

Fish Assemblages in Seaweed Farms and Adjacent Seagrasses and Coral Reef habitats

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Background

Seaweed farming has been practiced in Zanzibar for the past few decades. Currently there is emphasis on moving seaweed farming to deeper waters using the floating method. This may have an influence on fish aggregation and fisheries in seagrass and beds and adjacent coral reef areas. The present study investigated fish assemblages in off-bottom (using peg and line method) and floating (using tubular net method) seaweed farms in comparison to adjacent seagrasses and coral reef habitats at Pongwe pwani, Zanzibar.

Objective

- i. To assess the fish assemblage structure in *E. denticulatum* farms and adjacent seagrass and coral reef habitats

Study questions

- i. Do the fish occurrence, diversity and abundance differ in *E. denticulatum* farms compared to adjacent seagrass and coral reefs habitats?

Methods

This was accomplished by assessing the occurrence, diversity and abundance of fish species using Underwater Visual Census (UVC) and setting fixed basket traps locally known as '*dema*' to catch fishes in seaweed farms and adjacent habitats. Belt transects measuring 10 x 4m were used to observe fishes in seagrass and coral reef habitats, observation was done by snorkeling in seaweed farms.

Results

Overall 63 species of fish were observed by using transect method and 51 species were caught using '*dema*' traps with higher abundance and diversity in coral reefs than other habitats. However, the results of this study show that some fish species are observed to move between seaweed farms (floating) and other adjacent habitats like seagrasses and coral reefs for shelter, refuge or feeding.

Conclusion

This study conclude that seaweed farms by off bottom (using peg and line) and floating methods (using tubular nets) are potential habitats for several fish species and the seaweed farms ecologically can influence the adjacent habitats. The implications this has on the positioning of seaweed farms in relation to seagrass beds and coral reefs and the subsequent effects on fisheries.