NIOHC11-8A Sri Lanka

NATIONAL REPORT TO REGIONAL HYDROGRAPHIC COMMISSION

NATIONAL HYDROGRAPHIC OFFICE
OF
NATIONAL AQUATIC RESOURCES RESEARCH & DEVELOPMENT AGENCY.
SRI LANKA

1. HYDROGRAPHIC OFFICE / SERVICE

NATIONAL HYDROGRAPHIC OFFICE NATIONAL AQUATIC RESOURCES RESEARCH & DEVELOPMENT AGENCY Crow Island, Mattakkuliya, Colombo 15, SRI LANKA.	
Department of which the Hydrographic Office is part	Ministry of Fisheries & Aquatic Resources
Principal functions of the H.O.	• Conducting Hydrographic/Bathymetric Surveys in the Sri Lankan waters and production of nautical charts. • Establishing sea level datum and relate them to land datum through analyzing tides. • Data gathering & processing ocean currents, water movement, tides and other oceanographic parameters of interest to navigation & maritime related activities. • Charting hazardous zones for navigation. • Providing professional services in hydrography and cartography to institutions, dealing with coastal and offshore development and utilization of ocean resources. • Establishing and maintaining cooperation with international and national institutes related to hydrography.
National Days	4th February
Telephone Fax E-mail WEBSITE	+94-011-2521705 +94-011-2521699 nho@sltnet.lk www.nara.ac.lk
Date of Establishment and Relevant National Legislation	13.03.1984 Parliament Act (NARA) 1982 & 1996
Name and Rank of the Director or Head	M.A. Ariyawansa Hydrographer / Head
Tonnage	150088.73 (as at 1st July 2006)

Staff employed	10 Hydrographic Surveyors, 03 cartographers, 01 system analyst, 02 ERA,02 survey recorders, 06 survey helpers
No. of Charts publish	12
Surveying Vessels	Tharanga Mala Services of Naval vessels are utilized under temporary Basis when available. Expecting to deploy a new research vessel in mid 2010.

2. SURVEYS

2.1 Coverage of New Surveys

We have done several bathymetric maps to cater the local requirements

Kalpitiya lagoon - near shore
Colombo - Offshore, near shore and inner harbour
Tangalle - Offshore and near shore
Chilaw to Lansigame -near shore
Hambantota - near shore and off shore
Norochcholai - near shore and off shore

In addition to those new surveys, NHO involved in some of custom made bathymetric surveys according to the clients requirements. We mainly cater our consultancy services to institute such as Coast Conservation Dept., Sri Lanka Ports Authority. Ceylon Fishery Harbour Corp., Sri Lanka Navy, Shell Gas Company, Ceylon Electricity Board and Ceylon Petrolium Corp etc.,

2.2 New Technologies / Equipment

The new technology equipment and software used in this institute are RESON Sea Bar 8101 – Multibeam system, SES 2000 – sub bottom profiler, SeaStar 8300HP/Omnistar GPS, DESO 30 duel frequency echo sounder, RESON SVP 40 sound velocity prob, Leica TCR 1202 Robotic total station, Wild TC 1600 total station, Caris GIS4.4, Hypack Gold, Leica GEO Office and PDS 200 multibeam processing software.

2.3 Problem encountered

The main problem and the drawback we are experiencing at present is unavailability of a medium size survey vessel.

Government of Sri Lanka has planned to complete new ship (25m) in the leather part 2011.

3. NEW CHARTS AND UPDATES

3.1 INT Chart

So far we have not published INT charts in Sri Lanka, but we have a bilateral arrangement with UKHO to produce INT charts, specially our main harbour charts with their collaboration. Under that UKHO has already published the Galle harbour chart.

We have done bathymetric surveys of Colombo harbour. We are looking forward to release the Colombo harbour chart on the same basis in near future.

3.2 ENCs

ENCs : NHO feels the necessity of ENC ;project, However, could not yet been able to execute the ENC charting scheme as per the requirement of IHO.
UKHO has produced ENC for SRI LANKA – West Coast-
Colombo Harbour and Approaches (4115(P) / 2007).
Source : Sri Lanka Hydrographic Office (SEP-2007000052342-1)

3.3 National Paper Charts

Kalpitiya lagoon Scale 1: 30000
Thangalle Nautical chart scale 1:30,000

3.4 Problems Encountered

- The project proposal on "new standards for decision support and information management" which was designed together with UKHO to carry out the surveys and mapping of tsunami effected coastal area has been approved by the Government. But the funding arrangement in that proposal has not accepted. The External Recourses Department is seeking alternative funding arrangement.

4. NEW PUBLICATIONS AND UPDATES

Approaches to Galle harbour (1:30,000)
Tangalle Nautical Chart (1:30,000)
Adopted charts to Admiralty series

5. MARITIME SAFETY INFORMATION (MSI)

5.1 GMDSS facilities are not available in Sri Lanka. Telecommunication Regulatory Commission responsible for the order existing facilities
At the moment facilities available are
VHF system channel 16
Medium frequency 2182HZS
Communicating with Bangalore Maritime earth Satellite Station

5.2 Problem encountered

Still no viable project in progress to establish GMDSS system in Sri Lanka

6. **S-55**

6.1 State of Hydrographic Survey within the limits of the EEZ

Survey coverage, where;
A = percentage which is adequately surveyed
B = percentage which requires re-survey at larger scale or to modern standards.
C = percentage which has never been systematically surveyed.

