

# OpenStreetMap data for climate change response initiatives

*August - 2022*



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# PROJECT ACTORS



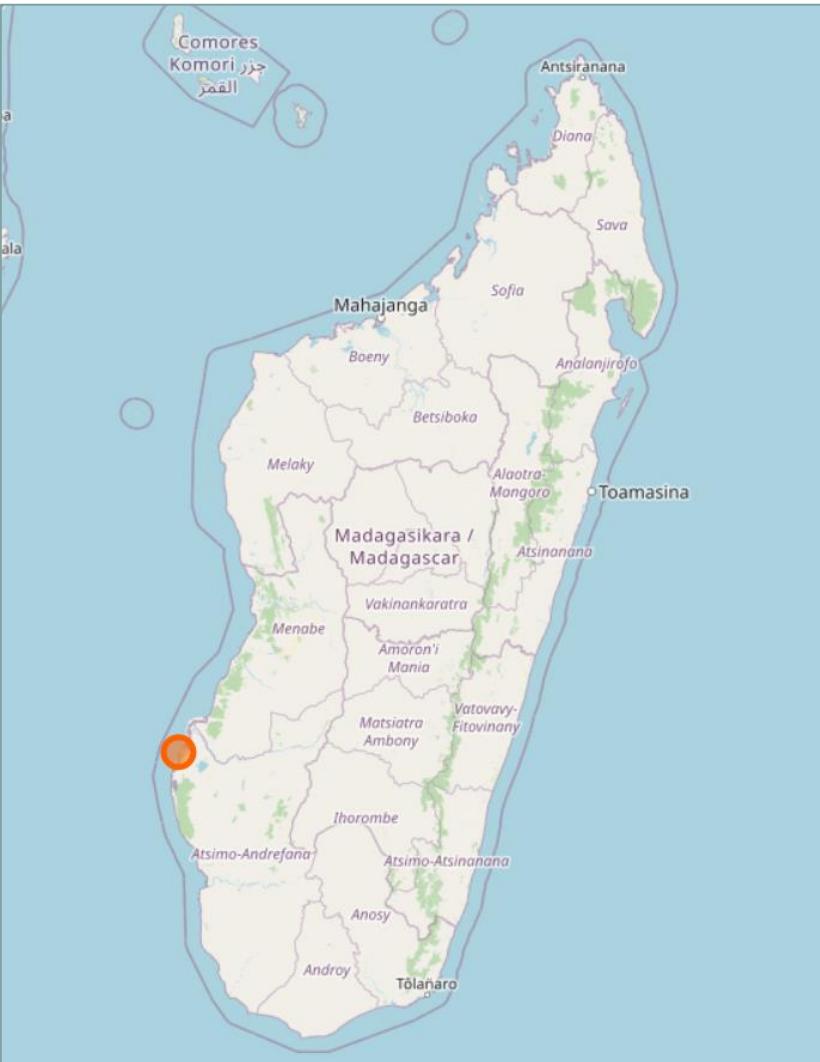
# SIF & AVOTIA Project



# SIF & AVOTIA Project

- *Secours Islamique France* (international french NGO → support and development aid in France and in the world)
- « AVOTIA project » support for rural development and community resilience of vulnerable populations in the Morombe district, one of the objectives of which is to strengthen the capacity of vulnerable households to cover their food needs
- Co-financed by the French Development Agency (AFD)

# Morombe



# CartONG



# About CartONG



Created in 2006, cartONG is a French H2H NGO specialized in information management - GIS, MDC & data processing - which is dedicated to make data available to humanitarian, development and social action projects.



we seek to improve the quality and sustainability of field activities, including better needs assessment and monitoring and evaluation

As a multidisciplinary resource and expertise center, CartONG supports the implementation of our partners' strategies and operations



We also support the sector in general by producing documentation, building capacity and raising awareness of the technical, strategic and ethical challenges of digital technologies

The image contains three square logos side-by-side. From left to right: 1. The H2H Network logo, featuring two stylized 'h' characters connected by a horizontal line, with the text 'H2H Network Humanitarian Action Support'. 2. The Coopération Sud logo, featuring a cluster of orange and purple triangles, with the text 'COOPÉRATION SUD'. 3. The Principles for Digital Development logo, featuring a grid of colored squares (green, blue, yellow, red), with the text 'Principles for Digital Development'.

# Our expertise



Geographic  
information  
system



Mobile data  
collection



Transversal  
approach of  
Information  
Management



Data  
processing

# Our current partners

operational and institutional partners



some initiatives...

