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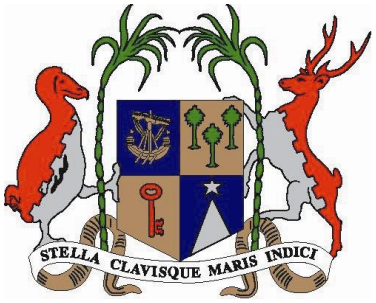

NATIONAL REPORT
REPUBLIC OF MAURITIUS

13TH MEETING OF SOUTHERN AFRICA AND ISLANDS HYDROGRAPHIC COMMISSION

Cape Town, South Africa
29-31 August 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, with a large Exclusive Economic Zone (EEZ) of 2.3 million square kilometres. In 2011 the United Nations Commission on Limits of Continental Shelf has endorsed the joint management of 396,000 square kilometres of seabed in the Mascarene region with the Republic of Seychelles. 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.

1.2. Hydrographic Infrastructure

Under the provisions of MoU with India, a Hydrographic Unit was established at Ministry of Housing and Lands in November 2013. The unit acts as the nodal agency for meeting hydrographic requirements in Mauritius. Pursuing systematic capacity development plan since unit's inception, 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) Establish maintenance and support procedure for hydrographic equipment to ensure sustained availability for operations.

(c) Developing deep sea survey capability in collaboration with stakeholders.

(d) Strengthening MSIS Framework.

(e) Provide legal framework for hydrographic services.

(f) Developing marine cartographic capability.

1.3. Cooperation between India and Mauritius

A Memorandum of Understanding (MoU) between Republic of Mauritius and Republic of India on 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 surveys in our EEZ, ports and lagoons. During the 9th Indo-Mauritian Joint Hydrographic Committee, held in Mauritius in July 2015 the abovementioned MoU has been extended for a further period of 5 years with effect from October 2015.

2. Surveys.

2.1. Coverage of New Surveys

(a) **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.

(b) **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, 13 passes have been surveyed till now.

(c) **Check Survey inside Port Louis Harbour**. The National Coast Guard (NCG) requested for detailed hydrographic survey inside Port Louis harbour to ensure safe movement of Coast Guard Vessels. The survey was carried out in July 2016.

(d) **Survey of New Quay of Mauritius Container Terminal (MCT)**. Post completion of construction work for extension of quay, delineation of quay at MCT and sounding operations in the vicinity

were carried out. Necessary data has been forwarded for incorporating corrections to navigational chart 2514 (INT 7739).

(e) **Surveys for Regulating Recreational Activities**. Surveys for demarcating various zones for regulating tourism related recreational activities have been carried out at Bel Ombre, Pereybere, Mon Choisy and Bell Mare.

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. On each occasion, a ship has been deployed in our waters for an average duration of 30 days. Details of the tasks 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 en Flac (c) Grand Port – Southern Entrance
(f)	**INS Sarvekshak**	23 Feb 11 to	(a) Survey in the East of Rodrigues

		23 Mar 11	(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 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 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 KHz and 33 KHz transducers.
(c) Hemisphere R-131 Satellite DGPS.
(d) TSS Dynamic Motion Sensor 25.
(e) HYPACK software.
(f) Infinity-EM Current Meter.
(g) CARIS Processing Suite.
(h) Side Scan Sonar 4200 FS with Discover and Sonar wiz software
(i) CTD 48M Sound Velocity Profiler
(j) Precision Depth Recorders – PDR 601
(k) Differential GPS – Aquarius 5000 Series (Dassault Sercel)

3. <u>New Charts & Updates</u>.

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 by 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.

The charting scheme for Mauritius is being expanded to 14 charts in consultation with National Hydrographic Office, India. The new charting scheme would cover additional areas to enhance navigational safety in Mauritian waters. The additional charts are 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
Mauritius to Agalega Island	1:1,500,000

4. New Publications & Updates.

The first Hydrographic Publication of Mauritius, i.e. Catalogue of Charts and ENCs (MHP-01) of Mauritius was released on the occasion of World Hydrography Day-2016. The catalogue gives comprehensive information to mariners and all stakeholders about available charts and ENCs of Mauritian waters. A copy of the catalogue would be uploaded on IHO and SAIHC websites in due course.

