livestock, and human migration in search of jobs. During previous droughts, there has been large-scale human suffering and hunger among SRFPs.
- The Sahara Desert is advancing at a rate of about one mile a year, eliminating grazing land and waterholes. Between 1962-2011, available water resources in Sudan decreased five-fold.
- The ability to deal with the problem is inhibited by poverty and a rapidly growing population. The high population density in some areas results in a range of social and environmental problems as resources become scarce.

- The project is **creating shelter belts** on 10% of all cultivated areas in the project sites. A shelter belt is a line of trees or shrubs that protects an area - especially crops - from fierce weather.
- Smallholder farmers and pastoralists lack the earnings and capital to make their livelihoods resilient to climate shocks. A major component of the project is, therefore, to teach these communities how to adopt **alternative climate-resilient livelihoods**, as well as providing the technology and funding to do so.
- Some of these alternative livelihoods include **poultry and small ruminant breeding**. These activities are not "climate-resilient" in and of themselves, but rather they **diversify food and income sources**, which is part-and-parcel of building resilience.
- To decrease grazing on the already deteriorated rangelands, **feed for livestock will be supplied**

PROJECT LOCATION



EbA measures were implemented in four localities on the western side of the White Nile River. All localities were identified through the Sudan NAP process as particularly vulnerable to climate change.

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locally using by-products from sugar industries in the White Nile State (sugarcane, molasses, bagasse), together with browse trees and shrub foliage.

- The project is distributing **gas cook stoves and sustainable building materials** to reduce tree cutting. In arid areas, a family has been estimated to use about 52 trees per year. As the forests deteriorate, the buffer ecosystems that protect local communities from extreme weather disappear.
- A **revolving funds scheme** is being established to support the purchase of inputs for adaptation, including animal feed supplements, drought-tolerant seeds, and solar pumps for wells.

