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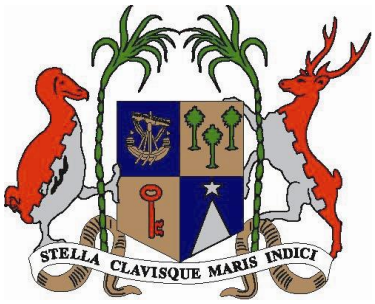

NATIONAL REPORT

REPUBLIC OF MAURITIUS

16TH MEETING OF NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION

Chittagong, Bangladesh
14-16 March 2016

COUNTRY REPORT
MAURITIUS

1. Hydrographic Office and Services

1.1. Introduction

Mauritius is an Island nation of 2040 sq. km. situated 20° South of the Equator and on longitude 57.5° East. Mauritius is a maritime state with a large Exclusive Economic Zone (EEZ) of 2.3 million square kilometres. This includes the joint management of 396,000 square kilometres of seabed in the Mascarene region with the Republic Seychelles as endorsed by the United Nations Commission on Limits of Continental Shelf in 2011. Mauritius being signatory to International Maritime Organisation (IMO) Convention of Safety of Life at Sea (SOLAS) has national and international responsibilities to provide necessary services for enhancing safety of navigation in its area of jurisdiction. For the exploration and exploitation of the potential marine resources, systematic data collection is being carried out in the surrounding ocean.

1.2. Cooperation between India and Mauritius

A Memorandum of Understanding (MoU) between Republic of Mauritius and Republic of India in the field of hydrography was signed on 24 October 2005. The MoU provides for cooperation in the field of hydrography between the two countries and assistance in production of navigational charts, training of staff and expertise for setting up of hydrographic infrastructure in Mauritius. There is also provision for assistance by the Indian Hydrographic Office for hydrographic surveys in our EEZ, ports and lagoons.

1.3. Hydrographic Infrastructure

A hydrographic team has been deputed by National Hydrographic Office, India since October 2013 for capacity building and rendering assistance in setting up hydrographic infrastructure and services. Hydrographic Unit was established at Ministry of Housing and Lands in November 2013. As a result, Mauritius now has the capacity to survey areas critical for shipping and surface navigation, carry out underwater search operations for wreck/ obstruction detection and survey extremely shallow lagoons surrounding the mainland for supporting economic/ tourism related activities. In addition, significant progress has been made towards hydrographic support

for scientific research & disaster management, sale of updated nautical products and developing expertise in matters related to maritime domain. The expansion of the services is currently being pursued with a firm roadmap for the future. The main areas of focus are as follows:-

(a) Enhance the capability to provide hydrographic support to outer Islands of Rodrigues and Agalega.

(b) Transition from current data processing practice to GIS based processing and data compilation tool. Developing marine cartographic capability.

(c) Establish maintenance and support procedure for hydrographic equipment to ensure sustained availability for operations.

(d) Provide legal framework for hydrographic services.

(e) Fulfilling deep sea survey requirements through international collaboration.

2. Surveys.

2.1. Coverage of New Surveys

(a) **Survey of Passes around Mauritius**. Based on requests from various stakeholders including National Coast Guard, Mauritius Oceanography Institute, Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands, survey of 78 passes around mainland Mauritius is in progress. Out of the identified 78 passes, 09 passes have been surveyed till now.

(b) **Delineation of HWL of Mainland Mauritius**. Delineation of entire High Water Line of mainland Mauritius (325 km) was completed in November 2015. The data supersedes the existing high water data which dates back to 1967.

(c) **Survey of Continental Shelf-off Rodrigues.** Survey of the continental shelf off Rodrigues was carried out by INS Sarvekshak from 11 March to 14 April 2015 to support our claim for extended continental shelf to the United Nation Commission on Legal Continental Shelf (UNCLCS).

