Project Title:

“Strengthening regulatory framework and national capacity for monitoring effluent discharges, water, and sediment quality in coastal and marine areas of Madagascar”

7th WIOSAP PROJECT STEERING COMMITTEE
DARES SALAAM, TANZANIA
29TH JANUARY 2025

Name of IP:

“Ministry of Environment and Sustainable Development (MEDD), Centre National de Recherches sur l’Environnement (CNRE)”

Dr. Yves Mong

Why the Project

- **Overall Objective:** To help improve the water quality management of the River Betsiboka estuary (including the Bombetoka Bay)
- **Specific Objectives:**
  - ***Objective 1***: *To build capacity of the MEDD and its regional directions to effectively manage and regulate land-based sources of pollution and activities;*
  - ***Objective 2:*** *To increase existing national monitoring capacity to help implement and monitor effluent discharges, water and sediment quality in receiving coastal and marine environment;*
- **Where:** Demo project carried out and implemented within the River Betsiboka estuary
- **Partners:** Ministry of Environment and sustainable Development and the National Centre for Environmental Research (CNRE)

Demo project location: sampling points

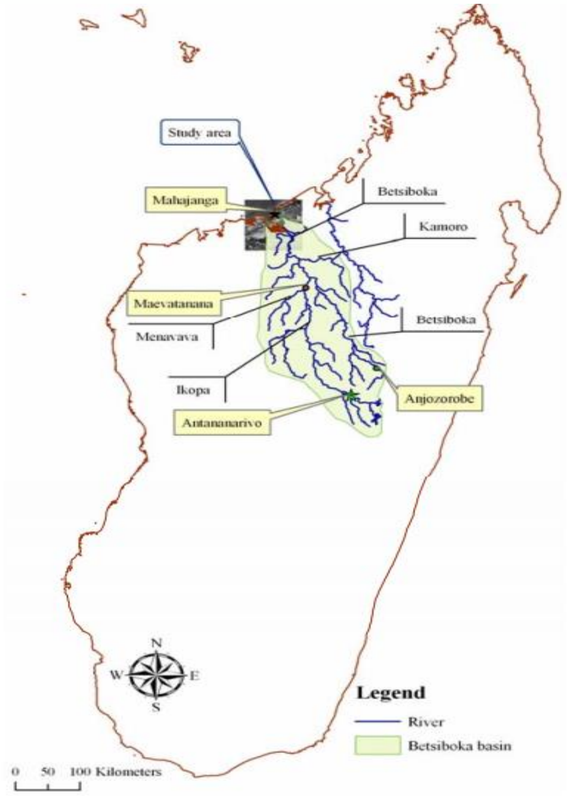
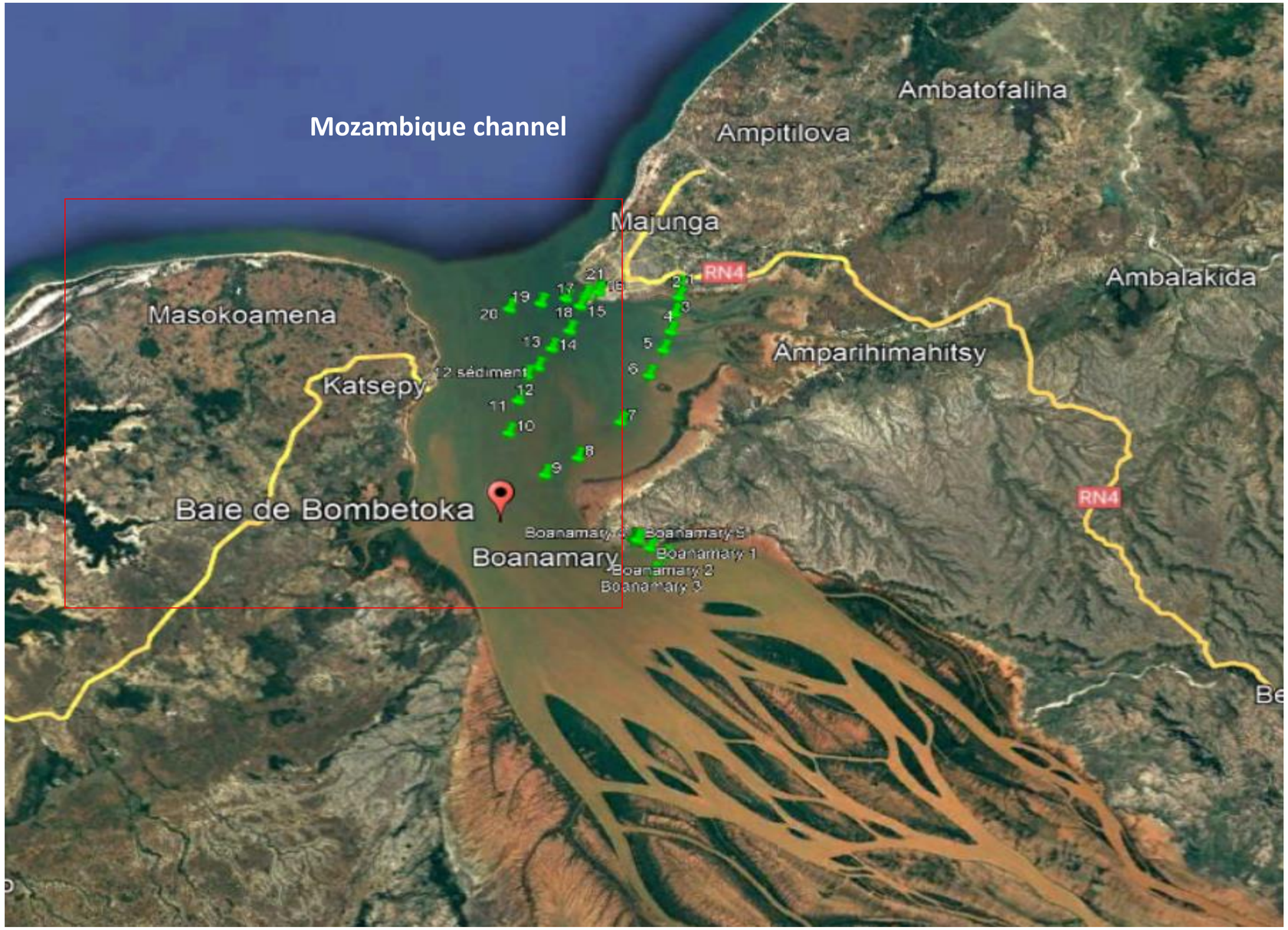


