



COASTAL FISH AGGREGATING DEVICES AROUND MAHE ISLAND (SEYCHELLES) TO INCREASE LIVE BAIT CATCHABILITY

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As part of the Indian Ocean Tuna Tagging programme, 4 Fish Aggregating Devices (FAD) were anchored around the North Western area of Mahe (Figure 1) in June 2003 with the objective to increase catchability of small pelagic fish and test the holding of live bait in off-shore cages.

The 4 FADs were made with cheap materials (coconut leaves as attractive structure and bamboo as floating device) with the aim to test and observe the attractability of FAD on small pelagic fish. The FADs were anchored between 2 to 4 miles from the shoreline in maximum 45 meters depth. Several underwater observations were done with scuba divers in 15 days intervals.

The observation showed the presence of several species of small or juvenile fish from 5 to 15 cm (*Carangoides armatus*, *Caranx sexfasciatus*, *Aluterus sp.*, *Brama sp.*, *Echeneis naucrates*, *Elagatis bipinnulata*, *Gnathanodon speciosus*, *Seriola rivoliana*) but only one species with good potential for tagging *Decapterus sp.* (5 to 10 cm). Nevertheless the total biomass of *Decapterus sp.* was very low with only some hundreds of individuals. After a period of 3 months the FADs were lost certainly due to theft of the anchoring rope, taking into account the good state of the immersed materials observed during dives.

Due to these constraints and in relation to experience from local fishing committee (CRPMEM1) from Reunion island (France), a pilot project with submerged FAD is currently being tested in the vicinity of the Beau Vallon Bay. The FAD was placed in May 2004 on sandy area, 27 meter deep where small pelagic fisheries on mackerel (*Rastrellinger kanagurta*) is conducted by local fishermen using beach nets. The FAD is made with polypropylene rope and plastic bands (figure 3).

At the same time 3 new FADs (floating) were anchored around Mahé to develop pelagic coastal fishery targeting dolphin fish. These FAD was made with more robust materials (chain in the 10 first meters) to avoid robbery. Underwater observation of these 3 FADs showed very good aggregation of dolphin fish (>100 fish) but no small pelagic fish that could be used for tagging activities.

At this time only one underwater observation was done on the submerged FAD. Very little fish has aggregated, and all are juveniles. Juveniles of fish were mainly found around the rope close to the sea bottom. Juveniles of a triggerfish (2-4 cm in length) were found along the vertical ropes and around the top buoys. Juveniles of two species of carangids (*Caranx sexfasciatus*), 3-6 cm in length were also found around the top buoys.

It is a bit too early to conclude on the efficiency of the underwater FAD, as it was deployed only on the 6th of May, in particular if the aggregation of fish will be large enough to be used as live bait. Other diving excursions need to be done and more attractive structures need to be added before experimental fishing with the "bouke ami" fishing system can be carried out. Trials with the holding cages will only start once it is proven that the small pelagic that can be used as live bait can be attracted in good numbers around the FADs

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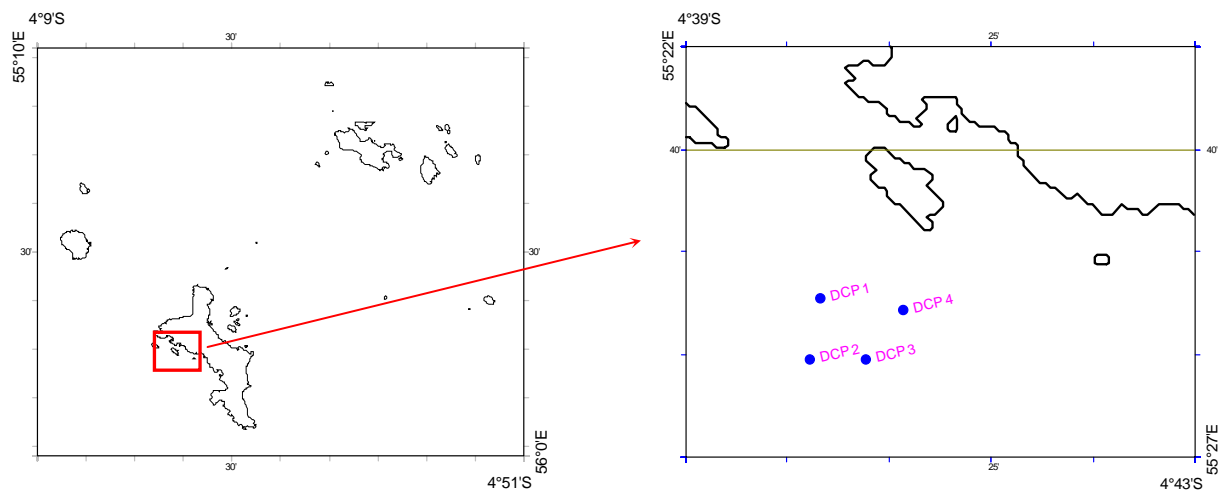


Figure 1. Location of 4 first FAD anchored in the North West of Mahé the 26th June 2003.