Missing Maps



Cartes d'ici & d'ailleurs

soutenu par

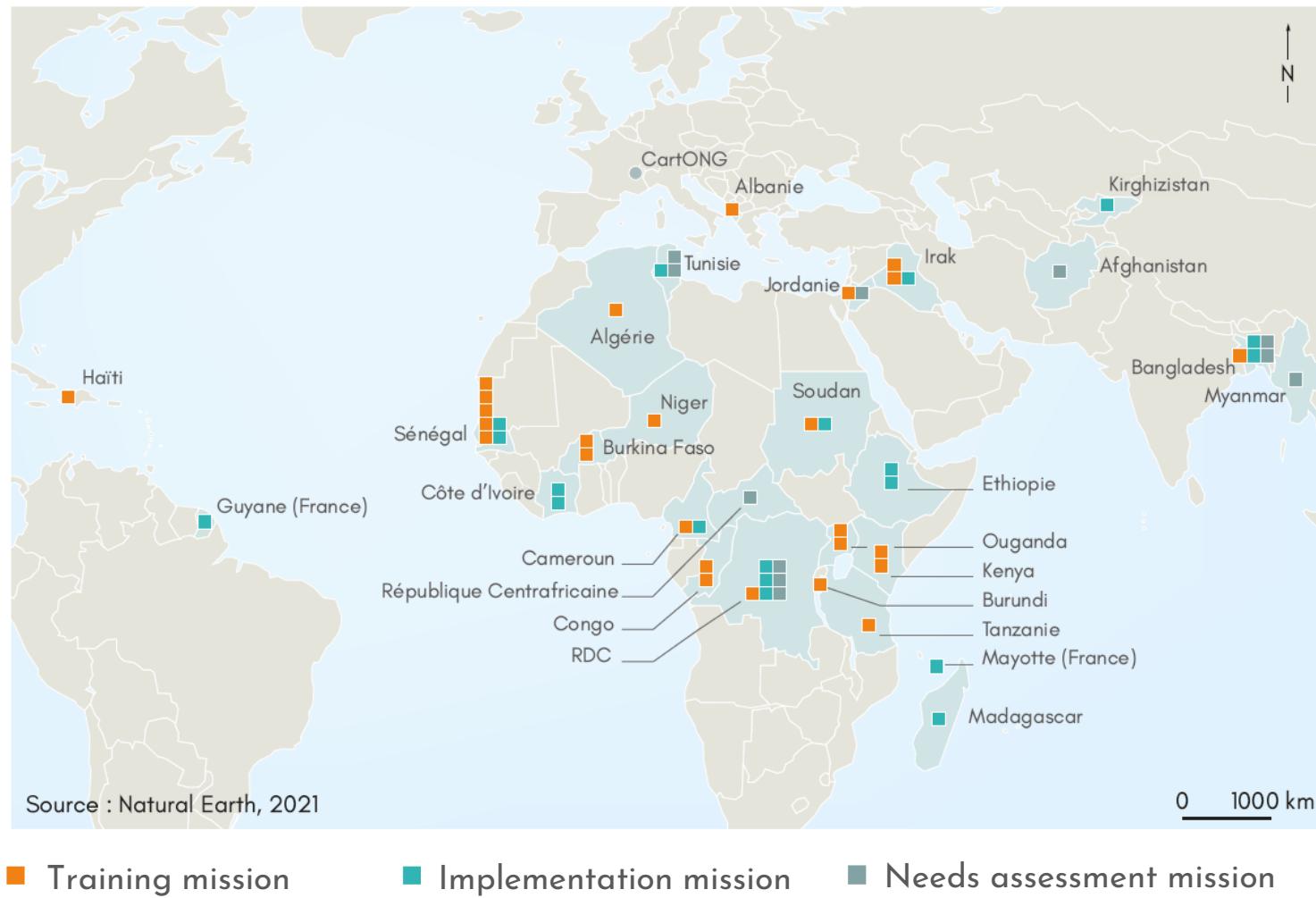


Renforcement de la gestion des données  
des OSC francophones

soutenu par



# Our presence



Needs  
assessment  
mission

We also conducted  
numerous activities,  
workshops and  
trainings in France,  
Belgium and  
Switzerland each year

■ Training mission

■ Implementation mission

■ Needs assessment mission

# Our approach

We are looking to :

- **Place people at the center of projects**
- **Better take into consideration the local communities**
- **Encourage collaborative work between different actors**

Since 2015, the  
Missing Maps project

International  
collaborative and  
solidarity mapping  
project based on  
OpenStreetMap

Then some new  
activities...

support the citizen  
engagement of local  
communities

Since 2018, the  
sensitive cartography

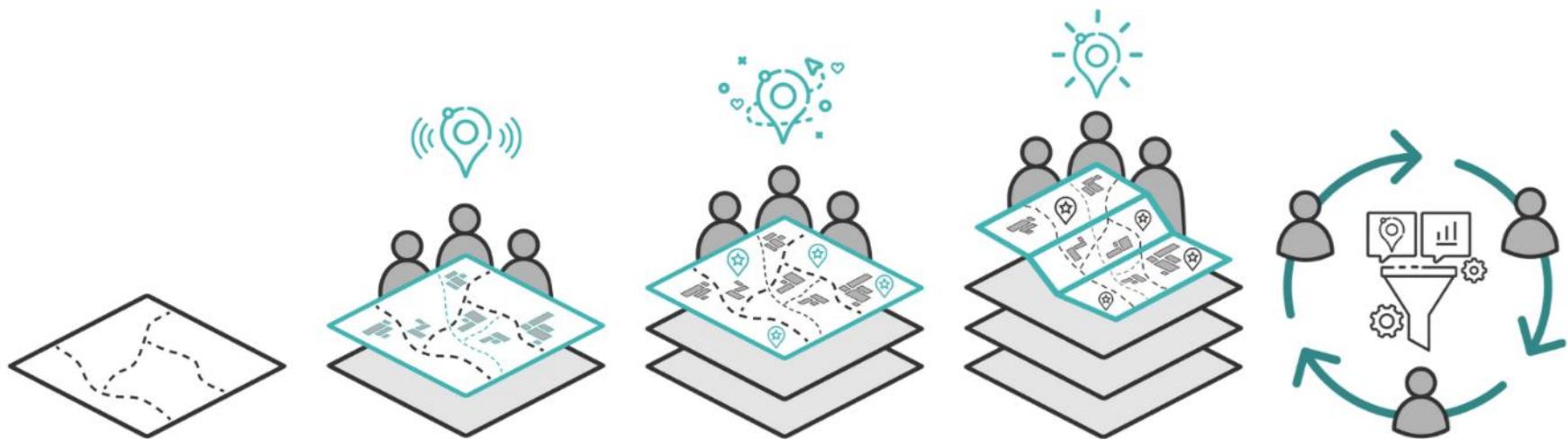
to capture visually and  
spatially information  
about perception,  
feeling, memory, etc.

# The participatory mapping method

CartONG offers technical and methodological support based on innovative, sustainable and lightweight solutions.

**Four complementary steps**, but which can be conducted separately :

1. **Mapping** the area of interest of the project
2. **Complete** the map with thematic and/or sensitive data
3. **(Co-)produce** cartographic products
4. **To perpetuate** the resources and tools developed





# Madagascar OSM community

*« Cartographions Madagascar Fokontany par Fokontany »*

# OSM Madagascar

- Created in 2015
- Set up of an OpenStreetMap Madagascar Association (OSM-MG) at the end of 2019
- About twenty active members (before covid)



(C) Contributeurs  
OpenStreetMap



# WORKING METHOD

# Assessment and activities planning

# Assessment

- Remote assessment with project teams :
  - Field needs (type of data to be collect...)
  - Pre-existing capacities ( limited in mapping and digital but strong in participatory and community-based approaches)
  - Data already available (few)

# Mapping the area of interest (project area)

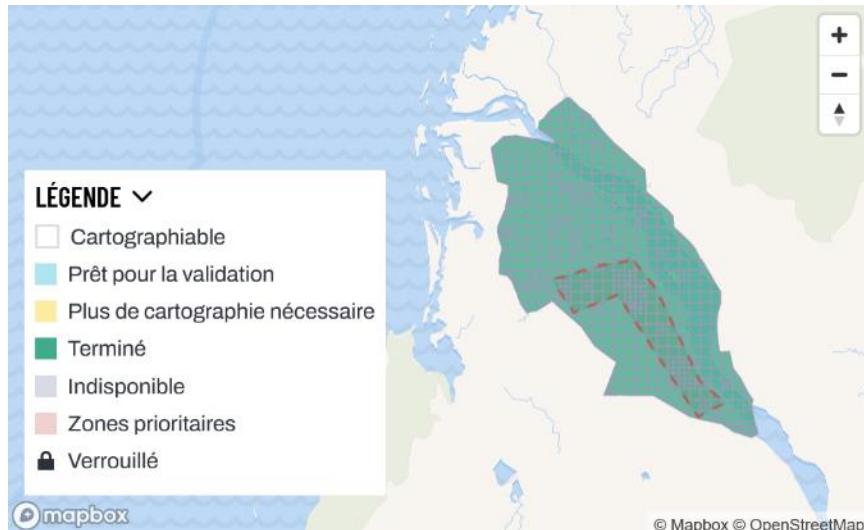
- Organization of mapathons with CartONG online volunteers
- **31 mapathons** have been conducted with **165 volunteers** present since June **2020..**



Mapathon in University in Pau, France (November 2021).  
Students map the Morombe region.

