IMPACTS OF PLASTIC IN THE STONE TOWN HARBOR AREA, ZANZIBAR.

*Cj Obrien, Narriman S. Jiddawi, Barnabas Tarimo, Frank Mirobo.

1. California Lutheran University, P.O. Box 60W Olsen Rd, Thousand Oaks, CA 91360, United States of America
2. University of Dar es Salaam, Institute of Marine Sciences P.O. Box 668 Zanzibar, Tanzania

Emails: cobrien@callutheran.edu, n_jiddawi@hayoo.com, mzeeniomass@gmail.com, frankmirobo.fm@gmail.com

First author * A student
Presenting author * frankmirobo.fm@gmail.com
+255-759-052-581

Plastic pollution has become an anthropogenic crisis worldwide particularly in developing countries include Zanzibar Island. The population growth, tourism and lack of proper municipal waste management system contribute to alarming amounts of plastic waste that enter the Zanzibar waters. This is devastating for the diverse marine ecosystem that provides valuable resources to its flora and fauna and to its human inhabitants. In this study, micro-plastic at the sea surface as well as macro-plastic on coastal beaches was quantified to determine the effects of plastic pollution in the area by use of a standard plankton net methodology. This study contributed to the first set of baseline information regarding plastic at stone town waters. It was determined that there are approximately 172,061.01 micro-plastic floating particles at the sea surface in the Stone Town area. This micro-plastic was found in 94% of sea surface samples and macro-plastic was found in 64.76% of coastal beach survey quadrats. This findings reflects that, the population size in this coastal environment is proportional to the micro- and macro-plastic abundance in the area. Furthermore, if the population of Stone Town is limited to a single-use plastic, it would greatly mitigate plastic waste concentration, including by up to 43%. This study will contribute to plastic waste awareness as well as offer recommendations for more successful waste management strategies the help conserve the marine ecosystem.

Key words; Plastics, Impact and Marine animals.