

PUBLIC SERVICE EXCELLENCE AWARD 2018

ENTRY FORM



Theme:

*“Embracing Innovative Technologies and Processes
for Public Service Enhancement”*

PUBLIC SERVICE EXCELLENCE AWARD 2018

INTRODUCTION

The Public Service Excellence Award (PSEA) is one of the many tools used to drive the public service towards becoming a more dynamic, customer-centric and highly performing institution. It encourages team work and a culture of excellence across the public service.

Its overall objective is to recognise and reward meritorious efforts of Ministries/Departments and their respective Section/Division/Unit which have strived and travelled the extra mile to improve public service delivery and customer satisfaction in a noticeable manner. It is also a reliable instrument to foster innovative management practices in public sector organisations.

THE THEME

The theme chosen for the 2018 Edition of the PSEA is *“Embracing Innovative Technologies and Processes for Public Service Enhancement”*. This theme is meant to give an added dimension to the ongoing effort of Government to enhance the quality of public service in line with Vision 2030 and the 3-Year Strategic Plan.

THE AWARD

The best three submissions will receive the Gold, Silver and Bronze Awards in order of merit. The Winners will also be offered cash prizes as follows:

Gold Award : Rs 100,000
Silver Award : Rs 60,000
Bronze Award : Rs 40,000

ELIGIBILITY

All Ministries/Departments or Divisions/Units are eligible to participate in the Award.

However, Grand Winners of the previous editions of the Award are not eligible for participation for the next two editions following the year of their award.

ADJUDICATION

A Panel of Jury will be set up to assess the submissions.

APPLICATION

Applications should be submitted on the appropriate Form which is available on the website of this Ministry at <http://civilservice.govmu.org>. Information provided by participants should be factually correct, comprehensive and concise.

A hard copy, duly signed by a member of Senior Management, and a soft copy of the submission should reach this Ministry by **15 April 2019 at 16:00 hrs** at the following address:

Administrative Reforms Division

Ministry of Civil Service and Administrative Reforms

Level 10, SICOM Building 2, Corner Chevreau & Rev Jean Lebrun Streets, Port Louis

Tel: 405 4100 (PABX) - Extension: 10224 / 10225

Fax: 211 5047

Email: mcsa-ar@govmu.org

Website: <http://civilservice.govmu.org>

All submissions should be typewritten. **Handwritten or incomplete submissions will not be considered.**

NOTES FOR GUIDANCE

In their submission, organisations are required to bring forth their achievements for the past 12 months in terms of “**Best Practice**” (*as defined below*) and provide a substantive overview thereof so as to justify what qualifies them to be the potential winner of the Award. Organisations are encouraged to include written documentary evidence in support of their write-ups.

Definition of a Best Practice

A Best Practice is the implementation of a method/process/procedure/activity that has proven to work efficiently and effectively and produced remarkable results, and is, therefore, recommended as a model for other organisations to emulate.

For Office Use

Ref:

Date of receipt of Entry Document: / /

Date of acknowledgement: / /

ENTRY FORM

1. PROFILE OF ORGANISATION

Name of organisation : Mauritius Hydrographic Service
Ministry of Housing and Lands

Address : Plot Number 52, Level 5
Ebene Towers,
Ministry of Housing and Lands
Ebene


Full name (Block Letters) of Contact Person : Cdr Rahul Bhatt

Post held by Contact Person : Officer-in-Charge, MHS

E-mail Address : oic_hydrounit@govmu.org

Telephone Number : 4013801, 4013802

Contact address, if different from above : Same as above

Name (Block Letters) and Signature of Senior Manager who validated the submission : O.H. MAMOOJEE
FOR SENIOR CHIEF EXECUTIVE
(SIGNATURE).....

Telephone Number of the Senior Manager :

Title of the Best Practice : Provide credible Hydrographic Services through innovation in order to meet the requirements of all our stakeholders in Mauritius and to make our waters safe for Navigation.

Start date : 01 Jan 2018

2. AREAS OF BEST PRACTICE

Organisations are requested to submit a well-defined Best Practice that has contributed to make substantial changes/improvements in management practices inspired by a combination of any of the ten pillars below. *(Pillars concerned by the practice must be selected from the list below)*

