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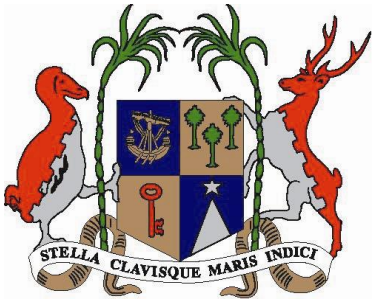

NATIONAL REPORT
REPUBLIC OF MAURITIUS

17TH MEETING OF NORTH INDIAN OCEAN HYDROGRAPHIC COMMISSION

Cairo-Egypt
(17-20 July 2017)

COUNTRY REPORT
MAURITIUS

1. Hydrographic Office and Services

1.1. Introduction

Mauritius is an Island nation in the Indian Ocean with a land area of 2040 Square Kilometres and a large Exclusive Economic Zone (EEZ) of 2.3 million Square Kilometres. In 2011, the United Nations Commission on Limits of Continental Shelf endorsed joint management of 396,000 square kilometres of seabed in the Mascarene region by Republic of Mauritius and Republic of Seychelles. Being signatory to International Maritime Organisation (IMO) Convention of Safety of Life at Sea (SOLAS), Mauritius has national and international responsibilities to provide necessary services for enhancing safety of navigation in its area of jurisdiction.

1.2. Cooperation between India and Mauritius

Republic of Mauritius and Republic of India entered into a Memorandum of Understanding (MoU) on hydrography in 2005. The MoU has been subsequently extended at periodic intervals. The MoU provides for cooperation in the field of hydrography between the two countries, assistance in production of navigational charts, training of staff and surveys in the EEZ, ports and harbours of Mauritius.

1.3. Hydrographic Infrastructure

The Hydrographic Unit of Ministry of Housing and Lands is the nodal agency for hydrographic surveying and nautical charting in Mauritius. The unit was established in 2013 under the aegis of MoU with India in order to develop hydrographic infrastructure and expertise. The unit has developed capacity to survey coastal and nearshore areas critical for shipping and surface navigation, carry out underwater search operations for wreck/ obstruction detection and survey shallow lagoons surrounding Mauritius and outer island territories for supporting economic and tourism related activities. In addition, significant progress has been made towards hydrographic support for scientific research, disaster management, physical modelling, sale of updated nautical products and other applications related to maritime domain. The expansion of services is currently being pursued with a firm roadmap for the future. The main areas of focus are as follows:-

- Develop deep sea survey capability for surveys in EEZ of Mauritius.

- Multi-beam surveys in the coastal waters of Mauritius.

- Integrate MSI infrastructure in Mauritius with NAVAREA warning services.

- Enhance operational range of Inshore Survey Vessel "Pathfinder" for deployment in eastern and southern parts of the island for survey missions.

- Provide hydrographic support to Rodrigues Island to aid development activities in the region.

- Develop marine cartographic capability.

2. **Surveys.**

2.1. **Coverage of New Surveys** The major surveys carried out in the last one year are as follows:-

(a) **North East of Mauritius**. Indian Naval Ship Darshak was deployed in December 2016 for hydrographic survey North East of Mauritius. The ship surveyed an area of 1390 Square KM which includes Round, Serpent, Flat and Gabriel Islands. Ship also collected oceanographic datasets for aquaculture site off Anse La Raie, mapping of seamounts NE of Mauritius and Agalega Island and datasets for Deep Ocean Water Applications project.

(b) **Agalega Island**. In September 2016, detailed survey of the near shore area around existing jetty at Agalega was carried out. Beach gradient surveys at three sites were conducted for identifying suitable landing sites for LCVP of National Coast Guard.

(c) **Survey of Aquaculture Site**. Based on requirements from Mauritius Oceanography Institute (MOI), the survey of aquaculture site off Trou Aux Biches was carried out from 03 to 12 October 2016 using ISV Pathfinder. Oceanographic data was collected in collaboration with MOI.

(d) **Survey for Petroleum Hub Project**. Detailed survey of the area of Albion was conducted within a span of 15 days in January 2017 for gathering datasets for Petroleum Hub Project. The data was subsequently shared with consultants and stakeholders to support further study in respect of exact location & alignment of jetty and other supporting infrastructure for the project.

(e) **Survey of Blue Bay**. The Hydrographic Survey of Blue Bay Marine Park has been undertaken at 1:5000 scale to fulfil requirements of multiple stakeholders.

(f) **Survey of Passes around Mauritius**. Based on requests from various stakeholders, the survey of passes around mainland Mauritius is under progress. Out of 78 identified passes, 18 passes, including adjoining lagoons have already been surveyed. In Phase-3, 450 KM of sounding was carried out using craft of opportunity.