Depth	A	B	C
<200m	8.4	5	91.6
>200m	2	0	98

6.1.1 Amplifying Information

Entire area under less than 200m depth has to be surveyed due to the effect of tsunami in the year 2004. Some areas such as main harbour approaches, fishery harbours, lagoons and near shore passages have been surveyed in large scale with modern standards.

6.2 Maritime Safety Information (MSI)

6.2.1 Navigational Information (S-53)

Service	Yes	No	Partial	Notes
Local Warnings	√			Via VHF Broadcast
Coastal Warnings	√			Via VHF Broadcast
Navarea Warnings		√		
Information of Ports and Harbours	√			

6.2.2 GMDSS Implementation (IMO Publication 970 – GMDSS Handbook)

Service	Yes	No	Partial	Notes
Master Plan		√		
A1 Area			√	Receiving only
A2 Area			√	Receiving only
A3 Area			√	Receiving only
NAVTEX		√		
Safety NET		√		

6.2.3 Status of National Charting within the limit of the EEZ.

Coverage of charts published by your organization
A = percentage covered by INT series, or a paper
B = percentage covered by Raster Navigational charts.
C = percentage covered by ENCs

Purpose / Scale	A	B	C
Offshore passage / Small	0	0	0
Landfall and Coastal passage / Medium	10	0	0
Approaches and Ports / Large	60	0	0

7. CAPACITY BUILDING

Training received by NHO

1. Hydrographic Survey Category A (FIG/IHO/ICA) - 02 Officer
2. Coastal Mapping Modelling and risk assessment (Thailand) - 02 Officers
3. Training Programme Tsunami Modelling, Inundation and Remote Sensing (India) - 01 Officer
4. Maritime Safety Information (Oman) – 03 days - 01 Officer
5. Coastal Map IO Workshop on Drafting Project proposal (India) - 01 Officer
6. ENC Training in UKHO (5 weeks) - 01 Officer

Training needed

1. Category A in hydrography
2. Post graduate courses (M.sc)
3. Category B in hydrography
4. Digital Cartography
5. Caris / GIS on the job training including printing
6. ENC
7. Multibeam – on the job training
8. Category B in Nautical Cartography
9. Category A Nautical Cartography

8. OCEANOGRAPHIC ACTIVITIES

8.1 General

Oceanography Division of NARA has been conducting multi disciplinary research and development activities around Sri Lanka Waters. In March 2007, division has established a 24 hrs. 7 days operational centre, called Ocean Observation Centre (OOC)to monitor the real time ocean conditions around Sri Lanka. The centre collaborates with the Ministry of Fisheries and Aquatic Resources, Disaster Management Centre(DMC) and the Department of Meteorology in respect of ocean based disasters, early warning and mitigation of impacts from natural disasters. In addition to ocean based disaster activities, centre gathers and analyses the oceanographic data around Sri Lanka Waters for other applications such as fisheries, navigation, climate changes and environmental studies.

8.2 Tide Gauge Network

Currently three real time transmitting tide gauges covering west, south east and east coasts are operational in Sri Lanka, which are part of Indian Ocean Tsunami Early Warning System and GLOSS. Colombo station has equipped with 02 pressure sensors, 02 floating gauges and radar sensors. It measures sea level every 01 minute and transfers data every 15 minutes via Japanese Meteorological Satellite (JMA) and MeteoSat.Trincomalee and Kirinda Stations measure sea levels every 01 minute and transfer data every 15 minutes via MeteoSat. All three stations are equipped with pressure and radar sensors. Real time data are also in GTS. Plans are in place for further stations, starting with Battalangonduwa in the north-west of the island, which will be equipped with satellite transmission equipment for real-time monitoring as part of the Global Sea Level Observing System and Indian Ocean Tsunami Warning System.

8.3 New Equipment

Two BGAN system tide gauges are planned to be installed in Sri Lanka with the assistance from IOC and Proud Man Oceanographic Laboratory, UK.

8.4 Problem Encountered

Offshore oceanographic surveys (CTD sections) have been hampered due to lack of a research vessel.

9. CONCLUSION

The NHO is highly concentrating to survey near shore tsunami effected coastal areas. During the last year, NHO was mostly engaged with coastal engineering and bathymetric surveys of western and southern coast. Most of these data are frequently used by coastal development institutions such as Coast Conservation Dept, Ceylon Fishery Harbours Corporation and Sri Lanka Ports Authority etc., This data will be used to produce near shore nautical charts too.

According to the prevailing peaceful situation of North and Eastern regions of Sri Lanka,now we concentrate on new surveys of those areas which was neglected last three decades due to the war.

The project proposal “New standard for decision support and information management (LiDAR Survey), designed for surveys of tsunami effected area, which was developed by UKHO and NHO has been approved by the Government. The External Resources Dept. is seeking for funding arrangement.

The major constrain of NHO is to conduct hydrographic surveys in off shore areas; the substitution of survey vessel “Sayuri” which was damaged by tsunami is still not done. Training on digital cartography is urgently required for newly recruited hydrographic surveyors.