<input checked="" type="checkbox"/>	<p>Growth and Development <i>Public Sector business, programme and service delivery solutions that facilitate the inclusion of social and economic growth, keeping pace with the way society is evolving and are reflective of the diverse Nation we serve.</i></p>
<input type="checkbox"/>	<p>Business Transformation <i>Anticipation and responsiveness to the evolving client needs through modernisation and business transformation including the efficient use of resources and effort in developing a new workplace, culture and ethos.</i></p>
<input checked="" type="checkbox"/>	<p>Innovation and Acceleration <i>Making use of science, research, technology, innovation, institutional knowledge, data analytics, smart practices, shared information and knowledge for ideas generation and concept mapping.</i></p>
<input type="checkbox"/>	<p>Digital Transformation <i>Making use of technology, E-platforms (such as e-procurement, etc), tools and applications as an accelerator for improved quality service, efficiency, productivity, performance and results.</i></p>
<input checked="" type="checkbox"/>	<p>Smart Process <i>Making use of objective-oriented systems to simplify and automate business processes to be forward-thinking, rapid, responsive and efficient.</i></p>
<input checked="" type="checkbox"/>	<p>Strong Governance and Institutional arrangements <i>Ensuring that the right oversight and guidance for good governance, compliance, ethics, integrity, transparency, accountability, legal, operational and performance frameworks are in place.</i></p>
<input checked="" type="checkbox"/>	<p>Performance <i>Ensuring greater coordination and clarity of objectives, goals, roles and responsibilities and performance outcomes and providing the right tools, resources equipment and physical environment to enhance efficiency, productivity and employee commitment and motivation.</i></p>
<input checked="" type="checkbox"/>	<p>Capacity Building and Capability Development <i>Developing capacity, capability and learning to ensure that employees are continuously adopting and developing new skills, capabilities and technical/behavioural competencies while giving high priority to digital skills.</i></p>
<input checked="" type="checkbox"/>	<p>Implementation <i>Planning, design and implementation of projects, programmes and priorities are integrated so that the right people, funding, resources, logistics, infrastructure are in place and there is a shared ownership of outcomes</i></p>
<input checked="" type="checkbox"/>	<p>Customer Satisfaction: The Bottom line <i>Improvement in customer experience and making public services efficient, transparent and equitable based on consultation and feedback from clients. The public and clients are at the heart of policy development, programmes, services and actions.</i></p>

3. EXECUTIVE SUMMARY

3.1 Provide an executive summary of the Best Practice successfully implemented by your organisation. (Not more than 300 words)

Mauritius has a vast Exclusive Economic Zone of 2.3 Million Square KM and ocean resources present therein offer enormous exploitation opportunities. Being an island nation, the country is heavily dependent upon sea borne trade for fulfilling most of its requirements. Updated nautical products are the most essential tools for safety of navigation at sea and also the foundation for any further study and development in the coastal areas/ Exclusive Economic Zone. Mauritius Hydrographic Service (MHS) takes the responsibility of undertaking surveys using modern equipment and following innovative practices to survey our coastal waters including Ports, lagoons, passes and other shallow water areas. Some of the best practices successfully implemented by our organisation to achieve goals are enumerated below:-

- (a) **Innovation**. Presently Mauritius is having one Inshore Survey Vessel “Pathfinder” which is positioned at Port Louis and is extensively used to undertake bathymetric surveys in Port Louis harbour and surrounding areas. However for undertaking hydrographic surveys elsewhere including outer islands we use vessels of opportunities obtained from various agencies like Ministry of Tourism, fisheries, National Coast Guard etc. which are all different in design. Therefore innovative techniques are used to deploy our portable equipment in the different boats to cater for diverse conditions of operations especially the dynamic state of weather, seas, tides and water currents.
- (b) **Customer Centric Approach**. MHS has numerous stakeholders in Mauritius which project requirements to our office annually for undertaking surveys around Mauritius and outer islands. The requests are compiled and surveys are planned taking in to account the priority. We endeavour to deliver the maps and reports in a time bound manner.
- (c) **Adhering to Stringent Quality Standards**. Our Office has established clearly defined procedures for data collection, processing, Quality Assurance, Quality Control and data archival based on the International Hydrographic Organisation standards so as to meet accuracy requirements.
- (d) **Adaptation of Latest Technology**. We ensure that we use latest equipment and software’s to complete our tasks. We constantly thrive to upgrade the Hydrographic Infrastructure to enable us to carry out surveys efficiently and with greater accuracy.
- (e) **Promulgation of Navigational warnings**. Streamlining procedures for correction, update and sales of nautical products. Focussing on providing updates to the mariner by establishing procedure for reporting, collation of navigational dangers and issuing Navigational Area warnings through NAVAREA coordinator.

(f) **Capacity Building.** Hydrography is a branch of applied sciences. New developments are taking place in this field at a very fast pace. We keep abreast with the latest by encouraging our staff to follow courses abroad and also attend ship missions for gaining exposure in latest technologies.