Figure 1. The Betsiboka basin, its sources and location.



Key Achievements

- Validated Decision support tool used by CNRE and control officers from MEDD;
- Training of control officers on field sampling and measurement in 3 regions
- Training of CNRE and control officers from 8 regions to decision support tool manipulation (processing and handling data using the tool) and use (interpretation of results);
- Elaboration of the Decision support tool guideline for trainees;
- Zonation of sensitive ecosystem and uses within the bay;
- Location of pollution sources affecting the estuary and the bay;
- Wet and dry season campaigns of sampling post-Covid 19;
- Analysis of samples at CNRE's laboratory and other laboratories;
- Use decision tool to handle wet and dry season data;
- Comparison of obtained data with the regional interim EQT;
- National C&M Water Quality Management;
- National roadmap for pollution management validated and implemented

Decision support tool's guideline

SUIVI DE LA POLLUTION MARINE
- MISE A JOUR DE L'APPLICATION WEB-

MANUEL DE PROCEDURE

Decision support tool: components

ETUDE DE LA POLLUTION MARINE DANS LA BAIE DE BOMBETOKA

Valeurs des paramètres physico-chimiques de l'eau de mer

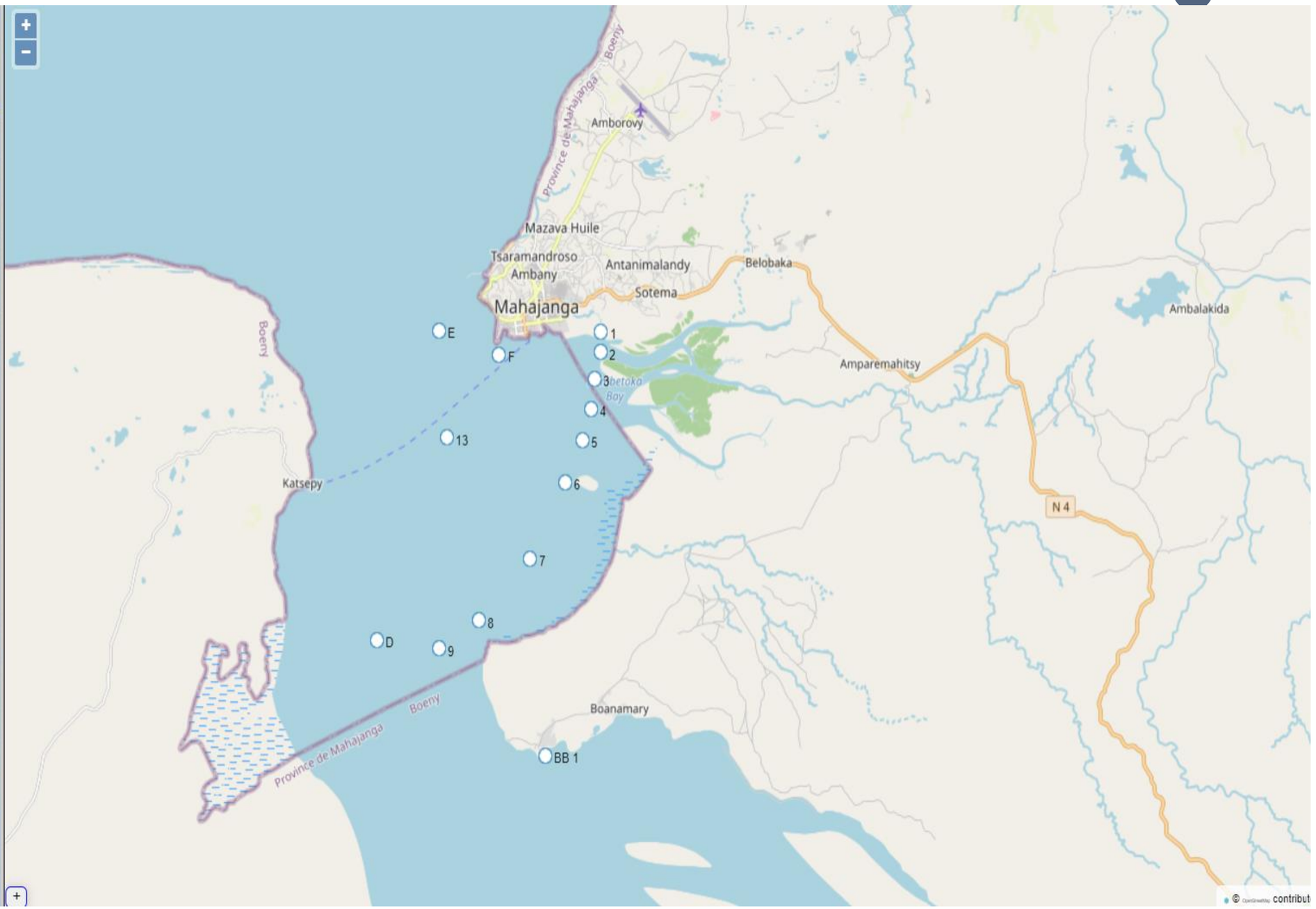
Concentration de métaux lourds dans chaque sédiment marin

