

**DIVERSITY ASSESMENT OF MANGROVES IN  
NASIVANTIVU ISLAND**

A dissertation submitted to the  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University  
in partial fulfillment of the requirement of  
the degree of  
Bachelor of Science in Aquatic Resources Technology

by

**MAHENDRARAJAH KEANUJAANAN**

**Department of Animal Science  
Faculty of Animal Science and Export Agriculture  
Uva Wellassa University**

**2016**

## ABSTRACT

Diversity of mangrove forest in Nasivantivu Island was investigated. Nine line transects were laid perpendicular to the shore in selected sites and three 10x10 m plots were laid randomly in each transect. Data on floristic composition, tree height, distance from the shore and soil salinity were collected along each transect and number of plants were counted in each plot. Analyzing of data was conducted using MS Office suite 2016, Minitab 17 and SPSS 16.0 for mangrove distribution, Soil salinity, Soil salinity variation and finding Shannon Wiener diversity index and Pielou's evenness index. Seven mangrove species belonging to four families such as Euphorbiaceae (*Excoecaria agallocha*), Rhizophoraceae (*Rhizophora mucronata*, *Rhizophora apiculata*, *Ceriops tagal* and *Bruguiera gymnorrhiza*), Avicenniaceae (*Avicennia marina*) and Combricaceae (*Lumnitzera racemosa*) were recorded. Six mangrove associates such as *Acanthus ilicifolius*, *Thespesia populnea*, *Phoenix pusilla*, *Cissus quadrangularis*, *Clerodendrum inerme* and *Salvadora persica* were also recorded in the Nasivantivu island. Both highest species diversity ( $H' = 1.424$ ) and High species evenness ( $e = 0.989$ ) found in north side of the Nasivantivu Island. Both lowest species diversity ( $H' = 0.621$ ) and Low species evenness ( $e = 0.685$ ) found in southwest side of the Nasivantivu Island. There is a weak negative linear relationship between soil salinity and distance from the shore ( $P < 0.05$ ) and there is a weak negative linear relationship between soil salinity and Height of the mangrove species ( $P < 0.05$ ). Results shows that the diversity in Nasivantivu Island is lower comparing to the mangrove vegetation in Negombo and Chilaw and higher than Trincomalee but is extremely valuable.

Keywords: Mangroves, Nasivantivu Island, Diversity