4. MOTIVATION FOR THE ADOPTION OF THE BEST PRACTICE

4.1 What were the problem areas faced by the organisation and how were beneficiaries affected? (Not more than 300 words)

Prior to the setting up of the MHS in October 2013, there was a limited capacity existing to undertake Hydrographic Surveys independently. There were numerous survey requirements from many organisations like MOI, CSMZAE, MoDR, Mauritius Met Services, Shipping division, Mauritius Port Authority, Fisheries, Tourism, Ministry of ocean economy etc. which could not be addressed in a timely manner. All the requests even for minor surveys were routed to Indian Naval Hydrographic Department which deployed survey ships for 30-40 days (under the provisions of the Memorandum of Understanding) in a year to fulfil the requirements of the stakeholders apart from undertaking deep sea surveys. This caused considerable time delays in the completion of surveys. After the office was set up in October 2013, all the minor surveys in passes, lagoons, reef, port etc. can now be undertaken indigenously. This has significantly increased the satisfaction level of the beneficiaries as the data is now available to the organisations in a much shorter lead time.

Further, during the initial setting up, our office had limited equipment and software's which imposed severe restrictions in undertaking surveys. This problem was overcome by effective planning in procurement of survey equipment progressively over the last five years.

The other major problem faced by us was the limitations in using ISV Pathfinder beyond 20 Km from Port Louis. This was overcome by developing a close liaison with National Coast Guard, Fisheries and Tourism Department which have vessels all around the island. Arrangements were made to convert these vessels into survey crafts. This was done by using innovative techniques to deploy the survey equipment on these crafts of Opportunity. Due to these innovations we can now undertake surveys around the entire Island including Rodrigues and Agalega.

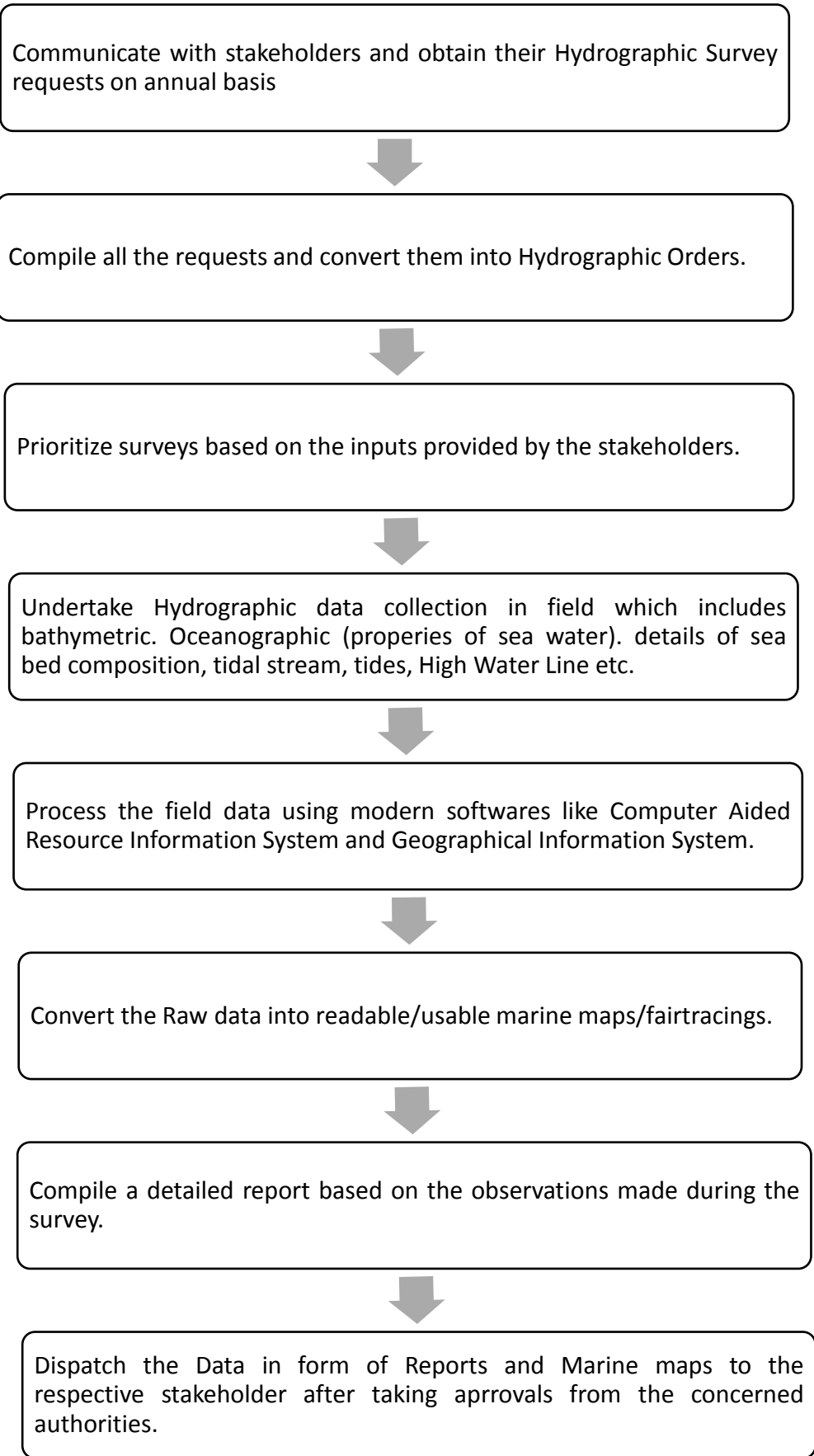
4.2 Describe the plan or strategy adopted to address the problem areas using the ten pillars at Section 2. List down and describe the main elements of the plan or strategy, focusing especially, on their innovative feature(s) and the expected or intended effects. (Not more than 500 words)

