2.0 AIMS AND OBJECTIVES

The present study was aimed to address the following objectives.

➢ To collect the marine halophytic plants such as seaweeds viz. S. wightii, G. edulis, U. lactuca, C. indica, A. specifera and mangroves viz., A. marina, C. decandra, E. agallocha, R. mucronata and S. monoica with Thondi (Station-1) and Karankadu (Station-2), South East Coast of India (Fig.1).

➢ To extract bioactive compounds (secondary metabolites) from the marine halophytes, seaweeds and mangroves using different organic solvents such as Benzene, Chloroform and Ethanol.

➢ To collect, isolate and identify the clinical bacterial pathogens from various clinical samples. To screen for their antibiotic susceptibility with fluoroquinolone antibiotics through disc diffusion method.

➢ To screen the antibacterial activity of crude organic solvent extracts of seaweed and mangrove species against chosen bacterial pathogens by agar well diffusion method.
➢ To assess the antioxidant, hemolysis, cytotoxicity by *Artemia* larvae using crude extract of chosen species.

➢ Preliminary phytochemical screening of the chosen mangrove and seaweed extracts.

➢ To screen the column chromatographic fractions of the most promising extracts of mangroves and seaweeds against chosen post operative bacterial pathogens, UTI pathogens and eye pathogens.

➢ Partial purification and characterization of secondary metabolites from *A. marina* and *S. wightii* by following the method of FT-IR, H\textsuperscript{1} NMR, and C\textsuperscript{13} NMR.