Analyse de Conformité par rapport à la norme EQG

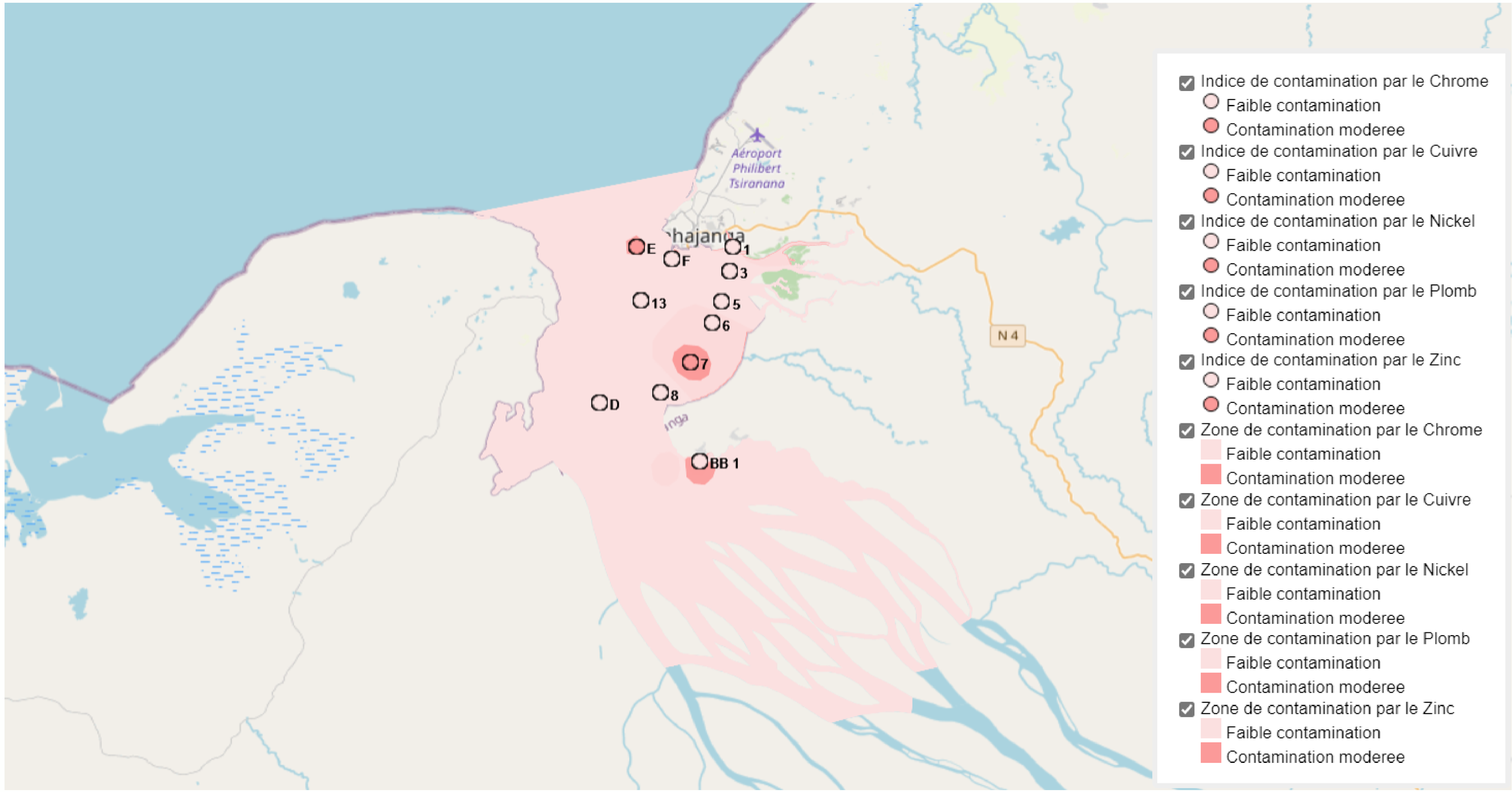
Analyse de la charge de pollution par site (PLI)