(a) **Growth and Development.** Mauritius has a large EEZ of 2.3 Million sq. Km and therefore oceans are very important to us. The 'Blue Economy' is an emerging concept which encourages better stewardship of our ocean or 'blue' resources. To achieve this national aim of promoting the blue economy, our office plays an important role in order to map the oceans accurately. MHS has been growing systematically over the past years

in terms of capacity, competence and infrastructure. We are constantly striving to equip ourselves with the best technology in order to keep pace with the overall growth and developmental aspirations of Mauritius in the field of the Ocean economy.

(b) **Innovation and Acceleration.** Our primary work is to undertake Hydrographic surveys in open seas. We operate under extremely dynamic conditions especially in terms of variability in resources available, weather, wave conditions, sea currents, winds, depths, sea bed characteristics etc. on each day of work. The equipment has to be mounted on different crafts of opportunity depending upon the area of operation and vessel availability. Therefore, almost on a daily basis, we need to come out with innovative/indigenous solutions in order to tackle the variables in order to successfully complete our tasks. In addition, we also adopt state of the art technology and software's to accelerate our processes and to increase our efficiency.

(c) **Smart Processes.** We follow a systematic work flow to achieve our results which is indicated below:-



By following the principles of Kaizen we strive hard to reduce the time spent on each of these process and improve our efficiency.

(d) **Strong Governance and Institutional Arrangements.**

Following measures are employed to ensure good governance:-

- (i) The requirements of the user are assessed to ensure that the end product meets the quality requirements.
- (ii) The hydrographic tasks are planned and executed after due consultation and approval of senior management.
- (iii) Expenditure is incurred after approval of Ministry in accordance with laid down procedures.
- (iv) The performance of each individual is judged using Performance Management System.
- (v) All members are involved in planning and problem solving process. The individual inputs are discussed, refined and included in the overall plan. The surveyors can therefore see their ideas being taken into account and implemented, thereby further enhancing the motivation level.
- (vi) Personnel are nominated for training courses/ overseas missions based on merit, seniority and ability to grasp the subject matter.
- (vii) Daily feedback from surveyors and field parties regarding assigned task, problems faced and personal issues if any.
- (viii) We are constantly striving to improve the capacity of this office by improving competence through capacity building and increasing infrastructure.

(e) **Performance.** The goals and objectives of the organisation have been clearly laid down. All the team members are aligned with the vision and mission of the organisation. The roles and responsibilities are well defined for everybody. It has been ensured that each team member is well trained to carry out his job deliver the expected results. Right environment is provided to the team members to improve their proficiency and also to fulfil their professional aspirations. This keeps the team motivated and encourages them to give their best at all times.

(f) **Capacity building and Capacity development.** Regular training is provided to officers in order to improve their basic as well as advanced knowledge in Hydrography. Officers have completed short courses/Diploma/Graduate and Post Graduate level courses from USA, Canada, India and China.

(g) **Implementation.** Before implementation of a Hydrographic survey project a number of factors are taken into account as planning considerations like:-

- (i) Type of Vessel available
- (iii) Weather conditions
- (ii) Type of equipment to be deployed
- (iv) Range of Tide especially to plan surveys in shallow water areas
- (v) Orientation of the bathymetric contours
- (vi) Deployment of Human Resource
- (vii) Time available to complete the task
- (ix) Tidal currents in the area
- (x) Depths of waters likely to be encountered
- (xi) Presence of known shallow patches, wrecks, rocks and obstruction in the survey area.
- (xii) Limitations of the equipment
- (xiii) Transportation of equipment
- (xiv) Source of funding

All the above factors are taking into account during the planning stage. Once the project is planned properly, it is completed in a time bound manner.

(h) **Customer satisfaction.** The final objective of the Unit is to provide 100 % satisfaction to the customers. This is ensured by providing the customers quality products in terms of data and accurate reports in a time bound manner. The replies to their queries and requests are made without delays either over telephone/emails/faxes. We regularly interact with our stakeholders formally/informally in order to get a feedback on our products.