(d) **Delineation of Harbour Structures and Fixing of Wrecks**. Delineation of newly constructed harbour structures at Port Louis i.e. two bund walls namely Fort George and Fort William boundaries was carried out. Two partially submerged wrecks namely fishing trawler "Ruarlarp Chuoerenchai" grounded alongside jetty at Trou Fanfaron, Port Louis harbour and fishing vessel Eliza at Grand River North West Bay, off Pointe Aux Sables were also fixed during the course of survey. The processed details were forwarded to NHO, Dehradun for compilation of Notices to Mariners.

(e) **Hydrographic Survey for Navigable Passages in Lagoons at Grand Baie and Riviere Noire.** Following the request from Ministry of Tourism and External Communications, hydrographic surveys of navigable passes in lagoons at Grand Baie and Riviere Noire were carried out in March-April 2015 to prepare master plan for management and zoning of lagoons for tourism activities.

(f) **Check Survey of Inner Port Louis Harbour**. The Mauritius Ports Authority (MPA) requested for check hydrographic survey of inner Port Louis harbour. The survey was carried out in June and August 2015 to investigate shallow soundings and collect latest bathymetry for safe turning and manoeuvring of vessels in the area.

2.2. Surveys by Indian Naval Ships

Nine Joint Indo- Mauritian Committees have held since 2006 to discuss and finalise hydrographic tasks. So far, under the provisions of the MoU, the Indian Authorities have deployed naval survey vessels each year since 2006 to undertake the agreed survey tasks. Each ship has been deployed in our waters for an average duration of 30 days. A detailed report of the naval survey vessels deployed and the task undertaken are as follows:-

Sl.	SHIP	PERIOD	SURVEY
(a)	**INS Sarvekshak**	12 Jan 06 to 25 Feb 06	(a) Port Louis Harbour (b) Approaches to Port Louis Harbour (c) Proposed fishing port at Bain des Dames (d) Agalega & Surrounding waters (e) Deep sea water sampling

(b)	**INS Sarvekshak**	10 Mar 07 to 09 Apr 07	(a) Port Mathurin Harbour (b) Approaches to Port Mathurin Harbour (c) Bathymetric survey for LBOI at: - Troud'EauDouce - Riviere Noire
(c)	**INS Investigator**	29 Feb 08 to 09 Apr 08	(a) St Brandon Shoals (30%) (b) Profile for MOI –CLCS Survey
(d)	**INS Nirdeshak**	10 Mar 09 to 06 Apr 09	(a) St Brandon Shoals (up to 70%) (b) Survey of Passes: - Grand Bay - Tamarin Bay - Grande Riviere Noire Bay (c) Lagoon at Riviere des Galets
(e)	**INS Nirdeshak**	26 Mar 10 to 26 Apr 10	(a) St Brandon Shoals (100%) (b) Flic enFlac (c) Grand Port – Southern Entrance
(f)	**INS Sarvekshak**	23 Feb 11 to 23 Mar 11	(a) Survey in the East of Rodrigues (b) Survey of Eastern flank of Mauritius (c) Survey of Navigational Channel to SSR Terminal and Quays A/D up to the Fishing Port (d) Rodrigues Island Transects (e) Survey of Passes – Cap Malheureux- Albion
(g)	**INS Darshak**	24 Apr 12 to 15 May 12	(a) Survey of off lagoon from Bel Ombre to Le Chaland (b) Survey off Albion coast
(h)	**INS Sarvekshak**	02 Feb 13 to 13 Mar 13	(a) Survey of Poudre D'or region (b) Survey of Off GRSE region.
(i)	**INS Sarvekshak**	11 Mar 15 to 14 Apr 15	(a)Hydrographic survey off Rodrigues Island

2.3. Infrastructure and Equipment.

The basic infrastructure available for survey at Hydrographic Unit is as follows:-

(a) Inshore Survey Vessel – Pathfinder, received from India

(b) Atlas Deso-30 Echo sounder with 210 kilohertz and 33 kilohertz transducers.

(c) Hemisphere R-131 Satellite DGPS.

(d) TSS Dynamic Motion Sensor 25.