# Mapping the area of interest

- These different mapping projects ([#8784](#), [#11803](#), [#11826](#), [#11914](#)) in Morombe district on the [HOT Tasking Manager](#) allowed for the creation of **37,235 buildings** and **4,322 km of roads and path** in OSM data base.



An example of a mapping project created on the HOT Tasking Manager. Volunteers select tasks one by one to map roads, buildings, rivers.



Data created through the mapathon on Tongarahamba village (Morombe)

# Training session :

- *Students*
- *SIF staff (december 2021)*



# First training session

## □ Université of Tuléar

- Students
- different fields of study(geography economics, agricultural and animal science)



# Second training session

## □ Morombe ( 20 people)

Mostly technicians working in Food Security project, Risk and Education projects



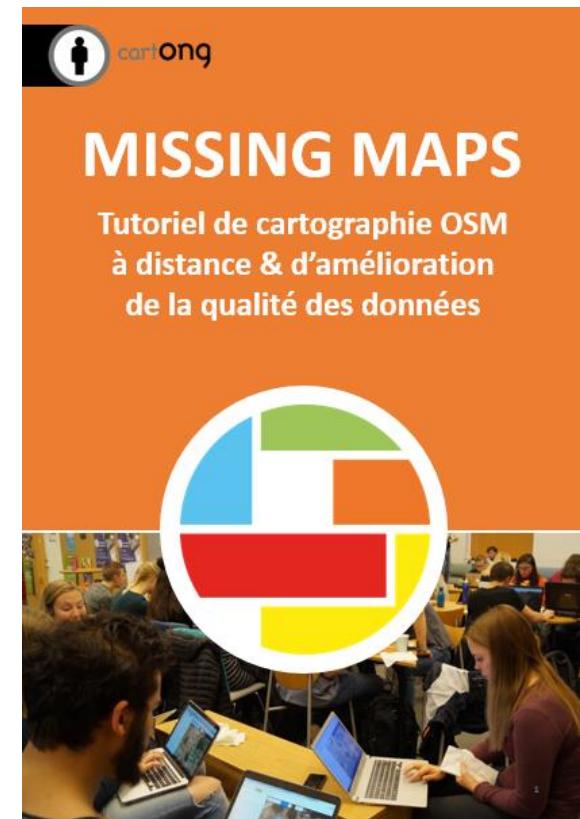
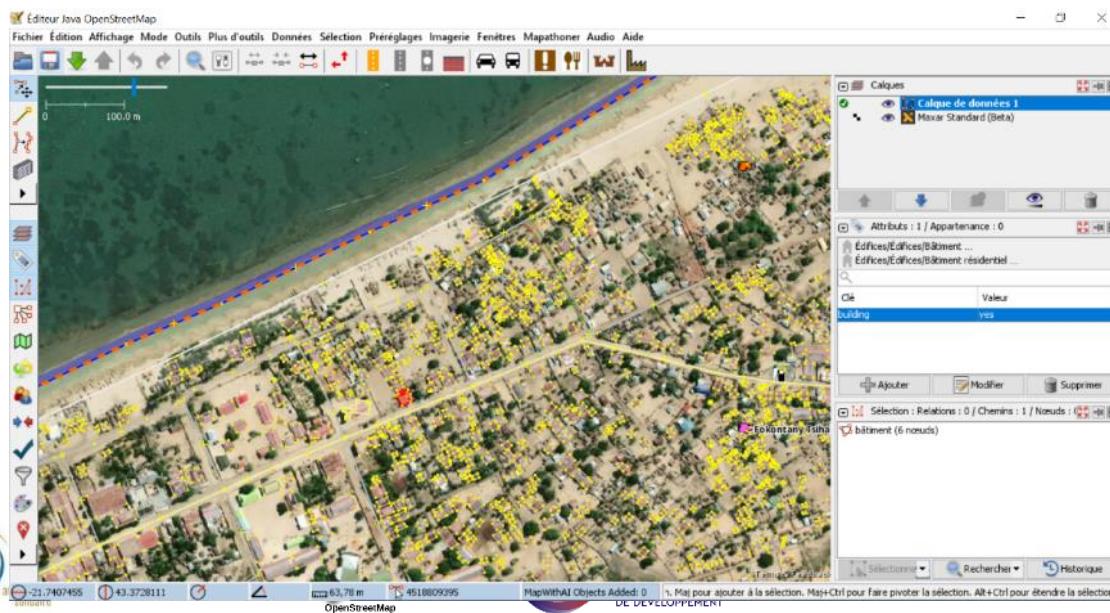
# Training program

- Introduction to GIS
- Sharing some participatory mapping project
- Assessment of needs and available resources



# Introduction to the mapping with JOSM

- Create an account on OpenStreetMap
- JOSM training: installation and configuration
- Creating data with JOSM
- Data quality
- Adding field knowledge
- Search and extract data



# Introduction to field data collection (OsmAnd)

- OSM presets
- Introduction to OsmAnd
- How to collect data with OsmAnd
- Exploring the features: collecting points, taking notes, recording GPS tracks, taking photos, favorites

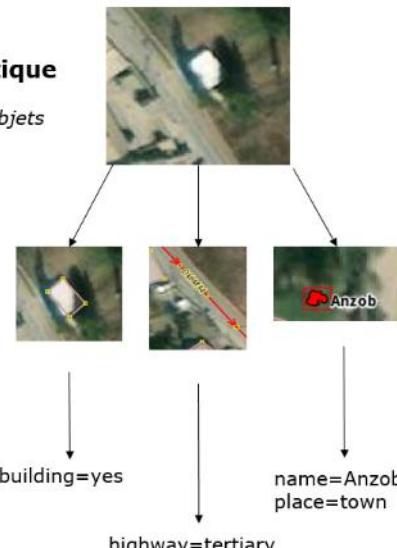
=> **Élément caractéristique**  
'Entité physique qui peut être cartographiée. Cela inclut les objets naturels et artificiels.'

=> **Élément**  
'Composant cartographié : nœud, chemin (ouvert, fermé ou aire) et relation.'



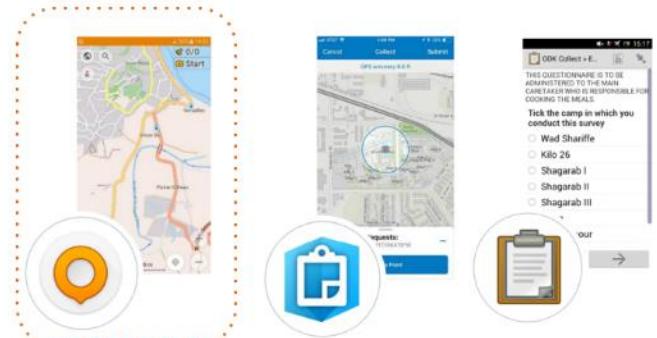
=> **Attribut (tag)**  
'Constitué d'une clé et d'une valeur, il complète l'élément en lui attribuant une propriété. Un élément peut avoir plusieurs attributs.'

