NATIONAL REPORT OF SRI LANKA FOR THE 7TH NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION MEETING

PATTAYA, THAILAND

27th February - 2nd March 2007

NATIONAL HYDROGRAHIC OFFICE OF SRI LANKA

GENERAL

The National Hydrographic Office (NHO) was established under the umbrella of the National Aquatic Resources Research and Development Agency (NARA) in 1984.

Sri Lanka has an Exclusive Economic Zone (EEZ) of approximately 492,800 Sq/Km. (approximately 8 times that of the land area) which extends up to a distance of 200 Nautical miles from the baseline. At present, data collection is limited due to lack of resources such as staff, equipment and medium size vessel. Data acquisition capabilities of NHO has drastically reduced due to the lost of SV "Sayuri" including all the equipment on board. According to the current situation, requirement of bathymetric data around the Sri Lanka has become a prime priority due to the seabed changes after the tsunami.

ORGANIZATION FUNCTIONS

- 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 of 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.

HYDROGRAHIC SERVICES & ACTIVITIES

- Conducting the National Charting Programme.
- Hydrographic surveys for coastal zone management and environmental protection.
- Hydrographic surveys for dredging and monitoring dredged area of Fishery Harbours and Anchorages.
- Engineering Surveys and pipe/cable line route surveys (marine outlets).
- Hydrographic Surveys for inland water bodies and lagoons.

COVERAGE OF NEW SURVEYS

- Post tsunami and new port limits of Colombo chart.
- Post tsunami channel surveys of Galle harbour chart.
- Currently under the national charting programme Hydrographic Surveys are being carried out in southern western waters of Sri Lanka..
- Hydrographic Survey of Kalpitiya lagoon and estuary.
- Coastal erosion monitoring surveys.

PROBLEMS ENCOUNTERED

- Unavailability of medium size vessel due to capsizing of SV "Sayuri" by last tsunami.
- Training on Digital Cartography- Carris /GIS

S – 55 -M
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**
< 200 m	8	88	4
>200 m	0	85	15

NEW TECHNOLOGIES / EQUIPMENT

Following equipment received from BSH – Germany under immediate Tsunami Aid Programme
1. DGPS - Seastar 8300 HP - 3 Nos.
2. Atlas DESO 30 echo sounder - 3 "
3. Hypack max data acquisition software - 2 "
4. Sound velocity probe (SVP 14) - 3 "
5. Carris/ GIS software - 2 "
6. Leica TCRP 1202 total station - 1 No.
7. Ominstar 8300 HP DGPS system - 1 "
8. Side scans Sonar - 3 Nos.
9. Auto Sal - 01
10. Recording Current meters (RCM4/RCM7/REM11) - 16
11. Acoustic Droppler current profiler (ADEP) - 01
12. Rosette with 12 bottles
13. Permanent tide gauges – 02

Following equipment received from IHO- funded by IMO
1.Parametric Sediment Echo Sounder (SES 2000)

INT CHART

So far we have not published INT charts in Sri Lanka, but we have bilateral arrangements with UKHO to produce INT charts, especially our main harbour charts with their collaboration. We have alredy coverd bathymetric surveys of Galle harbour and Colombo harbour. Now we are in the final stage to print those two charts with collaboration of UKHO. In the mean time we have already produced and updated Galle harbour chart to cater our local requirements.

PAPER CHARTS (NATIONAL)

Paper charts published by NHO.
1. Approaches to Colombo and Colombo Harbour - 1997
2. Approaches to Beruwala - 1998
3. Weligama, Matara - 2000
4. Negombo Lagoon - 2001
5. Negombo - 2002
6. Approaches to Galle Harbour – 2004
7. Adopted Admiralty chart of Galle harbour (to be printed and released this year with Collaboration of UKHO)

8 Adopted Admiralty chart of Colombo harbour

CAPACITY BUILDING

Training received
2. Cartography training - UKHO - one placement
3. Basic ENC training - UKHO - one placement

Training needed
1. Category A in hydrography - - two placements
2. Post graduate courses (M.sc) - two placements
3. Category B in hydrography - two placements
4. Digital Cartography - two placements
5. Carris / GIS on the job training- two placements
6. Short term training courses

EQUIPMENT NEEDED

Fully equipped Medium size vessel with multibeam echo sounder

STATUS OF DEVELOPMENT PROJECT-

Project Status

The project proposal "New Standards for Decision Support and Information Management for Development and Planning an Integrated Approach to Coastal Zone Mapping in Sri Lanka" has prepared jointly with UKHO. This proposal has been approved by the Government and funding is not finalized.

OCEANOGRAPHY ACTIVITIES

Research & Development Activities are carrying out in following areas :

* Monitoring of salinity, ocean currents, tides, waves and other oceanographic and Meteorological parameters.
* Hydrodynamic studies of rivers, estuaries, lakes and coastal waters to determine water exchange, residence times and salt-water intrusion.
* Numerical modeling of rivers, estuaries, lakes and coastal waters.
* Feasibility studies and Environmental Impact Assessments for coastal development.
* Conducting Integrated coastal and offshore resources management projects/surveys.
* Monitoring coastal erosion and accretion processes, sedimentation and sediment transport studies.
* Marine mineral resources surveys in near shore areas.

Tide Gauge Network

NARA has established three permanent sea level stations.(Trincomalee, Modara and Kirinda),which are integral part of global sea level observation network.These stations are capable of monitoring real time high frequency (Tsunami and Storm Surge) ocean waves for ocean based disaster early warnings.