5. METHODOLOGY

5.1 What were the quantitative and/or qualitative targets or key performance indicators that were set for the implementation of the Best Practice? (Not more than 300 words)

(a) **Fulfilment of the requirement of stakeholders.** This is an important key performance indicator for our organisation. After the annual requirements from the stakeholders are obtained it is our endeavour to complete the Hydrographic survey in a time bound manner and deliver the product in a format which is usable by the stakeholder.

(b) **Achieving Quality Standards.** Our office is strictly guided by the quality standards laid down by the International Hydrographic Organisation. We employ various statistical tools available to ensure that the quality standards are met.

(c) **Number of surveys undertaken.** Since Mauritius has a large EEZ it is imperative for our office to undertake surveys in the field almost on a daily basis depending on the weather conditions and availability of a vessel. The extent of area surveyed is an important KPI for our office.

(d) **Daily Productivity.** We firmly believe to achieve maximum throughput in the field as the work involves numerous resources in terms of equipment, fuel and most importantly human resource. Therefore we endeavour that time is efficiently spent in field. We have defined the minimum targets to be achieved in terms of data collection during the field work and we strive hard to attain the same.

(e) **Expansion of Hydrographic Infrastructure.** We have a well-defined road map for the future in terms of improving the Hydrographic infrastructure. Based on this we prepare our Annual procurement plan for requisite equipment and software's.

5.2 (i) Describe in detail the involvement of employees and, if any, other stakeholders in the identification of the problem areas. (Not more than 300 words)

(a) **Employees.** Human Resource is the most important pillar of any organisation. Their involvement in problem identification is considered to be very crucial. Problems in our scenario may be classified into technical and non-technical problems. Technical problems are encountered in terms of equipment malfunction, software malfunction, engine issues related to the our Inshore Survey Vessel Pathfinder, non-availability of vessel of opportunity in time (due to external factors), lack of suitable equipment to perform a given task etc. The technical problems are identified by the employees and are reported immediately. The non-technical problems may be classified into communication problems within the team, personal problems leading to lack of productivity in the workplace, conflict of personal aspirations vis-à-vis broader organisational objectives, lack of resources etc. these are addressed by encouraging communication and amicable resolution of problems. The surveyors in our team are continuously encouraged to think how a process or a system can be improved and the problems preventing our organisation to be more efficient.

(b) **Stakeholders.** We encourage open communication with our stakeholders through meetings/phone/email/faxes etc. They help us to continuously improve our organisation in terms of processes and infrastructure. Stakeholders play an important role in addressing the gaps in our data coverage. The stakeholders' requests indicate the areas which have not been surveyed till date or may not have been updated. This feedback is very important for us as we can compile areas which require surveys and therefore plan our tasks accordingly. There are also some very specific requests from an organisation which require the possession of highly specialised equipment. On certain occasions it happens that the equipment is not available with our Office. This helps us in strategizing our infrastructure procurement plans.

(ii) How far were employees and, if any, other stakeholders involved in problem solving and decision making? (Not more than 300 words)

(a) **Employees.** Employees are extensively involved in the process of problem solving and decision making. Our team is encouraged to think out of the box and use innovative techniques in order to resolve issues. In case of technical problems related to equipment we have prepared certain trouble shooting steps based on the technical manuals, advice from the OEM and expertise which has been gained over the past years of experience. As far as decision making is concerned, internal meetings are held regularly during which the priorities of surveys are discussed, the modalities of resolving challenges expecting challenges are deliberated upon and a detailed plan is chalked out to complete a survey task.

(b) **Stakeholders.** Fortunately we have fostered a very good professional relationship with all our stakeholders over the past few years. Some of our stakeholders assist us in resolving certain major challenges. For instance we have signed a MoU with the National Coast Guard in order to help us to maintain ISV Pathfinder. It is due to their regular assistance which has enabled us to keep the vessel operational for most of the time. Further it because of the assistance that we receive from our stakeholders with regards to the provisioning suitable craft of opportunity, we are able to undertake surveys all around the Mauritius and outer islands. As far as decision making is concerned, the finalization of any survey task is done after due deliberation with the stakeholders. Whenever a requirement is projected, a coordination meeting is conducted with the stakeholder for further refining the project requirements. The inputs of the stakeholders are taken into account at planning stage. The best possible solution for the issue at hand is discussed with the stakeholder and changes if required are incorporated.

5.3 How was team work and team spirit fostered to achieve objectives? (Not more than 300 words)

(a) The members of the Unit have been selected such that the right person is at the right place. Furthermore, all members have the skills necessary to perform their jobs thus providing the necessary conditions for the Unit to thrive as a team.

(b) All surveyors are involved in planning the task and resolving the issues arising out of them. Idea sharing is also promoted through discussion (both formally and informally) and all members are invited to participate. The individual ideas are deliberated and implementable solutions are arrived for refining the overall plan.

(c) Though each individual has a defined area of responsibility, work load is shared amongst the colleagues in case of higher work load/ absence due to personal issues.

