



## DEVELOPING THE MARICULTURE SECTOR IN ZANZIBAR

The “Development of Mariculture Sector in Zanzibar”, or “Korea-Zanzibar Friendship Hatchery Centre”, is a project of the Government of Zanzibar, funded by Korea International Cooperation Agency (KOICA), and implemented with technical support from FAO. A feasibility study carried out by KOICA in 2012 proposed the development of the country’s mariculture sector in Zanzibar, owing to the growing demand for marine products. It emerged from the study that large community groups were failing to develop profitable operations, and there was no significant farm development for either crab or sea cucumber, despite the presence of a good market and a strong demand for milkfish seed from farmers. The project involved capacity building in aquaculture, the construction and operational support of a semi-commercial hatchery, linkages to model grow-out farm support, aquaculture value-chain development, and a public-private partnership component. It aimed to support the development of an aquaculture sector that provides positive environmental, socio-economic and food security outcomes, and recognizes the importance of market-driven enterprise associated research.



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### WHAT DID THE PROJECT DO?

The project registered outstanding outcomes. In particular, the construction of a state-of-the-art semi-commercial multispecies marine hatchery was completed, and its operations began. Initially, it focused on three marine species, namely sea cucumber, milk fish and mud crab. However, owing to challenges encountered with the production of crab and milkfish, another marine species, i.e. tilapia, was introduced, and its reproduction will start this year, following positive results from first trials. The project strengthened the capacities of farmers, government officials, university students and hatchery staff on good aquaculture practices and business orientation; which included running pilot/demonstration farms in Pemba and Unguja. Strong links were built with universities, including the State University of Zanzibar (SUZA), the Institute of Marine Sciences (IMS) of the University of Dar es Salaam, and the University of Dodoma, providing learning and research opportunities to students and personnel. In addition, international learning exchanges and training sessions were facilitated for hatchery technicians, inside and outside the country. In line with its goal of developing commercially viable aquafarms across Unguja and Pemba, the project supported the development and improvement of seven model/pilot farms, in collaboration with the Ministry of Agriculture, Natural Resources, Livestock and Fisheries (Zanzibar). Several studies were conducted, whose findings helped to focus training contents, and to adapt the design of the pilot farms according to aquaculture improvement techniques. Finally, a feasibility study on how to attract the private sector to hatchery investment was conducted, and the Public-Private Partnership structure was prepared. A number of private companies from Tanzania Mainland, Kenya and Mozambique have expressed interest in the hatchery activities, some of whom have already made formal orders for quality seeds.

### KEY FACTS

**Contribution**

USD 3 228 103

**Duration**

November 2015 – December 2019

**Resource Partner**

Korea International Cooperation Agency (KOICA)

**Partners**

Ministry of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF)

**Beneficiaries**

Consumers; traders; seed and feed suppliers; and ancillary enterprises built around farms; farmers; seafood dealers; seafood processors and exporters of seafood

# IMPACT

The project enabled farmers and fishers, especially youth and women, to produce a variety of marine species, in order to improve their incomes, livelihoods, food security and nutrition. Opportunities from cross-sector development, namely seaweed and sea-cucumber farming, will enable farmers and entrepreneurs to expand their current operations and optimize revenue from their farm sites. In addition, it is anticipated that increased aquaculture production will encourage further investment in the sector, and provide opportunities for local suppliers of equipment and feeds for aquaculture.

# MAIN ACHIEVEMENTS

- Total of 12 sea cucumber reproduction cycles made; 16 340 000 larvae, and subsequently 36 300 juveniles produced and distributed to farmers in Unguja and Pemba.
- 20 000 milkfish fries imported, which were raised into fingerlings and distributed to pilot farms and fish farmers in Unguja and Pemba.
- Several crab hatching and larvae rearing experiments conducted (December 2017 - September 2019), in order to set up procedures for broodstock handling, spawning monitoring, larvae collection and selection, and to perform larvae production through the different metamorphosis stages.
- Total production of over eleven million larvae made during production trials, successfully reaching stage five of reproduction.
- Live feed production carried out by hatchery, including algae production of seven different strains, among others. It has a total algae production capacity (without outdoor tanks) of 8 200 litres of fresh algae, which can be increased.
- Capacity built of 12 hatchery technicians on culturing of different marine species, including live feed, mud crab, sea cucumber, tilapia and cockles.
- More than 300 farmers, fishers and government officials in Unguja and Pemba trained on commercial marine species farming and various aspects of aquaculture; comprising practical field sessions on pilot farms and introduction of new techniques, including combination of marine species growing and seaweed farming.
- Over 40 students of various levels (Ph.D., master's and undergraduate) conducted research and field attachments at the hatchery.
- Technical protocols for live food, seed production and rearing produced and made available (rotifers, microalgae, sea cucumber, crab, milkfish, tilapia and pond management).



## Project Code

FAO: GCP/URT/146/ROK

## Project Title

Development of Mariculture Sector in Zanzibar

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