



VALUE CHAIN EFFICIENCY OF THE MUD CRAB INDUSTRY IN MADAGASCAR BOOSTED BY SMALL AND LOW COST INTERVENTIONS BY THE FAO SMARTFISH PROJECT

The SmartFish programme is a regional fisheries project managed by the Indian Ocean Commission, funded by the European Union and co-implemented by the Food and Agriculture Organization of the United Nations. SmartFish, which operates in twenty countries throughout the Indian Ocean Region, Southern and Eastern Africa, focuses on fisheries governance, management, monitoring control and surveillance, trade, and food security.

Under the Result 5 on Food Security, SmartFish has been, over the past year, supporting a series of interventions aimed at improving the value chain efficiency of the crab industry in Madagascar.

The initiative is based on the result of a Value Chain Analysis carried out in 2013 that highlighted the limited value chain efficiency due to the high mortality rate of crabs and identified the critical stages in the chain where this was happening, the storage points at village level and during transportation. A deeper post-harvest loss assessment carried out in June 2013 using the new mobile-phone based technology developed by SmartFish, confirmed that poor handling practices and inadequate equipment, are the main causes of the crab mortality. This results in high post-harvest losses of average 23% with peaks of over 50% during raining season. For information, because it is a food safety hazard, a dead crab of this specific species cannot be eaten; therefore it has to be discarded.

The findings of the analysis established baselines from which the stakeholders (fisheries officials and crab fishers) set an improved target for loss reduction, which was

“A reduction by 1/3 by end of 2015”. This commitment was the basis for the SmartFish programme’s interventions that targeted the west coast and northern coast of the Madagascar. The interventions consisted of a combination of awareness raising activities and direct and on-the-job capacity building of the mud crab collectors and trade operators through the design and use of improved, but simple, crab storage and transport facilities. The activities were conducted in 20 villages and included the construction of fixed tanks and storage sheds using local materials, the enhancement of carts, utilizing boxes rather than fragile baskets to prevent damage to the crabs and the construction of storage shelves for canoes.

The effectiveness of the interventions was thereafter measured through the level of loss occurred at different points in the chains, with a focus on the two critical points initially identified. The results are summarized in the table below.

The project is now introducing a low cost innovative type of trap for harvesting the crabs, which is a viable alternative to the traditional hooks that have, in the past, caused physical damage to the crabs.

This evidence-based success has been recognized by the Malagasci authorities. Multimedia and other loss prevention promotion tools have been designed with the help of the operators. These will be used during campaigns to be carried out in partnership with the Ministry of Fisheries and the World Wildlife Fund.

The longer term aim is to scale up these interventions into other coastal regions in the country and to establish a community fisheries-based competition on the theme of ‘Value-adding for Crabs’. It is also planned to translate the materials developed in Malagasci into French and English with the aim of making them widely available to other crab fishing countries where they have similar problems.

Stage of the value chain	Type of intervention (pre and post intervention)	PHL (%)	Additional revenue after the intervention (USD)	Amortization period (months)
1. Storage (fishermen)	Storage in nursery cage			
	a) before intervention (sacs) b) after Intervention (nursery cage)	5.5 1	3 / week	10 weeks (3 months)
2. Storage (small-collector)	Hangar storage (Menabe region)			
	a) before intervention (terraced) b) actual (hangar)	11.5 7	65 / shipment	6 shipments (2 months)
	a) storage in hangar pre-intervention b) actual (hangar)	14.9 10	17 / shipment	6 shipments (2 months)
3. Ground transportation (collector)	Transport: Improved carts			
	a) before (traditional cart) b) after (Improved cart)	15.5 5.2	15 / trip	11 trips (4 months)
4. Maritime transportation (collector)	Replacement of cloth bags by wooden boxes.			
	a) before intervention (cloth bag) b) after (boxes)	25 9.7	70 / trip	3 trips (1 month)

Operator manual



Crab trap (Balance a' crabe)



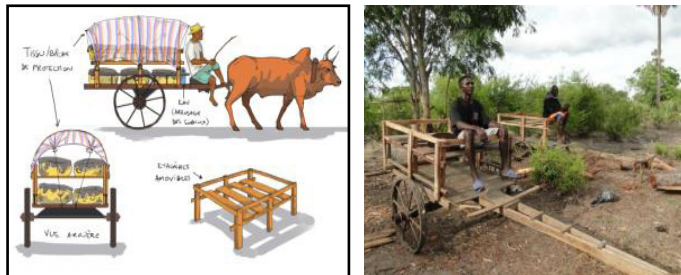
Lambahoany (traditional fabric)



Storage pen for living crabs in the tidal area



Improved chart for transportation



Poster for schools and extension centres



Table mat



Stackable hard wooden boxes to replace the soft bags for transportation



Nursery cage for temporary storage