(d) Through regular get-togethers, members of the team are able to know each other's interests and values.

(e) Each individual is encouraged to excel in the professional field through focused training and monitoring. Necessary guidance in professional matters is provided by the management.

(f) It is also planned that teamwork and team spirit will be included as one of the key result area for assessing the performance of members of the Unit under the Performance Management System.

(g) All the team members have been aligned to the vision and objectives of MHS.

5.4 What were the measures taken to ensure that resources were used optimally? (Not more than 300 words)

(a) Through proper training and capacity building, officers of the Unit have been able to make optimum use of limited resources. Furthermore they are also able to perform multi-tasking.

(b) By respecting each individual and recognizing their efforts, the moral and productivity of Officers of the Unit have been enhanced.

(c) Equipment are handled with care to ensure that they remain operational for the maximum span of time possible.

(d) The use of office stationaries are analysed and audited regularly to prevent misuse and unnecessary wastage. Furthermore files, documents and other IT resources are deployed in a shared environment thus reducing considerably the use of paper and making optimal use of IT resources.

(e) The surveys are planned on the basis of requirements of stakeholders, equipment state, weather & sea conditions, tidal conditions and manpower availability. The survey orders are written on the previous day for allocating all tasks and responsibilities.

(f) The survey teams are briefed in detail prior departure to the field, to avoid any misunderstanding/ loss of time in the field. Necessary logistics are arranged beforehand.

(g) The survey equipment is maintained as per the OEM recommended schedule of preventive maintenance (rather than breakdown maintenance) to ensure optimal availability of equipment for deployment.

(h) The equipment is tested for serviceability at regular intervals and keep alive policy is followed even if they are not being deployed in the field for extended duration.

(i) The processing and compilation of survey data is carried out in accordance with Hydrographic Quality Assurance Instructions, thereby following an efficient workflow for the whole process.

6. IMPLEMENTATION OF THE BEST PRACTICE

6.1 Explain how the Best Practice was implemented. *(Not more than 300 words)*

The best practices were implemented in a systematic manner as enumerated below:-

- (a) **Consultation with National Stakeholders.** Apart from the seagoing fraternity, the organisations related to marine navigation, protection of marine environment, tourism, maritime security, scientific research, disaster management and ocean exploration have major stake in hydrographic services. The identified stakeholders are regularly consulted for their data requirements, areas for interest and are in parallel apprised of potential use of hydrographic services in their respective spheres.
- (b) **Compilation and Prioritisation of Hydrographic Requirements.** Coordination meetings are held yearly so as to compile detailed survey/ data requirements from all stakeholders. Requirements concerning expertise on matters related to coastal zone management, navigation and delimitation of maritime boundary emerged during the meetings. The requirements are prioritised based on available resources and importance of surveys towards maritime safety/ development projects.
- (b) **Asset Mobilisation and Management.** After the tasks have been prioritised, the assets are mobilised to the area of operation and the survey task undertaken.
- (c) **Training & Human Resource Development.** Trained and professional manpower is the bedrock of any successful organisation and certainly, one of the main pillars of dependable hydrographic services. Apart from regular in-house training the capacity is being developed through collaboration with International Hydrographic Organisation and ITEC courses.
- (e) **Enhancing Awareness about Hydrographic Services.** Being a novel field in the country, very few individuals are exposed to hydrographic profession and related services. Equipment demonstration, interaction at various forums and conduct of World Hydrography Day at a grand scale has contributed immensely towards increasing awareness about hydrographic services.
- (f) **Standards.** The Unit has establishing clearly defined procedures for data collection, processing, Quality Assurance, Quality Control and data archival based on the IHO standards so to meet accuracy requirements.
- (g) **Enhancing cooperation** with International Hydrographic Committee (IHO), South Africa & Islands Hydrographic Commission (SAIHC), North Indian Ocean Hydrographic Commission (NIOHC) and utilising their capacity building programs for meeting cartographic and hydrographic training requirements.
- (h) **Streamlining procedures** for correction, update and sales of nautical products. Focussing on providing updates to the mariner by establishing procedure for reporting,

collation of navigational dangers and issuing Navigational Area warnings through NAVAREA coordinator.

6.2 How were obstacles/bottlenecks resolved? (Not more than 300 words)

The obstacles/bottlenecks were resolved using a creative and innovative approach to problem solving.

(a) **Resources Sharing.** The Hydrographic Office had very little Hydrographic Infrastructure when it was initially set up. By collaborating with MOI and Ministry of Environment few of the Hydrographic equipment which they possessed were deployed. Hydrographic equipment were also obtained through international collaboration which included ISV Pathfinder, Side Scan Sonar, Echo Sounder along with Processing and Data collection software's obtained from Government of India. One echo sounder was also obtained from the Government of Japan.

