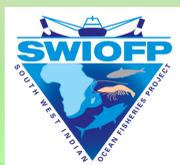


Assessment of crustacean fishery resources in the SWIOFP countries: Shallow-water prawn trawl survey in Tanzania



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INTRODUCTION

Crustaceans are important fisheries resources for food and valuable economic contributions for the country. The fishery is concentrated in shallow waters between 5m and 20m. SWIOFP Component 2 (crustacean), through a gap analysis studies identified a number of shallow-water prawn species that were relevant resource in the SWIO region.



Fig.1 SWIOFP countries

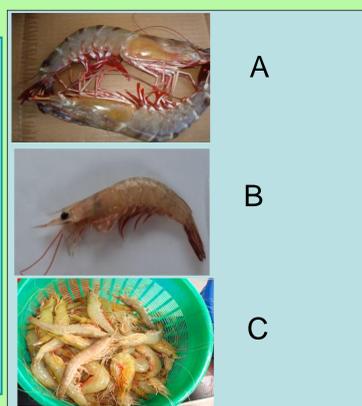


Fig.2 Priority species A. *P. monodon*, B. *M. monoceros* and C. *P. indicus*

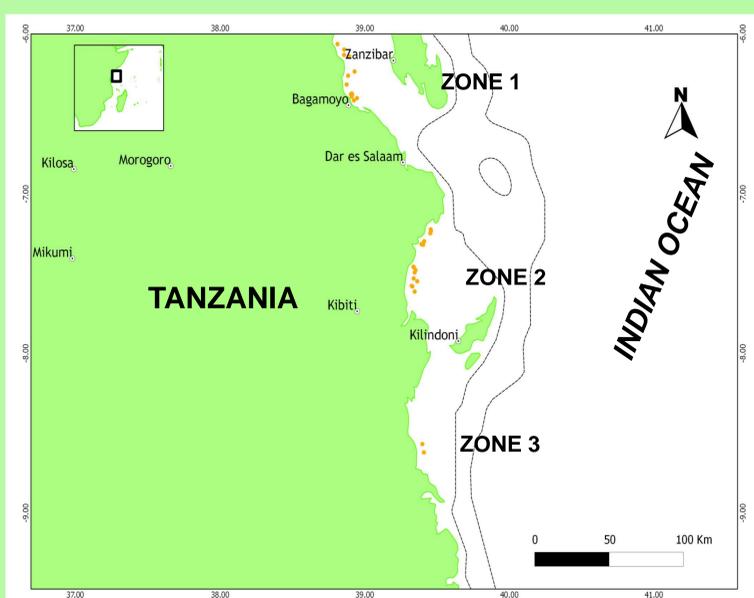
This study was part of SWIOFP which focused on assessment of prawns stock in Tanzania. Two surveys were conducted; one in February 2011 and the second in June 2011

OBJECTIVES

Determination of species composition, distribution and abundance of prawns in three fishing zones along the coast of Tanzania.

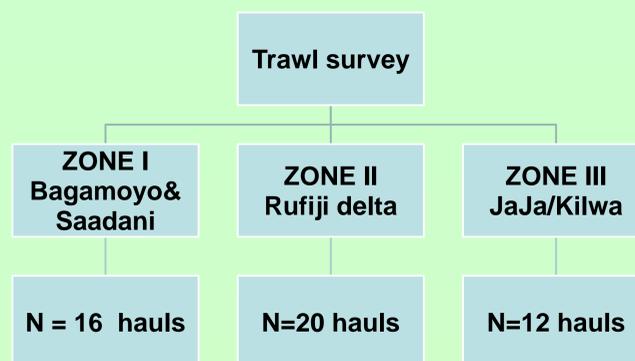
METHODS

Fig. 3: Study area and Survey stations



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SAMPLING DESIGN



ASSESSMENT:

Abundance

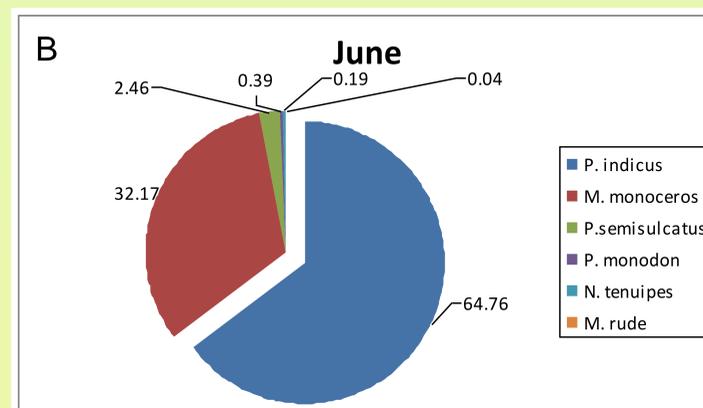
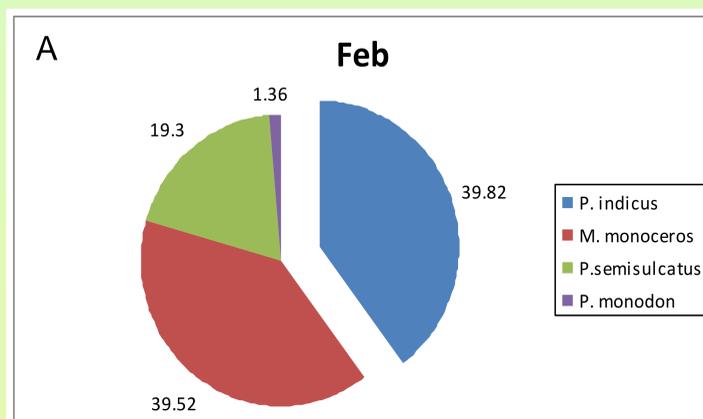
Swept area method

- Species composition
- Catch rates
- Biomass



RESULTS

Fig. 4 A&B: Species composition Feb vs June 2011

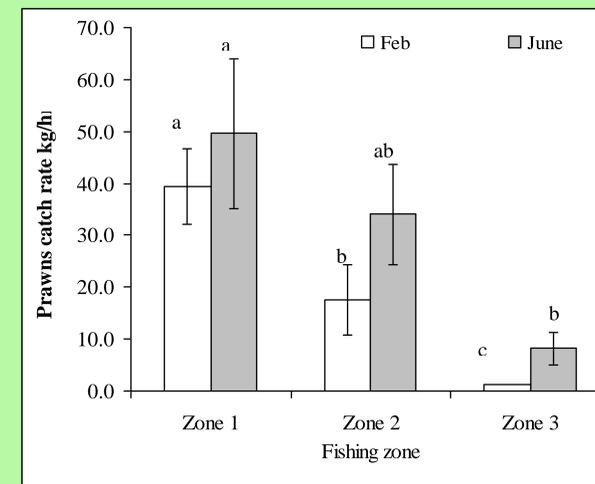


Two species *P. indicus* and *M. monoceros* observed to dominate in both surveys although more species of observed in June compared to Feb

Acknowledgement

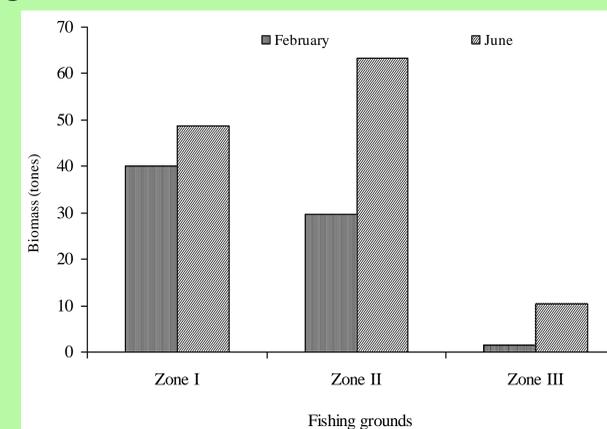
Thanks to SWIOFP, TAFIRI management, GEF the sponsor, Ittica, Ship coordinator and all people made the two surveys possible.

Fig. 5: Prawns catch rates



Prawns catch rates were higher during June 2011. However varied among the fishing zones. Fishing zone 1 had higher catch rates in both surveys. Error bar = SE

Fig. 6: Prawns biomass estimates



The total biomass of prawns was higher across all fishing zone in June with zone II having the highest.

DISCUSSION AND CONCLUSION

- Two species *P. indicus* and *M. monoceros* were dominant in both surveys Fig 4.
- The catch rates and total biomass of prawns were higher in June compared February (Fig. 5 & 6).
- The consensus results suggest that the peak season for prawn abundance was in June. June is a period after rain season which brings high nutrient, high productivity and hence high recruitment.
- The biomass estimated in the current surveys (2011) was low compared to estimates observed during 2009 (particularly in zone 2) which suggest higher exploitation rate on the prawn resource.
- The contrasting biomass values between zone I and zone II suggest that the start of prawns recruitment in these two zones was different. It is hypothesized that the effect of environmental variability and difference in stocks could explain the pattern. It is expected that the on going PhD study will come up with the answer to this hypothesis.