(e) HYPACK software

(f) Side Scan Sonar 4200 FS with Discover and Sonar wiz software

(g) CTD 48M Sound Velocity Profiler

(h) Precision Depth Recorders – PDR 601

(i) Differential GPS – Aquarius 5000 Series (Dassault Sercel)

2.4. Interaction with other Agencies. The stakeholders for hydrographic services in Mauritius are as mentioned below. The hydrographic requirements of the stakeholders are fulfilled on priority basis apart from regular surveys.

(a) The Mauritius Ports Authority (MPA) setup under the Ports Act in 1998 is responsible to regulate and control the port sector, provide marine services, dredging of the port area and provision of navigational aids.

(b) The Mauritius Meteorological Service which is responsible for the maintenance of tide gauges and production of tide tables.

(c) The Shipping Division of the Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands is the maritime administrator responsible for the development of maritime activities such as registration of ships and implementation of the Merchant Shipping Act.

(d) The Mauritius Oceanography Institute (MOI) advises Government on the formulation and implementation of policies and programs in respect to oceanography and marine resources.

(e) Continental Shelf, Maritime Zones Administration & Exploration Division-Prime Minister's Office.

(f) Ministry of Environment, Sustainable Development, Disaster and Beach Management.

(g) Ministry of Tourism and External Communications.

3. **New Charts & Updates**.

A protocol on the sale of navigational charts was signed on 02 April 2009 between India and Mauritius. This provides for compiling, printing marketing the charts by National Hydrographic Office including criteria for payment of royalties and commissions. The charts are also kept up-to-date after incorporating all corrections as promulgated by Notices to Mariners. The India-Mauritius hydrographic cooperation has further been strengthened with the shift of producer nation status to India. In that respect, the chart of Port Louis Harbour and its Approaches has been prepared as International series chart (INT 7739). Following seven charts have been produced by the Indian National Hydrographic Office (INHO) and are on sale at 33 US Dollars per chart as per the protocol on the sale of navigational charts.

Chart No.	**Name**
2503	Approaches to Cargados Carajos Shoals
2504	Mathurin Harbour
2505	Approaches to Mathurin Harbour
2506	Grand Bay and Grand Riviere Noire Bay
2507	Grand Port
2512	Agalega Island
2514 (INT 7739)	Port Louis and Approaches to Port Louis.

Based on the indigenous survey by hydrographic unit, a block correction for chart INT 7739, was issued in April 2015, incorporating changes in the coastline and bathymetry of Port Louis harbour. The catalogue of charts for Mauritius is being expanded to 14 charts as per the charting scheme finalised in consultation with National Hydrographic Office, India. The new charting scheme would significantly enhance the navigational safety in Mauritian waters. The additional charts would be as follows:-

Proposed Chart	**Scale**
Mauritius	1:125 ,000
Gabriel and Round Island	1: 50,000
Point Sud Ouest (Le Morne)	1: 10,000
Souillac	1: 7,500
Approaches to Grand Port	1:30,000
Saint James Anchorage (Agalega)	1: 5,000
Rodrigues Island	1: 50,000

4. New Publications & Updates.

New publications and updates are undertaken by India, the chart producer nation.

5. MSI (Maritime Safety Information).

Mauritius is located in NAVAREA VIII where the NAVAREA Coordinator is India and the Sub area coordinator is Mauritius. A committee is being formed in Mauritius for dissemination of MSI.

6. S-55

With India becoming the chart producer nation for Mauritius, updates for S-55 is being undertaken by India.

7. Capacity Building

7.1. Training Received and Needed

7.1.1.1. Training Received

(a) Around a dozen officers have undergone Cat B Hydrographic course in India, Holland, and Japan. One officer has undergone CAT 'A' course at Mississippi, United States of America and one is currently following the same course.

(b) Three officers have undergone training in Marine Cartography and ENC organised by United Kingdom Hydrographic Office. One officer has followed regional training course in Basic Electronic Navigational Charting (ENC) and ENC production at the School of Ports in Durban, South Africa. One officer has followed a short course on Maritime Safety Information (MSI) in Oman.