OpenStreetMap MADAGASCAR



- Un outil **Map Centric** (VS *Form Centric*)
  - Map Centric = basé sur un format cartographique
  - Form Centric = basé sur un format questionnaire
- Un outil **Open Source** (VS Propriétaire)
- Un outil qui permettent **la contribution à OSM**
- Un outil "**LowTech**" (VS "High-tech")

cartong



# Field mission - to complete the base map in Morombe and surroundings

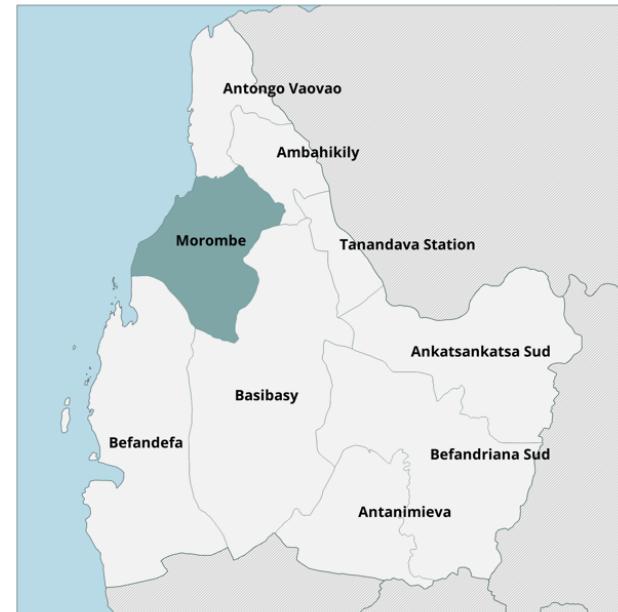


A practical exercise in data collection with OsmAnd, The Culture and Education group collects data in Morombe.

# Field data collection (February-March 2022)

# Program

- OsmAnd data collection (check-in) carried out by SIF technicians/students pairs trained during the 1st mission
- Participative workshops in the 6 communes of the project: Befandriana Sud, Ankatsankasta Sud, Tanandava Station, Ambahikily et Befandefa
- Mission impacted by cyclones



# Data collected

- Printed list of 39 items to point out related to food security and basic infrastructures (health, schools, administrations...)



COLLECTE DE DONNEES OSMAND

## COLLECTE DE DONNEES TERRAIN

BINOMES SIF / ETUDIANTS

### 1. ÉLÉMENTS PRIORITAIRES SÉCURITÉ ALIMENTAIRE

	Tags	Type	Checklist
Puit traditionnel	man_made=water_well	POI	
Puit à pompe	man_made=water_well + pump=manual	POI	
Forage	man_made=water_well + note=borehole	POI	
Borne fontaine (paompy)	Man_made=water_tap + drinking_water=yes	POI	
Village	place=village + name=*	POI	
Hameau	place=hamlet + name=*	POI	
Champ école paysan (CEP)	amenity=school + note=CEP + operator=SIF Ajouter à côté du CEP une note (« signaler une anomalie ») avec les principales spéculations	POI et note	
Marché	amenity=marketplace	POI	
Magasin d'alimentation (seulement les plus importants)	shop=convenience	POI	

