

Preliminary Investigation Report on Sand Extraction of Moratu Modera Fishery Harbour in Panadura



National Aquatic Resources Research and Development Agency (NARA)

Crow Island, Mattakkuliya,

Colombo 15

October 5, 2016



INFORM
20 FEB 2018
NARA

TABLE OF CONTENTS

TABLES.....	i
1.0 Introduction.....	1
1.1 Site description.....	1
1.2 Social Concerns.....	2
1.3 Requests and issues raised by the fisheries society.....	3
1.4 Views of other stakeholders.....	3
1.5 Issues Identified by the study.....	3
2.0 Literature Review.....	4
2.1 History.....	5
2.2 Coastal Erosion.....	6
2.3 Sediment Transport.....	7
2.4 River sand input.....	8
2.5 Wave climate.....	9
3.0 Discussion.....	10
4.0 Recommendation.....	12
5.0 References.....	13
Appendices A: Research Team of NARA and Participants.....	14
Appendices B :Aerial view of Panadura fishery harbour.....	15

FIGURES

FIGURE 1: HIGHLIGHTS OF THE MEETING AND SITE VISITS.....	3
FIGURE 2: DREDGER OPERATING LOCATION AT PANADURA FISHERY HARBOUR.....	4
FIGURE 3: TOTAL SUSPENDED SOLIDS IN THE HARBOUR MOUTH (LOCATION: PE1).....	8
FIGURE 4: TIME SERIES OF SIGNIFICANT WAVE HEIGHT OFF PANADURA DURING JANUARY 2015 TO APRIL 2016.	10
FIGURE 5: NEAR-SHORE WAVE ROSE OFF PANADURA (6 M DEPTH).....	10
FIGURE 6: AERIAL VIEW OF PANADURA FISHERY HARBOUR, LOCATED AT MOUTH OF PANADURA RIVER, IN THE CURRENT HARBOUR DESIGN.	11
FIGURE 7: AERIAL VIEW OF PANADURA FISHERY HARBOUR DURING THE SOUTH WEST AND NORTH EAST MONSOON, BEFORE CONSTRUCTING THE SOUTH HARBOUR BREAKWATER.	15
FIGURE 8: AERIAL VIEW OF PANADURA FISHERY HARBOUR DURING THE SOUTH WEST AND NORTH EAST MONSOON, AFTER CONSTRUCTING THE SOUTH HARBOUR BREAKWATER.	16
FIGURE 9.1: BATHYMETRY CHART OF THE HARBOUR (LHI).....	17

TABLES

TABLE 1: OVERVIEW OF YEARLY EROSION RATES IN THE AREAS ALONG THE WEST COASTS OF SRI LANKA WHERE CRITICAL EROSION RECORDED (CCD 2004).....	6
TABLE 2: DISCHARGE VOLUME, CATCHMENT AREA AND AVERAGE RAIN-FALL (WATER STATISTICS HANDBOOK, IRRIGATION DEPARTMENT 2003).....	6

Dr. W. D. N. Wickramaarachchi
 Senior Scientist
 Environmental Studies Division
 National Aquatic Resources Research
 and Development Agency