

Machambas De Coral: The First Pilot Study For Feasibility Of Coral Reef Restoration Project In Mozambique

Authors : Isabel Marques da Silva¹, Mariamo Abibo², Sidonio Macahaiaie³, João Macuio⁴, Bibiana Nassongole², Erwan Sola⁴

¹*CICA, Centro De Investigação E Conservação Ambiental, Faculdade De Ciencias Naturais, Universidade Lúrio,*²*Universidade Lurio,*³*Universidade Lúrio*

E-mail Address: fish.isabel@gmail.com

ID: 12385

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Background

As part of the UniLurio-ERB (ENI Rovuma Bassin) Biodiversity Conservation and Community Development Project, a coral nursery pilot project was carried out in Vamizi Island, Cabo Delgado. The objective of this component of the project was to test the feasibility and develop a methodology for coral propagation in view of the implementation of future mitigation/restoration initiatives of coral reefs impacted by gas pipeline construction in the coastal waters of the Palma district.

Method

The suitability of two coral species as candidates for mass production of coral readings for restoration efforts is studied here in detail, namely *Pocillopora eydouxi* and *Porites cylindrica*. For this purpose, fragments of the two species collected from wild donor colonies were propagated in mid-water floating nurseries at two different depths: 6 m shallow and 10 m deep water environments and three sites, using three types of nurseries: Table-Nursery, Rope-Nursery, and Coral Tree for six (6) months.

Results

A total of 1248 coral fragments, six hundred twenty-four fragments from each species were equally divided among the species, distributed in 30 nurseries: 10 at each site and 15 at each depth. Overall, the results showed a survival rate of 52%, with *Pocillopora eydouxi* recording the highest survival rate (69%) and the highest growth rate, in the deep tree nurseries at site 1. Additionally, tree nurseries at sites 1 and 3n showed higher survival rates, with 66% and 71% of surviving coral fragments, respectively. On the other hand, the deep nurseries performed better than the shallow ones, with 54% survival.

Conclusion

Despite many challenges and the abrupt suspensions of the activities for over 10 months after 1 year of study, the experiment was a success. Over 500 hundred healthy corals were successfully raised to suitable transplantation sizes. Coral culture is achievable in Northern Mozambique with limited human and material resources. Using a low-tech solution, many propagated corals can be cultivated in

less than a year. Thus, there is excellent potential for the expansion and propagation of thousands of corals for the potential needs of coral reef restoration projects