# Preparing for data collection



# Data collection

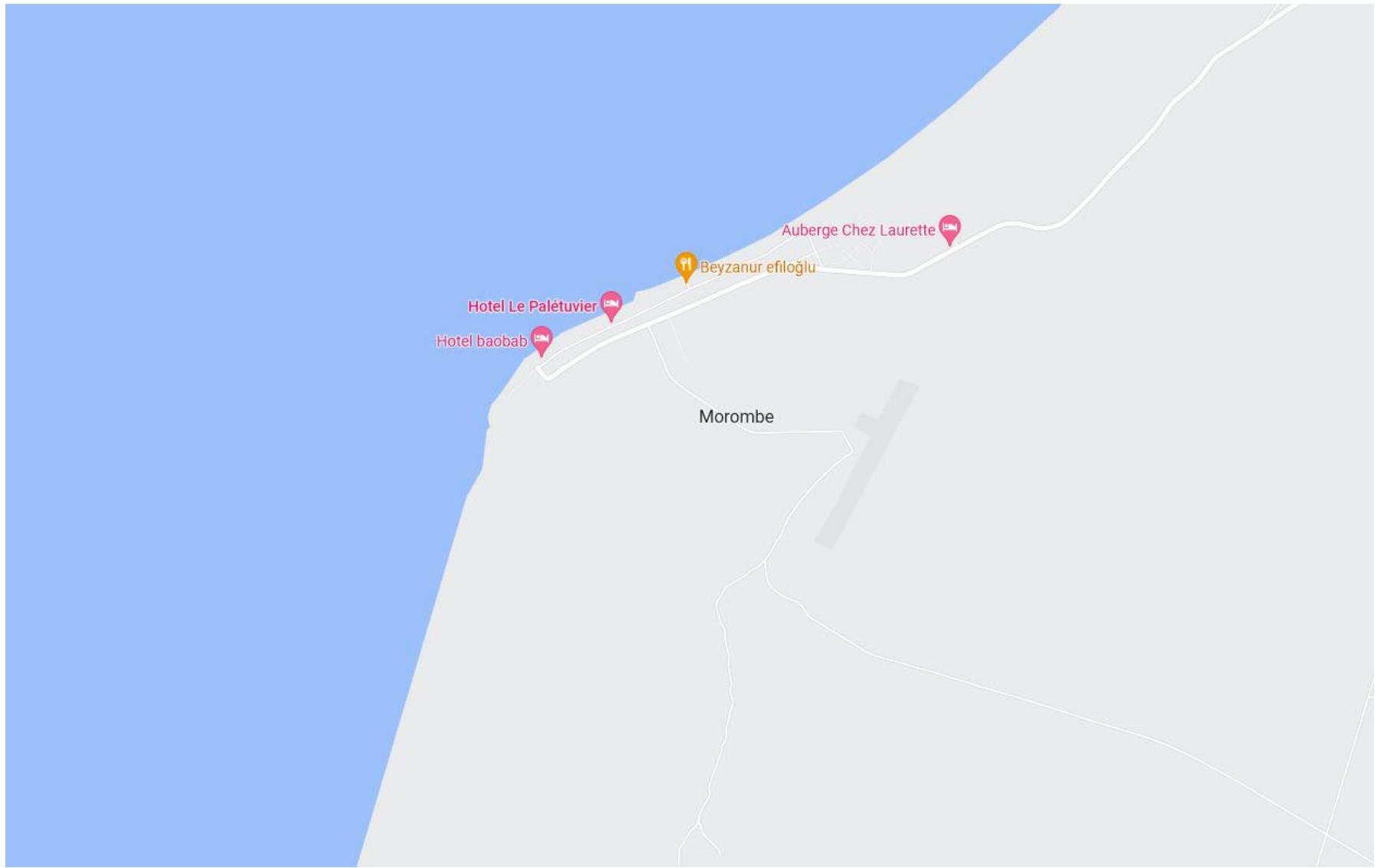


# Summary of data collection

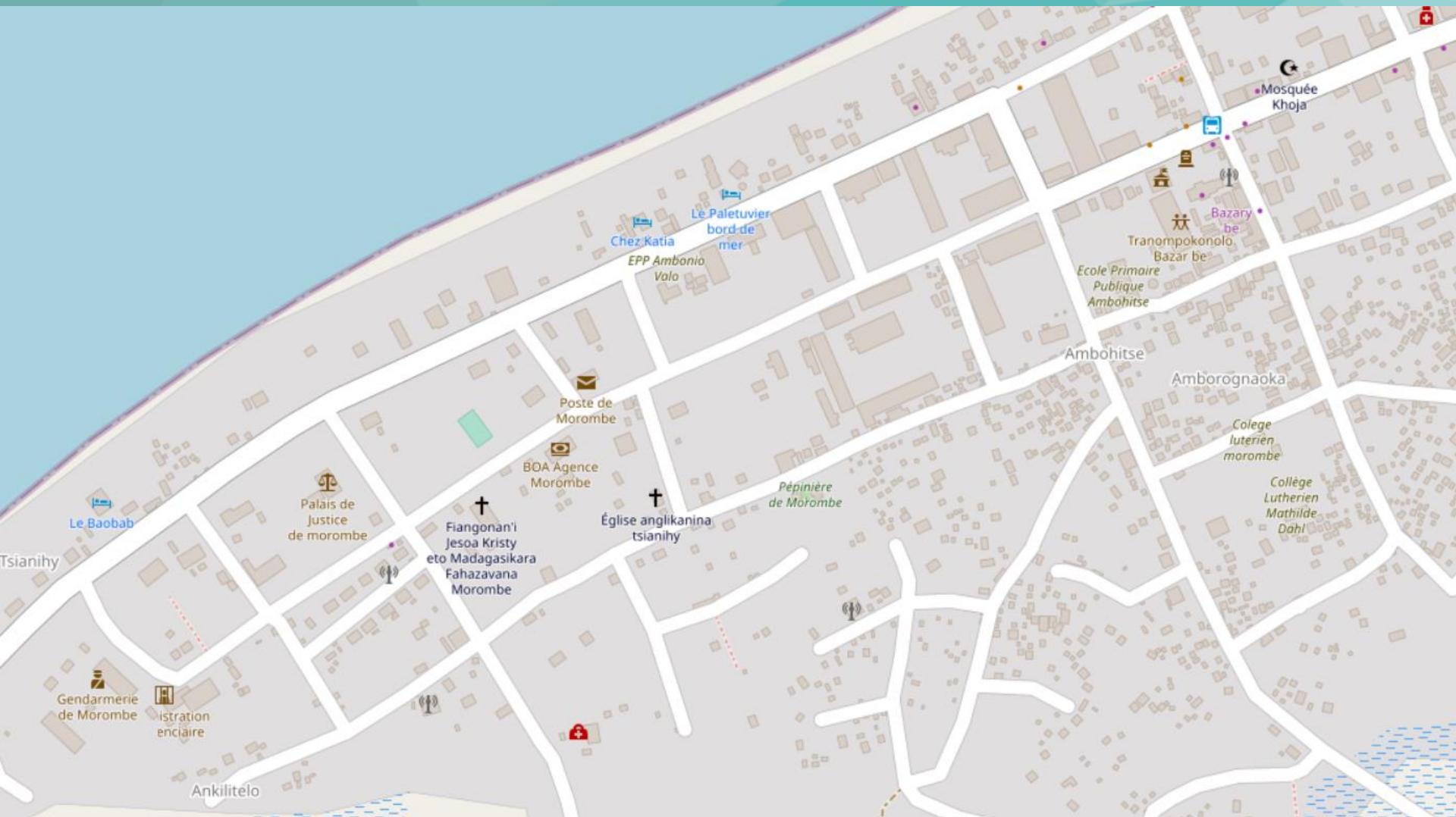
- **516** points added to OpenStreetMap in the 6 municipalities and many indications on the territory.
- Sharing of experience and cooperation between students and SIF staffs.
- Collection was not always uniform and complete because of constraints related to distance and the season (impossible to visit certain areas because of the state of the roads, loss of time because of the rains).
- Some technical problems but solved through good communication.