(b) **Capacity building.** The capacity of the team was systematically enhanced by in-house training and also by deputing personnel to USA, India, China, Canada etc. for short and long courses.

(c) **Enhancing of Hydrographic Infrastructure.** The Hydrographic infrastructure of the Mauritius Hydrographic Service was enhanced on a progressive way by designing a short and long term plan for procurement, depending on the availability of funds vis-à-vis the need for the equipment.

(d) **Limitations of ISV Pathfinder.** Considering the limitation of deploying ISV Pathfinder very far away from Port Louis Harbour, requests were made to National Coast Guard and Ministry of Fisheries to use the vessels from their posts which were closer to our area of operation. Thereafter innovative techniques were developed by our team to deploy the Hydrographic equipment from such crafts of opportunity.

6.3 State specifically how the health and safety issues and environment-friendly concepts were taken on board while implementing the Best Practice. (Not more than 300 words)

Hydrography is a sea-going profession and carries the inherent risks associated with such a profession. However, the risks have been brought to absolute minimum through following measures:-

(a) All surveyors wear Safety of life at Sea (SOLAS) approved, auto inflatable life jackets, while proceeding to sea. Personnel are briefed prior to each deployment on safety issues.

(b) The surveyors are insured for grievous injury/ death by the Ministry of Housing & Lands while proceeding on a survey craft for sounding operations.

- (c) First aid box has been placed in ISV Pathfinder, which is regularly replenished. Surveyors carry first aid kit along with them, for treating minor injuries during fieldwork.
- (d) To enhance safety of life at sea, Inshore Survey Vessel Pathfinder has been fitted with Emergency Position Indicating Radio Beacon (EPIRB) and VHF (Very High Frequency) Radio for maintaining communication with shore authorities and nearby vessels.
- (e) Survey crafts have global positioning system for communicating accurate position in case of distress.
- (f) Physical fitness of the survey crew is assessed prior deployment. Only fully fit individuals are deployed for survey tasks.
- (g) In case survey team proceeds onboard a Craft of Opportunity, continuous contact with shore authorities is maintained.
- (h) The office environment, workstations and equipment are conducive towards occupational safety and health.

6.4 Explain the monitoring and feedback process during the implementation of the Best Practice. (Not more than 300 words)

Feedback is very important for us as it enables us to continually improve upon our processes and make them more efficient. In our scenario, we lay stress on obtaining external and internal feedback. The external feedback is obtained from the stakeholder organisations for whom we undertake survey operations. Whenever a survey task is undertaken, the resultant data is delivered in consonance with the requirements of the customer. In case any additional data/ bathymetric sheet/ ancillary records are required to further support the results of the survey, same are provided after due approval. The customers are encouraged to provide inputs regarding the delivered products telephonically/ by e-mail.

A daily internal feedback is obtained from the surveyors proceeding on the field. The challenges encountered for the day are discussed which may include malfunction of electronics, delays in availability of vessel, suitability of survey planning for the day and other technical/administrative issues. On obtaining the inputs, efforts are made to make the next day's operation more efficient.

We also provide regular feedbacks to the Senior Chief Executive (SCE) of our Ministry. All the tasks undertaken by us, major achievements and challenges faced are communicated to SCE through proper channels on a regular basis.

6.5 Name at least two risk factors that arose in implementing the Best Practice and explain those factors and/or risks briefly. (Not more than 200 words)

Weak Definitions of Requirements and Scope from Stakeholders

During compilation and prioritisation of requirements received from stakeholders, it was observed that a few requirements were not clearly defined which may have resulted in the requests not being processed effectively. This may also be due to the fact that

hydrography is quite a new field in Mauritius and requirements may not align to the objectives of the Unit. In order to overcome the problem, stakeholders are encouraged to submit their requirements in a predefined tabular format so that they do not miss essential specifications. Meetings, emails and phone calls are also used to clear doubts and avoiding changes in the scope and objectives once the project has started. Stakeholders are also encouraged to rope in the project during surveys to further increase their involvements.

Insufficient Staffing

The Mauritius Hydrographic Service consists of seven permanent staff and the risk no to attend to the growing requests from stakeholders in a timely manner exists. Thus the Unit has facilitated the training (through in-house training and international collaborations) of additional staff from the Ministry of Housing and Lands to provide support as and when required. Furthermore a mechanism has also been established to obtain assistance and support from other Ministries and Institutions such as the National Coast Guard and Fisheries Department for undertaking survey works.

7. EVALUATION OF THE BEST PRACTICE

7.1 Explain how was the evaluation of the impact of the Best Practice conducted? (Not more than 300 words)

The best practices followed by MHS are evaluated on a continuous basis which motivates our team to continuously improve our processes. The Hydrographic survey data collected in the field are run through stringent QA/QC processes as laid down by International Hydrographic Publications like SP-44 and Hydrographic Quality Assurance Instructions Standards (HQAIS). Only the data which qualifies the standards are thereafter compiled to be handed over to the respective stakeholder.

