Reducing the impacts of climate change on aquatic ecosystems in the Central Highlands of Madagascar

PROJECT TITLE:

REDUCING THE IMPACTS OF CLIMATE CHANGE ON KEY AQUATIC ECOSYSTEMS IN THE CENTRAL HIGHLANDS, CONCERNING THE ITASY, UPPER MATSIATRA AND VAKINANKARATRA REGIONS

COUNTRY:

Madagascar

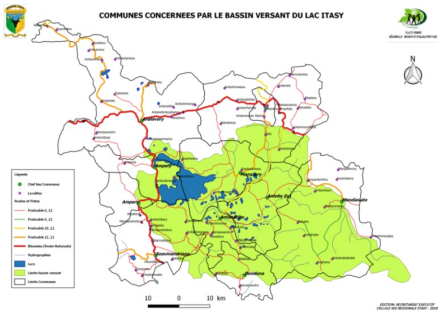
LOCATION :

Central Highlands, in the Itasy, Upper Matsiatra and Vakinankaratra regions

SCALE OF INTERVENTION:

Regional

INCUBATION LED BY:



Itasy region © IOWater

LOCAL CONTEXT AND ISSUES:

Madagascar lies almost entirely within the tropics. The highlands culminate at an altitude of between 1,200 and 1,500m (running north to south along the whole island). Two seasons take place: the dry season (May to October) and the rainy season (November to April).

According to the National Climate Change Adaptation Plan, average temperatures have increased in the last few decades (especially in the southern half of the island) by around 0.9°C, rising from 21.5°C to 22.4°C. Precipitation is more intense leading to high flood risks. On the east coast highlands, dry periods tend to be longer, while on the western side, rainfall has become more intense.

From an economic point of view, Madagascar ranks 150th on the human development index. Seventy-five percent of the Malagasy population is considered as poor, in other words with income of less than 1.28 euros a day. Access to basic goods and services (drinking water, sanitation, waste, transport and energy) remains very limited.

Itasy region © IOWater

Eighty percent of the island's population live in rural areas. Farming provides 95% of the national food supply and over 75% of

foreign exchange earnings, with exports of products like vanilla, coffee, pepper, cloves and fishery resources.

The Central Highlands face the following challenges related to water:

- Deforestation (slash and burn agriculture), with an estimated reduction in forest cover of 200,000 ha/year
- Soil erosion, which leads to a drop in agricultural production and threatens food security for inhabitants
- Degradation in soil quality, with the use of chemical pesticides on farmland
- Uncontrolled use of water, with the emergence of numerous water conflicts due to competition (early drying-up of springs, lower water quality)
- Over exploitation of fishery resources.

PROJECT GOALS:

The aim of the project is to develop a multi-theme approach to improve the resilience of inhabitants of the Central Highlands and protect aquatic ecosystems.

In the Itasy and Vakinankartra regoins, the incubation should partly improve the resilience of inhabitants thanks to the development of good farming practices, and partly raise their awareness of strategies to protect spring catchment areas.

In the Upper Matsiatra region, the incubation aims to develop nature-based solutions to control both soil erosion and deforestation.

Activities will be planned and implemented in a concerted manner thanks to integrated water resources management methods.

SDGs TARGETED BY THE PROJECT:

CHALLENGES FACING THE PROJECT:

Soil erosion – Deforestation – Food security – Poverty reduction

SECTORS CONCERNED:

Agriculture - Food security – Water security – Risk management (erosion, drought, flooding) – Protection of water and land ecosystems – User resilience

EXPECTED OUTCOMES:

Nature-based solutions

- Soft restoration techniques for riverbanks (restoration of the riparian forest)
- Erosion control: construction of small anti-erosion dykes
- Protection of catchment areas: re-vegetation
- Soil and water conservation techniques (weirs, stone barriers, hedges, mulching, etc.)

Agroecology

- Agroforestry: afforestation and promotion of green energy sources (organisation of a wood activity)

Modernisation and reinforcement of governance

- Citizen consultation: network of coordinators and trainers involving users and technical and institutional stakeholders

Capacity and knowledge building

- Dissemination of good agroecological practices

PROJECT STAKEHOLDERS:

Stakeholders involved:

Vulnerable inhabitants: farmers, stock breeders, fishermen, wood suppliers, market gardeners – Institutional stakeholders – Technical stakeholders

Project leaders:

Ministry of Water, Sanitation and Hygiene, Technical Secretariat of the Lake Itasy Management Committee, Nouvelle-Aquitaine Region, International Office for Water

Project operators:

Ministry of Water, Sanitation and Hygiene, AgriSud, GRET, Nouvelle-Aquitaine Region

Technical partners:

Ministry of Water, Sanitation and Hygiene
Ministry of the Environment and Sustainable Development
Itasy, Vakinankaratra and Matsiatra Regional Departments
Technical Secretariat of the Lake Itasy Management Committee
National REDD+ Coordination Office for Madagascar
JIRAMA

Funder of the incubation process:

Rhône Méditerranée Corse Water Agency

ESTIMATED COST OF PROJECTS IDENTIFIED FOR INCUBATION:

>1 million EUR

SHORT-TERM ACTION (3 YEARS)

- Erosion control
- Protection of catchment areas
- Soil and water conservation
- Agroecology and dissemination of good practices

LONG-TERM ACTION (10 YEARS)

- Higher agricultural yields
- Afforestation
- Citizen consultation: integrated management of water resources and aquatic ecosystems