# First results

# Morombe before and after

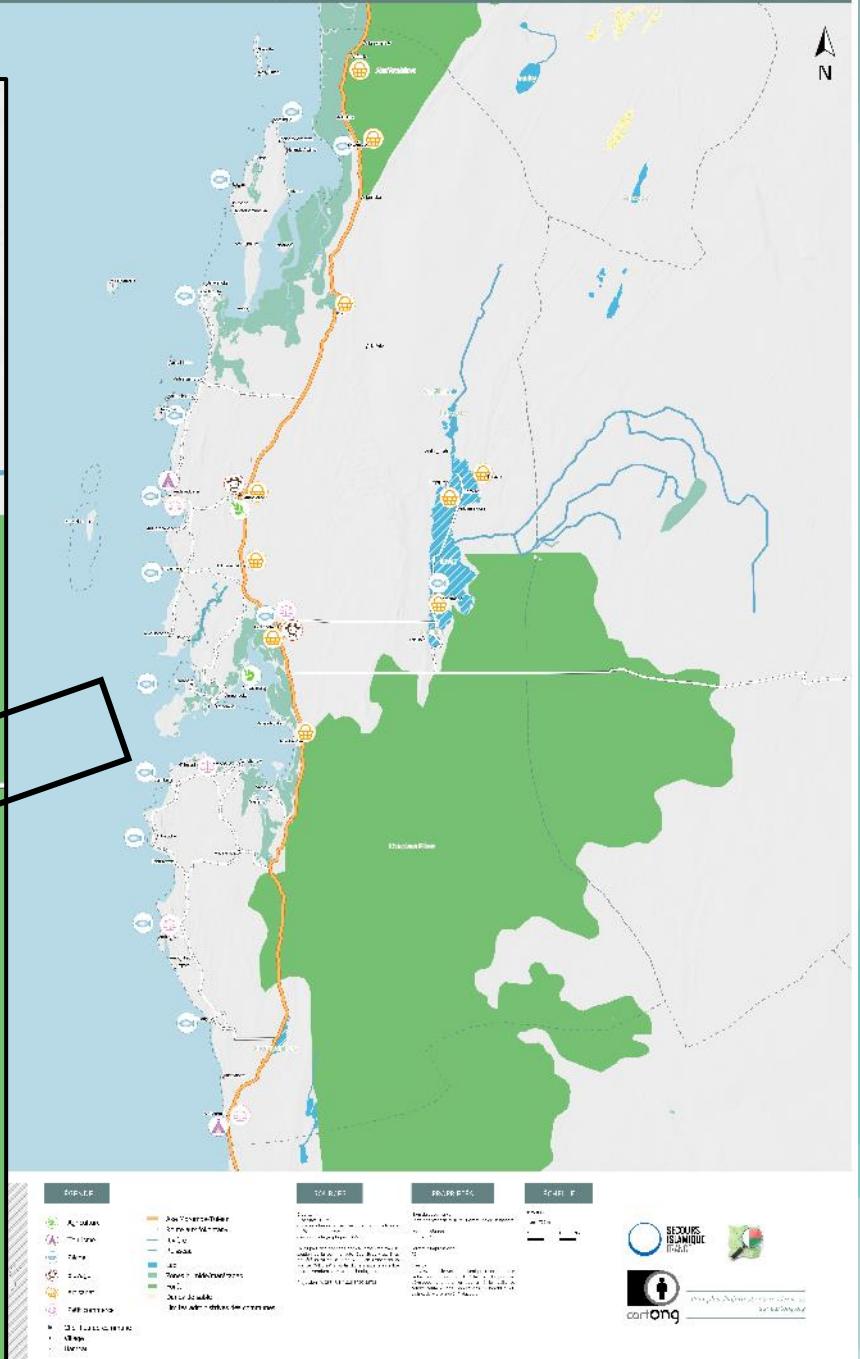
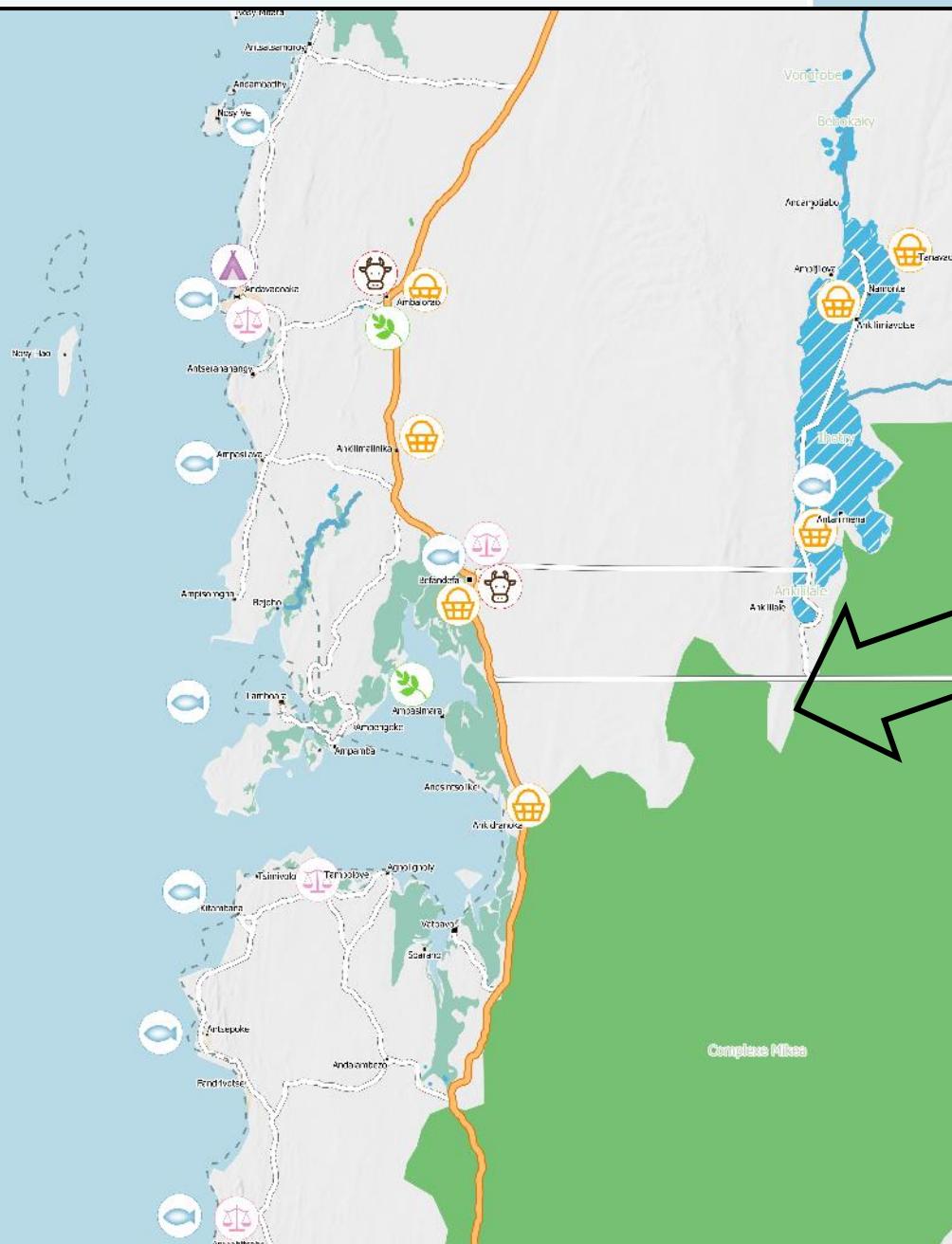