Analyse du Facteur de contamination par métaux lourds (CF)

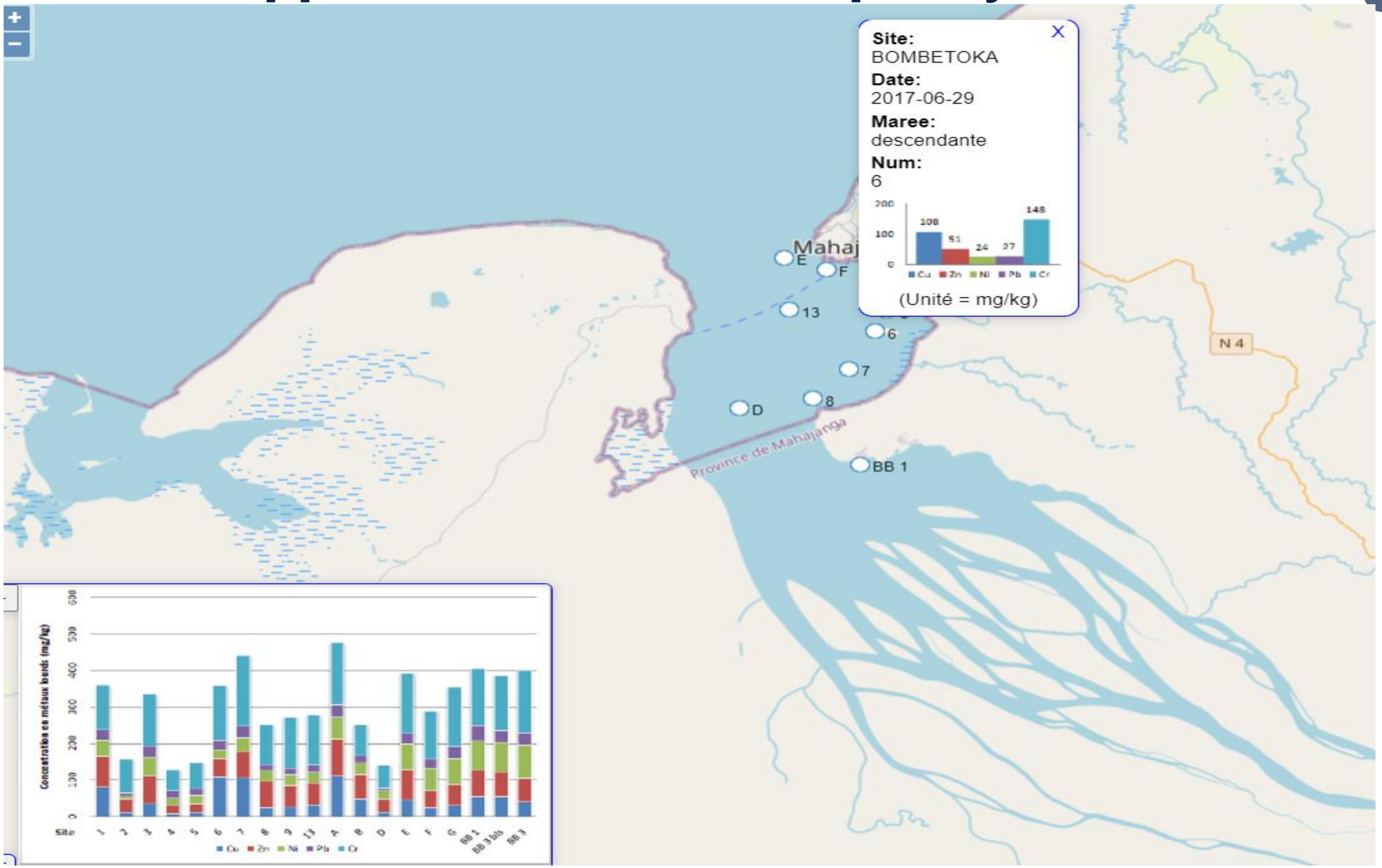
Analyse de l'Indice de géoaccumulation des métaux lourds (Igeo)