On completion of the survey, an error budget is prepared which takes into account around 15 factors which would define the quality of the collected data. This matrix gives us an indication about the quality of data which has been collected.

Further, based on the feedback from our stakeholders we continuously improvise in order to ensure that the requirements of our customers is met at all time.

As brought out earlier, internal feedback is also taken on a daily basis (whenever a team goes to field) which helps us to evaluate our processes and improve upon the same to make our operations much more efficient and cost effective.

The work undertaken by our office has been internally recognised by Commonwealth Association of Public Administration and Management (CAPAM) in 2018. Amongst numerous cases submitted by common wealth countries, the project submitted by MHS titled “*Impact of Hydrographic Services in Mauritius*” was selected amongst the top three finalist under the category “Innovation Incubation”.



Our efforts have also been recognised by an International Hydrographic Review which is an International Journal. Our article titled “*Establishing Hydrographic Services in Mauritius*” has been published in November 2018 edition of the journal. The article is available at <https://www.iho.int/mtg_docs/IHReview/2018/IHR_November2018.pdf>

7.2 Describe the impact of the Best Practice on the level of services provided to key customers and on the environment, society. (Not more than 300 words)

Mauritius Hydrographic Service is working in a close collaboration with the following stakeholders:-

- (a) Mauritius Oceanographic Institute
- (b) Continental Shelf Maritime Zones Administration and Exploration
- (c) Mauritius Port Authority
- (d) Mauritius Research Council
- (e) Mauritius Meteorological Services
- (f) Ministry of Tourism
- (g) Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
- (h) National Coast Guard
- (i) Ministry of Environment
- (j) National Disaster Risk Reduction and Management

Numerous surveys have been undertaken for the stakeholders since the inception of MHS.

Hydrographic surveys provide the base layer for environmental monitoring, impact modelling and consequence management. Physical environmental characteristics, such as bathymetry, are required to support numerical modelling efforts in order to provide accurate representations of the impact from a variety of man-made and naturally occurring events. The pre-requisite for undertaking marine Environmental Impact Assessment is the knowledge of bathymetry.

Hydrographic data is being used to model storm surges and design Tsunami warning systems by agencies like Mauritius Meteorological Services and NDRRMC.

8. REPLICATION TO OTHER ORGANISATION

8.1 How can the Best Practice be replicated to other organisations?

The growth of Mauritius Hydrographic Service has been a unique blend of national efforts and international cooperation. This model can be replicated by other coastal states and island nations which do not presently have the capacity to undertake Hydrographic Surveys.

We strictly adhere to the standard operating procedures which have been streamlined over the years of experience and analysis to ensure our products meet stringent international standards. This commitment of ours to provide high quality data to our customers may be replicated.

Our team employs innovative techniques in order to achieve optimal efficiency with limited resources and also to overcome the difficult weather and sea conditions.

We believe the most important asset of an organisation is Human Resource which needs to be given the right tools / capacity to perform the tasks effectively and efficiently.

Good governance measures followed by our organisation which have been enumerated earlier are indispensable for the smooth running of any organisation.

8.2 Based on your organisation's experience, name up to three factors which you consider as indispensable to replicate the Best Practice. (Not more than 200 words)

(a) **Collaboration with International and National Agencies.** Mauritius is a member of International Hydrographic Organisation since August 2005. We are also a member of two Regional Hydrographic Commissions namely South African and Islands Hydrographic Commission (SAIHC) and North Indian Ocean Hydrographic Commission (NIOHC). Our collaboration with these International organisations have helped us immensely especially in the field of Capacity Building. Our Officers under their funding have followed courses abroad. This has helped our unit to develop requisite competent Human Resource. We also share strong Hydrographic ties with India and have entered into a mutually beneficial agreement since 2005. Under this MoU almost 30 major surveys have been carried out by Indian Naval Hydrography department which has led to the production of 08 Navigational charts and 10 Electronic Navigational Charts. We also collaborate with a number of National Stake Holders in regards to data and

resource sharing. Collaboration with International and National Agencies is a key factor to achieve desired results.

(b) **Commitment.** We have a strong commitment to fulfil the requirements of our stakeholders in a time bound manner. To achieve this there have been numerous occasions during which we are required to undertake surveys in harsh sea and weather conditions. The common vision to which our entire team is aligned helps us to foster a strong team spirit and achieve our goals. Commitment of the entire team to the aim and vision of the organisation is considered critical

(c) **Innovation.** As it is with most of the organisations we are also restricted in the available resources and time. One best practice that we consider important is to constantly innovate and try to maximise the use of available resources. Innovation and creative thinking is one of the most important pillar of Best Practices in an organisation.