# Morombe before and after



# Map

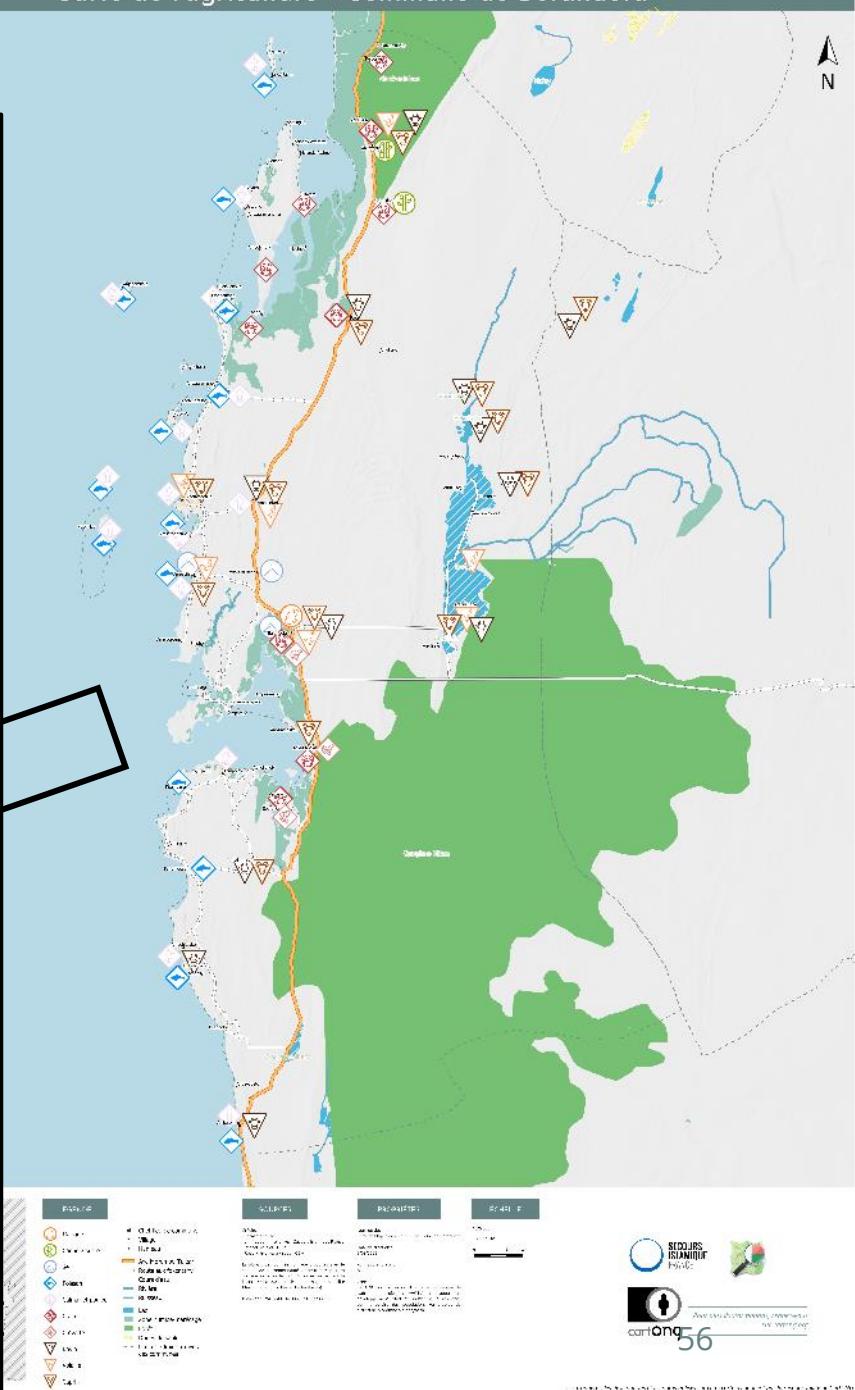
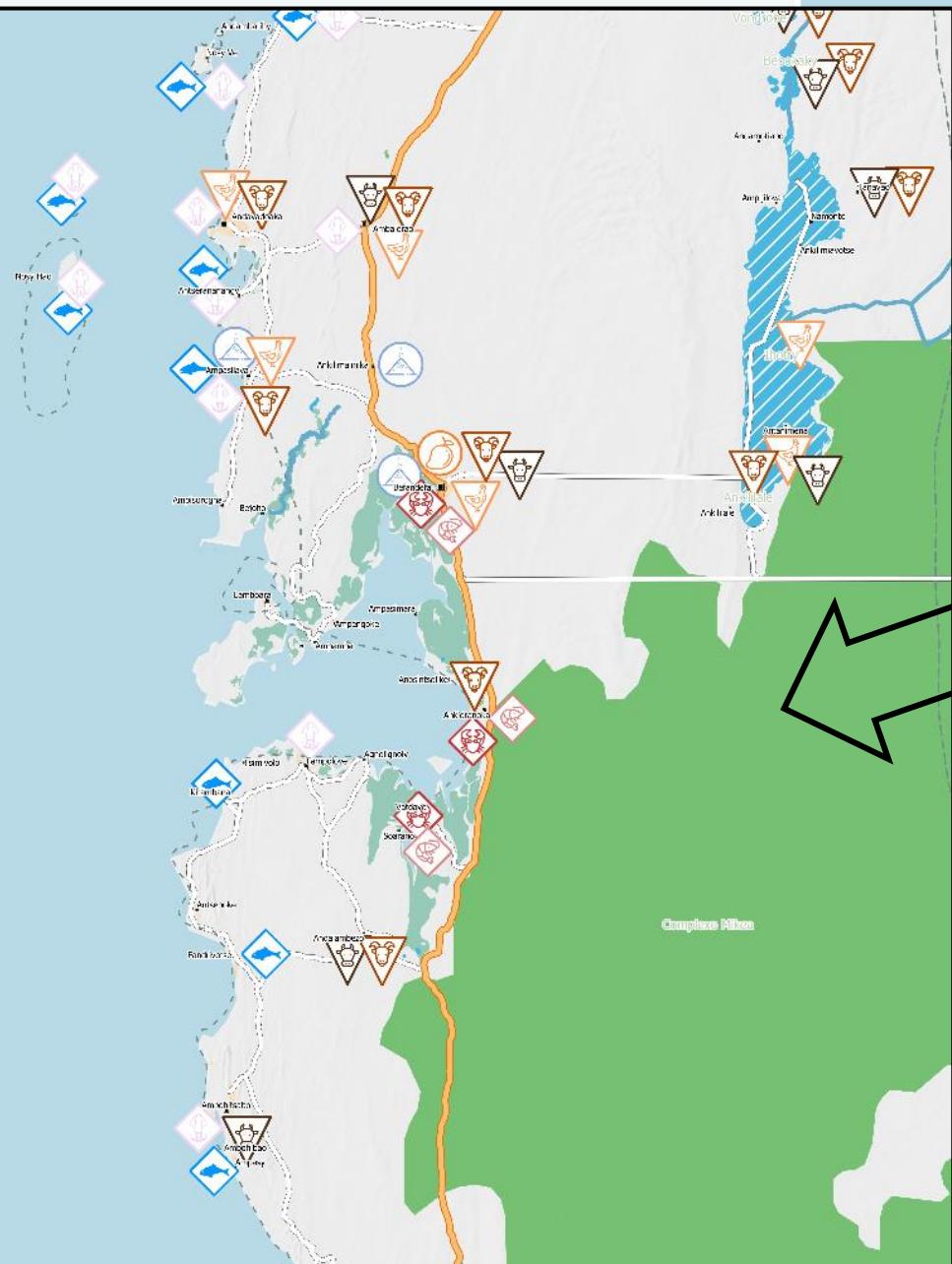
Carte des activités de la population - Commune de Befandefa



