

QUICK AND COST-EFFECTIVE MAPPING OF ARTISANAL AND SUBSISTENCE FISHING AREAS, WITHIN AND ADJACENT TO A MARINE PROTECTED AREA



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1. BACKGROUND

Local knowledge and participation has long been recognized by the scientific community as crucial for sound planning and management of artisanal and subsistence fisheries (Yates and Schoeman, 2013; Ratsimbazafy *et al.*, 2016; Thiault *et al.*, 2017).

One of its applications is the participatory mapping of important fishing grounds. In the Western Indian Ocean (WIO), participatory mapping has been applied for the octopus fishery in Madagascar (Ratsimbazafy *et al.*, 2016), for the ringnet fishery in Kenya (Thoya *et al.*, 2014) and for handlining and gillnet fisheries in northern Mozambique (Hele, 2007).

A quick, easy and cost-effective method to identify, map and characterize fishing areas used by artisanal and subsistence fishers is presented. The work was conducted in Maputo Bay, within and adjacent the western shores of the Ponta do Ouro Partial Marine Reserve (POPMPR), in Mozambique.

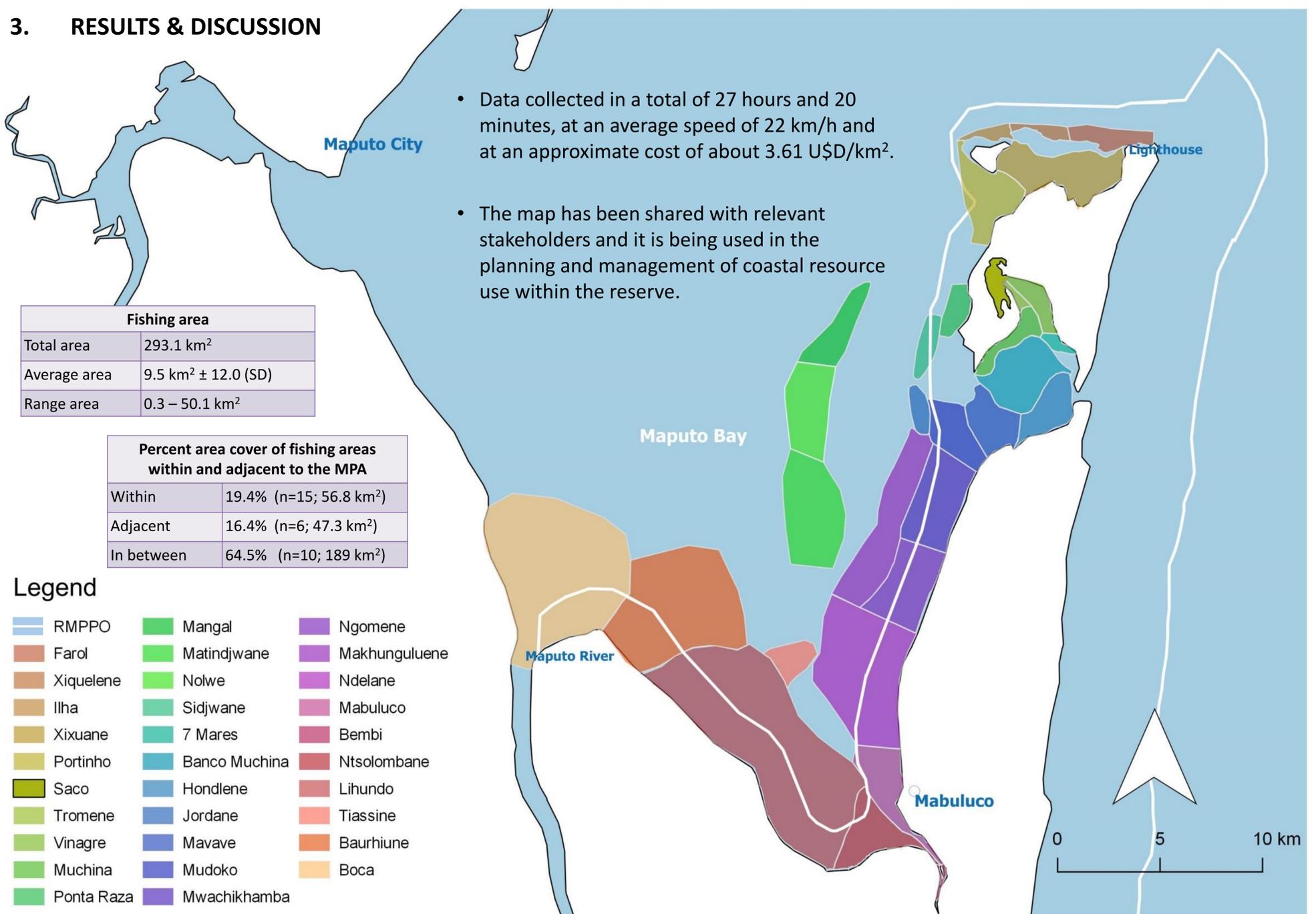
2. METHODOLOGY

A GoogleEarth map of the western shores of Inhaca Island and Machangulo Peninsula was printed on A3 paper and discussed with three experienced fishers. Perimeter tracking of each fishing area was guided by the fishers using a Garmin GPS/fish-finder combo (Garmin echoMap CHIRP 94SV) in a shallow draft, catamaran ski-boat.

Tracks were transferred to Garmin's free mapping software (Homeport 2.2.10), coordinates of the perimeters extracted and transferred to GoogleEarth. The maps produced were discussed for amendments and validation by the fishers.

For each area, records of features, bathymetry and bottom type were made through the fishers' local knowledge, on board fish-finder and a GoPro camera lowered to the bottom and set in a time-relapse photo mode. Field work was conducted between June and July 2017.

3. RESULTS & DISCUSSION



4. REFERENCES

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- Map produced in QGIS 2.18 and PPF and Natural Earth are the authorized sources used.

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