(g) The Unit has embarked upon the project of surveying along Eastern and Southern coast of Mauritius. These areas have never been systematically surveyed due to unsuitable weather and sea state. Till now, approximately 120 KM of sounding has been carried out.

(h) In the past year, multiple check surveys have been undertaken in Port Louis harbour for berthing & safe manoeuvring of ships based on requests from Mauritius Ports Authority and National Coast Guard.

(i) Assistance has also been provided for delineating various zones for regulating tourism related activities at Bel Ombre, Pereybere, Mon Choisy and Riviere Noire to Pte Moyenne.

2.2. **Past Surveys by Indian Naval Ships**

Ten meetings of the Indo-Mauritius Joint Committee on Hydrography have taken place since 2006. Under the provisions of MoU, naval survey vessels have been deployed almost every year since 2006 to undertake agreed survey tasks. The surveys carried out by the ships in the past 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 hydrographic infrastructure available for survey at the unit is as follows:-

(a) Inshore Survey Vessel-Pathfinder.
(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. **New Charts & Updates**. The production and marketing of Mauritian charts is undertaken by National Hydrographic Office, India, under the provisions of MoU. The chart of Port Louis Harbour and its Approaches was assigned INT status (INT 7739) in 2014. During 13th SAIHC meeting held at Cape Town, South Africa, six remaining charts have also been accorded INT status. The list of seven charts is as follows:-

Chart No.	Name
2514 (INT 7739)	Port Louis and Approaches to Port Louis.
2503 (INT 77391)	Approaches to Cargados Carajos Shoals
2504 (INT 77392)	Mathurin Harbour
2505 (INT 77393)	Approaches to Mathurin Harbour
2506 (INT 77394)	Grand Bay and Grand Riviere Noire Bay
2507 (INT 77395)	Grand Port
2512 (INT 77396)	Agalega Island

The charting scheme is being expanded to 14 charts as agreed between Mauritius and India. The additional charts which have been planned 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	1:1,500,000

4. **New Publications & Updates**.

During World Hydrography Day-2016, a catalogue of Mauritian Navigational Charts was released for providing information to all mariners, users and public at large. The catalogue was updated in May 2017 after INT status was accorded to six remaining navigational charts. The catalogue is available online on the webpage of the hydrographic unit.

5. **MSI (Maritime Safety Information)**.

Mauritius is located in NAVAREA VIII where the NAVAREA Coordinator is India. A proposal for integrating existing MSIS infrastructure with NAVAREA warnings is presently under implementation in coordination with Shipping Division of Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping.

6. **C-55**

The status of hydrographic surveying for Mauritius was compiled in 2016. The updated copy is being forwarded separately.

7. **Capacity Building**

7.1. **Training Received and Needed**

7.1.1 **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 surveyor is currently pursuing the GEBCO Ocean Bathymetry Course, at University of New Hampshire, USA (from August 16 to September 2017). One officer underwent Cat 'B' course in hydrography from National Institute of Hydrography, India from June 2016 to January 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) In-house training is being provided by the Hydrographic Unit during conduct of surveys

7.1.2 **Training Needed**

Additional training requirements exist in following areas: -

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

(b) Course for Survey Technician planned at National Institute of Hydrography, India in September 2017.

(c) 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 surveys with other government departments such as Oceanographic, Fisheries, Meteorological and Port authorities.
(c) Supervise and provide advice for any hydrographic survey work carried out by a private contractor.
(d) Represent Government of Mauritius at International and regional level on Hydrographic matters.
(e) Act as focal point and repository for hydrographic and nautical information.
(f) Coordinate hydrographic training at national and international level.
(g) Recommend national policy and take steps for improvement of hydrographic services.

8. **Oceanographic Activities**.

The Mauritius Meteorological Service is responsible for maintenance of tide gauges 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

9. **Other Activities**

9.1 The **10th Meeting of Indo-Mauritius Joint Committee on Hydrography** was held in India from 20 to 21 March 2017. Issues related to charting scheme, future survey requirements, training, capacity building and MSIS were discussed during the meeting.

9.2 **World Hydrography Day** under the theme "Mapping our seas, oceans and waterways-more important than ever" was celebrated by the Ministry of Housing and Lands from 28-30 June 2017. The main events were as follows:-

(a) Opening ceremony organised on-board Coast Guard Ship Barracuda.
(b) Keynote address on the theme delivered by the Vice-Prime Minister and Minister of Housing and Lands;
(c) Presentation of fair-sheet covering survey of passes from Trou aux Biches to Pte aux Canonniers by the Honourable Vice-Prime Minister to the High Commissioner of India;
(d) Exhibition of hydrographic and surveying equipment, display of charts and recent work undertaken by the unit, practical demonstration on-board survey vessel and projections on hydrography were organised for school children and public at large from 28-30 June 2017.