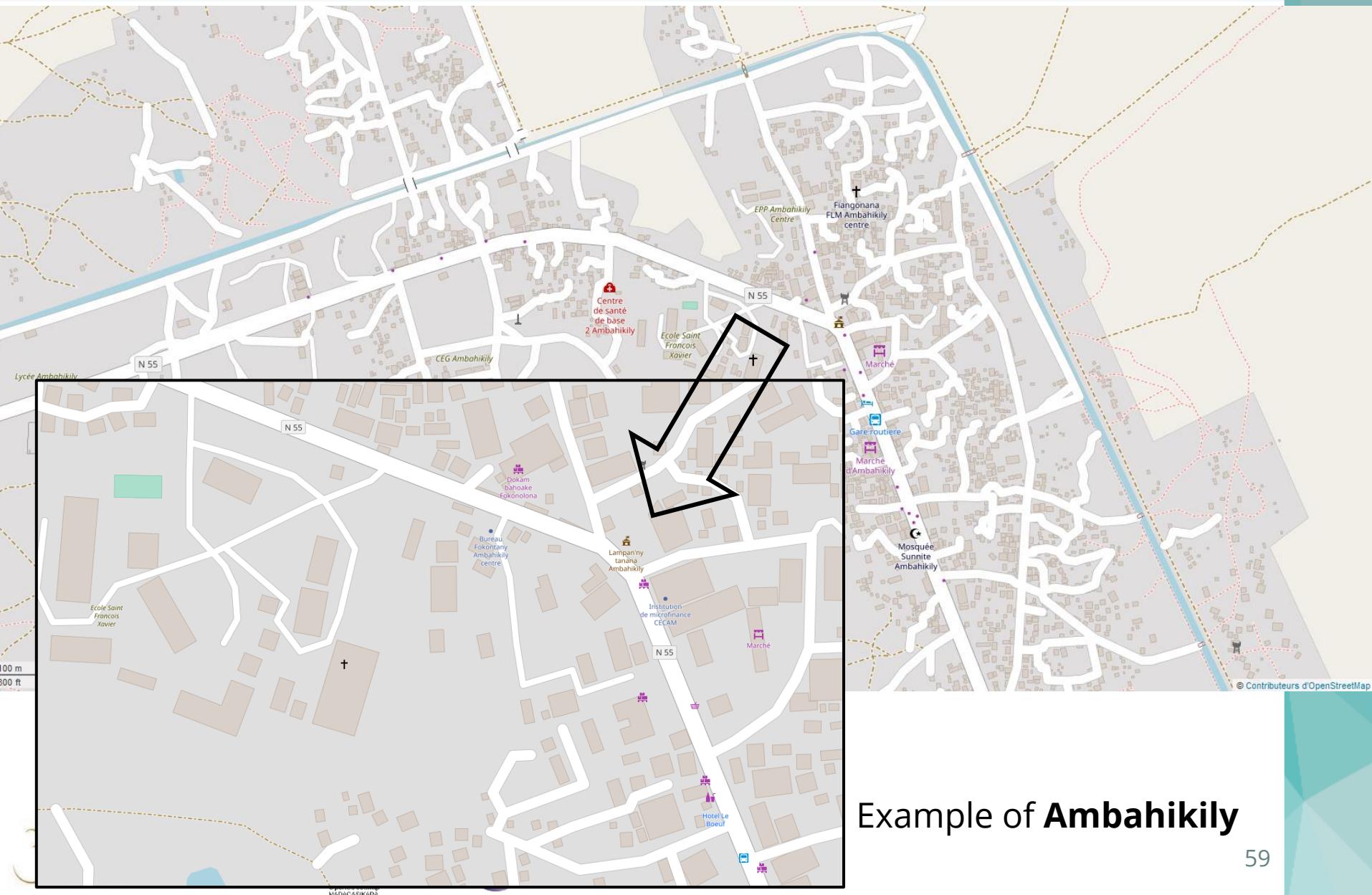
# Map



Carte de l'agriculture - Commune de Befandefana



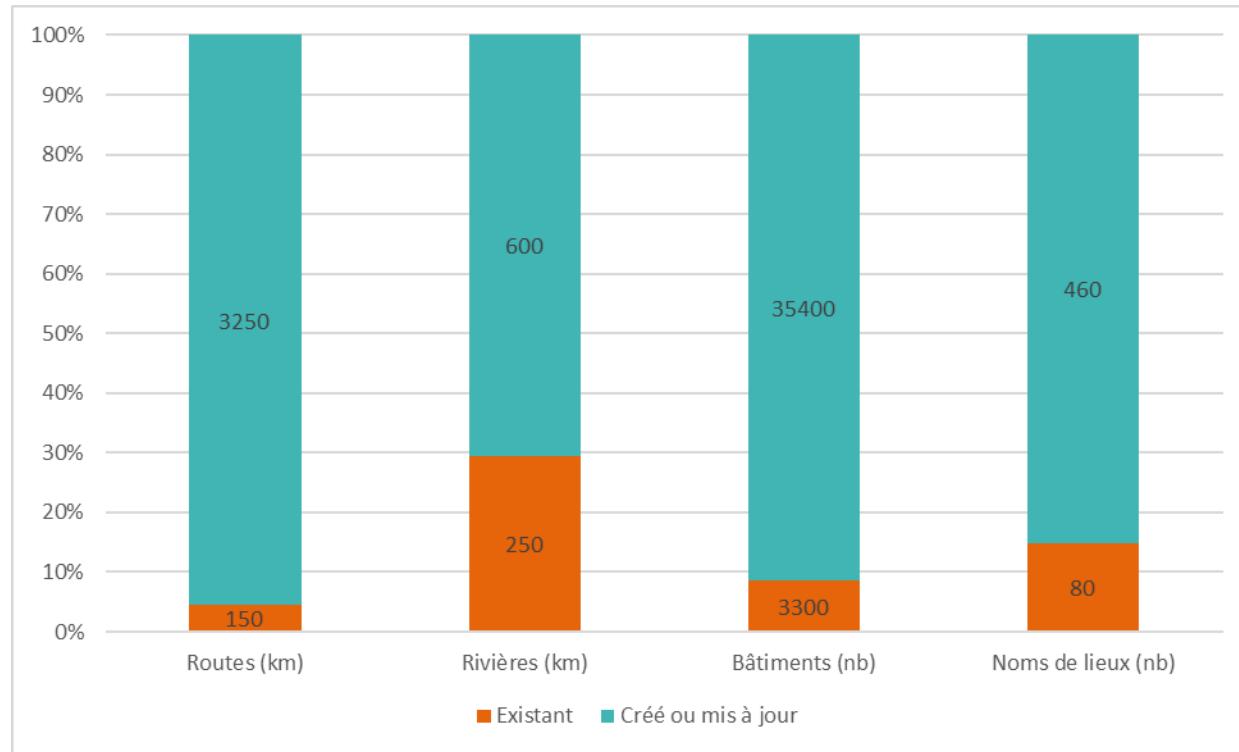
# Data added in OSM



Example of **Ambahikily**

# Some mapping statistics on the project

- Statistics on the project area, comparison since July 2019 / before July 2019



Visualization on :

<https://osm-analytics.org>



# Thank you for your attention



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[www.cartong.org](http://www.cartong.org)



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Icons used made by freepik from www.flaticon.com