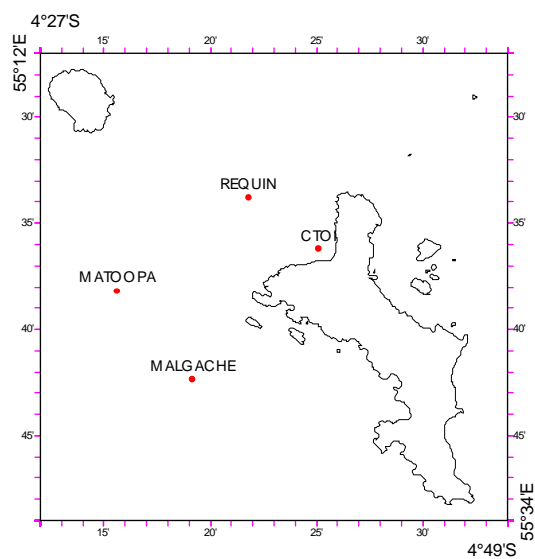


Figure 2. Location of the 3 new FAD anchored at the West of Mahe in May 2004 (Matoopa, Malgache and Requin) and the submerge FAD (CTOI) in Beau Vallon Bay.

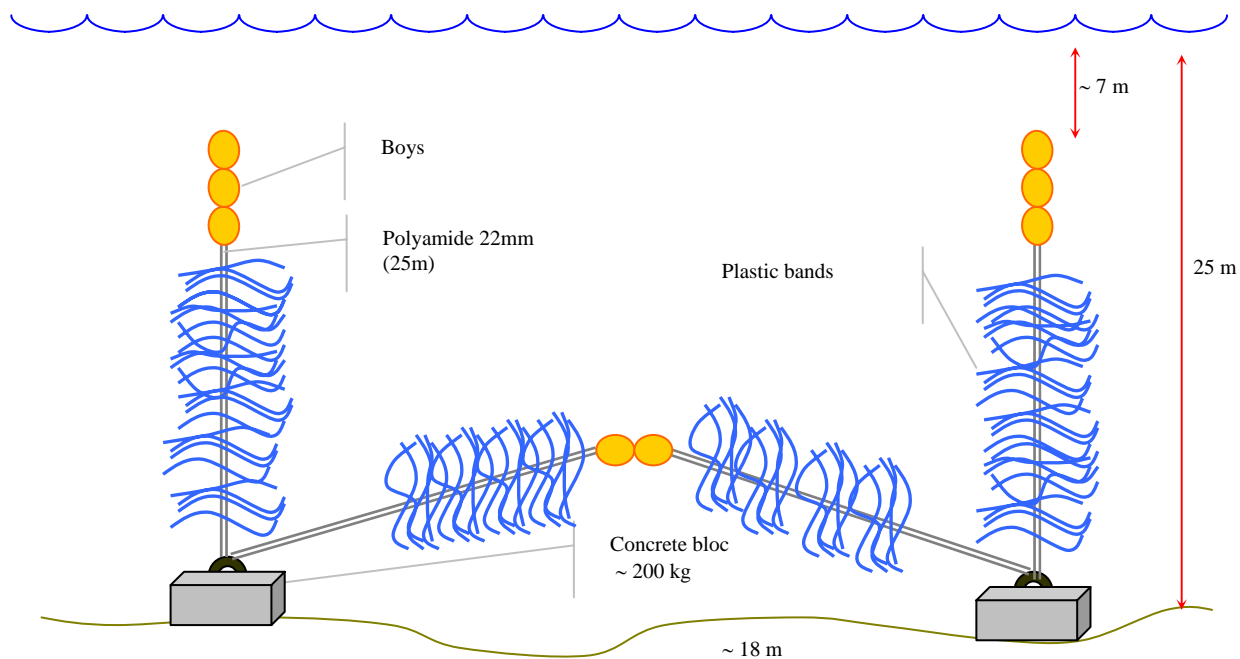


Figure 3. Sketch of submerge FAD.