5. MSI (Maritime Safety Information).

Mauritius is located in NAVAREA VIII where the NAVAREA Coordinator is India and the Sub area coordinator is Mauritius. Shipping Division of Ministry of Ocean Economy takes responsibility for NAVTEX services, coastal and local warnings through Mauritius Radio Services.

6. Capacity Building

6.1. Training Received and Needed

6.1.1.1. Training Received

(a) Around a dozen officers have undergone Cat B Hydrographic course in India, Holland, and Japan. Two officers have undergone CAT 'A' course at Mississippi, United States of America and one is currently following a Cat B Hydrographic course in India. One surveyor will be pursuing GEBCO Ocean Bathymetry Course, at University of New Hampshire, USA from August 16 to September 2017.

(b) Officers of this Ministry have also benefited from several short courses including training in Marine Cartography and ENC at United Kingdom, Kenya and South Africa, course in Maritime Safety Information (MSI) in Oman, Tidal and Water Levels workshop in South Africa and IHO Phase I skills Training Course in Namibia.

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

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

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

(f) On job and in house training is being conducted by Hydrographic Unit during the conduct of surveys.

6.1.2. Training Needed

Additional training requirements exist in the following areas: -

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

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

(c) Short courses on Maritime Safety Information Services.

6.2. Status of Bilateral Capacity Building Programme

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

(a) Prepare and regulate long-term programme 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 advise 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 in the field of hydrography at national and international level.
(f) To recommend national policy and take steps for improvement of hydrographic survey services.

7. <u>Oceanographic Activities</u>.

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

Locations	*Digital Tidegauges*	*Installation*	*Sensors used to measure sea level*	*GPS Positions*
Port Louis *(Trou Fanfaron)*	Sutron SatLink Logger	14 March 2008	Encoder, radar, pressure	20^0 09.434' South, 57^0 30.256' East
Port Louis *(Trou Fanfaron)*	Vaisala (MAWS 301)	May 2005	Encoder, radar, pressure	
Blue Bay	Sutron SatLink (XLITE 9210)	29 November 2008	Radar, pressure	20^0 26.650' South, 57^0 42.655' East
Rodrigues *(Port Mathurin)*	Sutron SatLink Logger	8 March 2008	Encoder, radar, pressure	19^0 40' South, 63^0 25' East
Agalega *(La Fourche)*	Sutron SatLink (XLITE 9210)	22 November 2008	Radar only	10.346^0 South, 56.586 East

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

8. Other Activities

8.1 Storm Surge and Tsunami Modelling.

Being an island nation in equatorial region, Mauritius is under constant threats emanating from sea such as storm surge and tsunami. Bathymetric data surrounding Mauritius, Rodrigues and Agalega has been provided for setting up a model for early warning system for storm surge. Bathymetric data has also formed an important input for Tsunami Inundation Model. The models have significantly enhanced disaster management capabilities of Mauritius.

8.2 Celebration of World Hydrography Day 2016.

The World Hydrography Day was celebrated at Caudan, Port Louis, under the theme "Hydrography- key to Well Managed Seas & Waterways" as promulgated by the IHO. The following events took place:-

(a) Keynote address on the theme delivered by Honourable Showkutally Soodhun, GCSK, Vice-Prime Minister, Minister of Housing and Lands;

(b) Presentation of High Water Line data of mainland Mauritius by Honourable Vice-Prime Minister and Minister of Housing and Lands to Ag. High Commissioner of India;

(c) Release of official catalogue of paper charts and ENCs of Mauritius. The chart catalogue is the first hydrographic publication of Mauritius.

(d) Open day for visitors and school children.

(e) Exhibition of hydrographic survey equipment and Practical demonstration on-board ISV Pathfinder for distinguished guests, senior staff of the Ministry of Housing and Lands and school children.