

**MINISTRY OF AGRO-INDUSTRY, FOOD
SECURITY, BLUE ECONOMY AND FISHERIES**

**ALBION FISHERIES RESEARCH
CENTRE**

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ALBION FISHERIES RESEARCH CENTRE

*February 11,
2025*

ALBION FISHERIES RESEARCH CENTRE (AFRC)

- Established in 1981/1982
- With the assistance of JICA
- Operational since June 1982
- AFRC - technical arm of the Fisheries Division
 - Carry out management/research activities
 - Consist of the scientific and technical grade supported by administrative staff and manual workers.
 - Include an Administration Block, Laboratories, Hatcheries, Aquaculture Ponds, Documentation Unit and Vessel Monitoring System (VMS) Centre.

MAIN OBJECTIVES OF THE AFRC

- ❑ Carry out research and studies needed for sustainable development, exploitation and management of marine living resources (fish stocks, coral reef etc.).
- ❑ Promote and protect and conserve the marine ecosystems (conservation and management measures; legislations; surveys and monitoring).
- ❑ Provide support services to stakeholders of the fishing industry (including those involved in aquaculture development).
- ❑ Carry out lagoon fish stocks replenishment through marine ranching (e.g., cordonnier, guele-pavee).
- ❑ Carry out collaborative research and management with international institutions (e.g., UNDP; JICA; Eco-fish; IOTC, etc).
- ❑ Provide advice to policy makers on matters related to the management and development of living marine resources (e.g., octopus closures; sea cucumber moratorium based on science-based evidences).



**Divisions at
AFRC**

1

MARINE SCIENCE DIVISION

2

MARINE CONSERVATION DIVISION

3

LABORATORIES DIVISION

4

MARINE RESOURCES DIVISION

5

AQUACULTURE DIVISION

6

INFORMATION AND DOCUMENTATION CENTRE

7

FISHERIES MONITORING CENTRE

MARINE SCIENCE DIVISION

- Responsible for the long-term protection and conservation of the marine ecosystems for sustainable use of marine resources.
- Collection of data on the ecology of coral reefs, mangrove and seagrass ecosystem to assess the status of marine environment for sustainable management and decision making.

List of activities

- ❖ Long-term monitoring of the [Coral Reefs](#)
 - ✓ Presently 16 stations are monitored at selected sites around the island [forereef, backreef, shoreline].
 - ✓ Undertake measures to control population outbreaks of Crown of Thorns.
 - ✓ Carry out community-based coral farming (National Environment and Climate Change Fund [NECCF]).



SETTING CORAL NURSERY



CORAL NURSERY



CORAL NURSERY

MARINE SCIENCE DIVISION

❖ Conservation of seagrass ecosystem.

- ✓ Seagrass Project 1: “*Seagrass Conservation and Management in Mauritius*”.

Mapping of seagrass species, density and abundance and monitoring of seagrass bed’s health.

- ✓ Seagrass project 2: “*Seagrass and Blue Carbon Assessment in Mauritius: Relevance for Marine Spatial Planning & Sustainable Management*” funded by UNEP and comprise four component.