(c) Eight officers have followed the multi-beam sonar course in Australia, Germany and India.

(d) Two officers have undergone training in Maritime Boundary Delimitation in Maldives and South Africa.

(e) On job training has been provided on-board the Indian Navy ships during each survey mission.

(f) On job and in house training was conducted by Hydrographic Unit during the survey of Port Louis Harbour at Mauritius from January to June 2014 and the data was incorporated in the new INT chart 7739.

7.1.2. Training Needed

Additional training requirements exist in following areas: -

(a) Hydrographic Surveying Category 'A' and Category 'B' Courses.

(b) Nautical Cartography (Paper Chart and ENC).

(c) Hydrographic equipment maintenance.

(d) On-job training for hydrographic surveys and chart production.

7.2. Status of Bilateral Capacity Building Programme

Under the existing MoU on hydrography, the Government of India has deputed a Hydrographic team to set up hydrographic infrastructure in Mauritius. The functions of this team are as follows:-

(a) Prepare and regulate long-term program of hydrographic surveying and charting of Mauritian Waters.
(b) Carry out specialized survey with other government departments such as Oceanographic, Fisheries, Meteorological and Port authorities. Supervise and provide advice for any hydrographic survey work carried out by a private contractor.
(c) To represent Government of Mauritius at International and regional level on Hydrographic matters.
(d) To act as focal point and repository for hydrographic and nautical information.
(e) To coordinate training facilities at national and international level for hydrographic surveying and technicians

(f) To recommend national policy and take steps for improvement of hydrographic survey services.

8. Oceanographic Activities.

The Mauritius Meteorological Service is responsible for the maintenance of tide gauges and production of tide tables in Mauritius. The following tide stations are in use:

(a) TrouFanfaron, Port Louis:-

(i) Vaisala,MAWS301
(ii) Sutron,Satlink

(b) Blue Bay: Sutron, Xlite 9210

(c) Rodrigues:

(i) A71 Chart Recorder
(ii) Sutron,Satlink

(d) Agalega : Sutron, Xlite 9210

The Mauritius Oceanography Institute (MOI) advises Government on the formulation and implementation of policies and programs in respect to oceanography and marine resources.

9. Other Activities

9.1 The 9th Indo-Mauritian Joint Hydrographic Committee Meeting.

The 9th Indo-Mauritian Joint Hydrographic Committee was held in Mauritius from 29 June to 01 July 2015 where inter alia the existing MoU between the Republic of Mauritius and the Republic of India in the field of hydrography was extended for a further period of 5 years. The following issues were also discussed:-

(a) Modalities of Instantaneous Updates of Existing National Series Charts of Mauritius;
(b) Protocol on Sale and Distribution of ENC;
(c) Surveys to be undertaken by Indian Naval Survey Ship;
(d) Maintenance and Redundancy of Hydrographic Assets;
(e) Training and Capacity Building for Nautical Cartography, Hydrographic Equipment Maintenance and Chart Production;
(f) Vacancies for Hydrographic Surveying Category 'A' and

Category 'B' Courses in India;

(g) Feasibility to Procure/Wet Lease a Survey Vessel and Inshore Survey Vessel; and

(h) New Charting Scheme.

9.2 Celebration of World Hydrography Day 2015.

The World Hydrography Day was celebrated at Caudan, Port Louis, under the theme "Our seas and waterways - yet to be fully charted and explored" as promulgated by the IHO. The following events took place:-

(a) Keynote address on the theme delivered by the Vice-Prime Minister and Minister of Housing and Lands;

(b) Presentation of multi-layered ceremonial chart of mainland Mauritius by the Honourable Vice-Prime Minister and Minister of Housing and Lands to the High Commissioner of India;

(c) Open day for visitors and sale of navigation charts; and

(d) Exhibition of hydrographic survey equipment and inshore survey vessel pathfinder.