Decision support tool: classification of contamination level

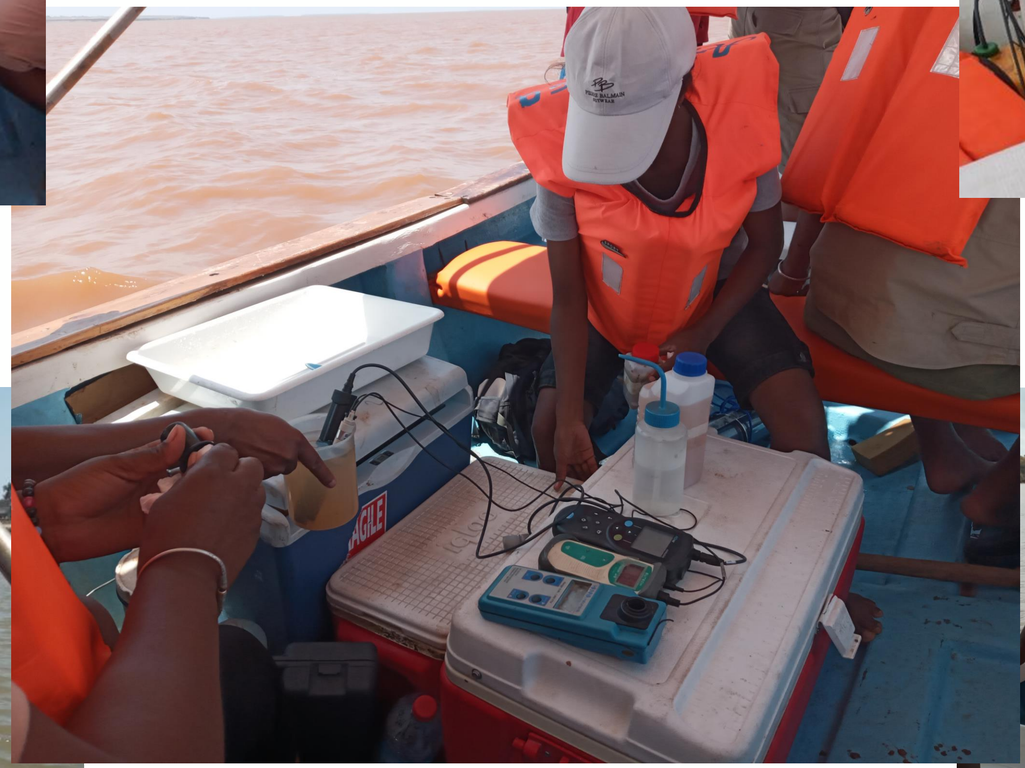


Decision support tool: sediment quality



Training of MEDD control officers: Decision support tool

Training of MEDD control officers: Field testing and sampling



Key Lessons Learnt

- Regulation framework alone cannot tackle pollution issues;
- Regulation framework must include a component related to the monitoring aspect
- Tackling pollution issues should be brought at the high level of decision to be correctly supported financially and sustainably;
- Pollution management needs trained human resources to control and monitor the implementation of regulations and action plans;
- Research is an important tool to accompany and guide the implementation of the regulation framework;

Project Sustainability

- The demo project allows the pollution agenda to be taken at a high level of decision and to be seriously considered by other potential funding partners;
- The implementation of the validated pollution management roadmap will ensure the sustainability of what has been achieved during the demo project


Thank you!