1

Seagrass
Assessment
around the
island

2

Seagrass
Monitoring
Program

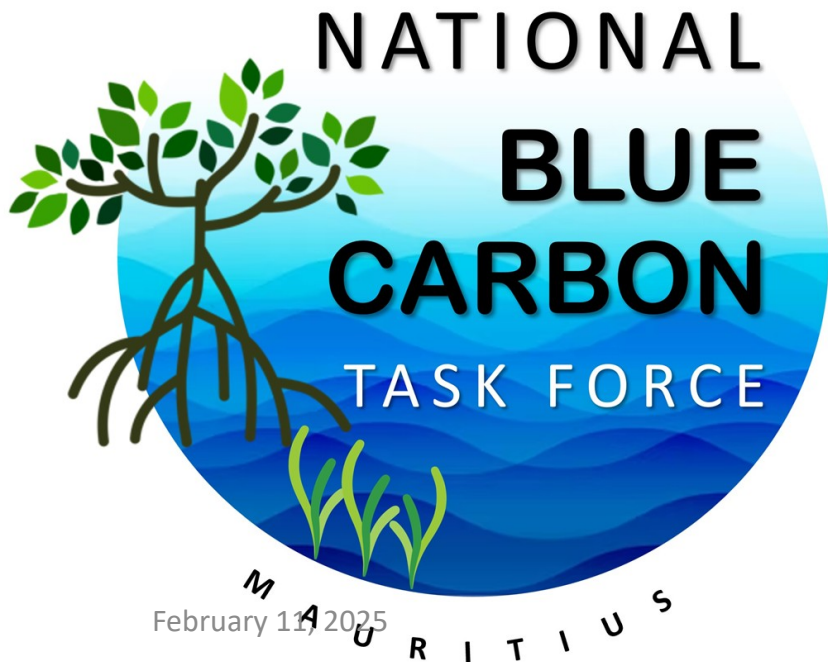
3

Blue Carbon
Storage
Capacity in
Seagrass

4

Sensitisation &
Awareness
programme

MARINE SCIENCE DIVISION



➤ Setting up of the **National Blue Carbon Task Force**

- Establishing the Blue Carbon Financing Structure by 2027.
- Set up in 2024.

➤ Implement **Mangrove Propagation Programme**

- Started since 1995 to rehabilitate denuded areas around Mauritius. As at date some 400 000 propagules/seedlings have been planted over an extent of 20 ha at 21 locations.
- The mangrove cover extend to 243 ha (both planted & natural).
- Mangroves are protected species under the Fisheries Act 2023.



Save our Planet Protect our mangroves

Mangroves provide ecosystem services, regulate natural processes, support fisheries and biodiversity

1 **RISK PROTECTION:**
Lives and Property

2 **CLIMATE CHANGE:**
Absorb more CO₂, store carbon than rainforest & protect from sea level rise

3 **MANGROVE ROOTS:**
Improve water quality and clarity, absorb pollutants and trapping sediments

4 **FISHERIES:**
Provide livelihood for people who live and fish for food

5 **REFUGE & BREEDING GROUND FOR BIRDS**

6 **NURSERY OR HATCHERY:**
Provide habitat and ground for up to 25% of commercial fish, crabs and shrimps

Mangroves are salt tolerant trees or large shrubs which grow between land and sea forming unique ecosystem and provide economic benefits and numerous ecosystem services. Thus there are two species of mangroves namely *Rhizophora mucronata* and *Bruguiera gymnorhiza*. Under the Fisheries and Marine Resources Act 2007, it is prohibited to cut, take, remove or damage mangroves.

Help us protect our Mangroves & Thank you for your support

Ministry of Blue Economy,
Marine Resources, Fisheries & Shipping

Tel: 228 2829/21 00 Fax: 228 2189
Email: blueconomy@gov.mu.org

Sensitisation Campaign on Mangroves

❖ Stranded/dead cases of marine mammals and sea turtles

- ✓ Action Plan for Stranded Marine Mammals/ Turtles to attend to cases of stranded or dead marine mammals/ turtles



**Wounded
Dolphin**



Stranded Seal



Dead Dolphin



Dead Turtle

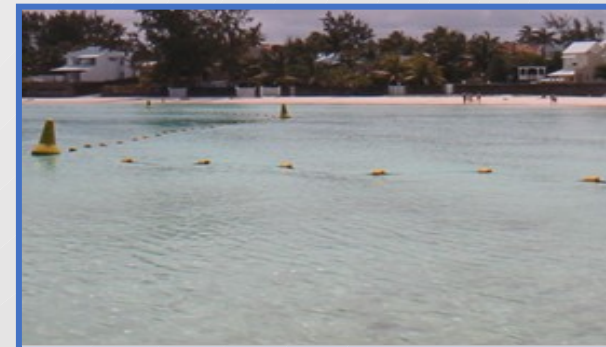
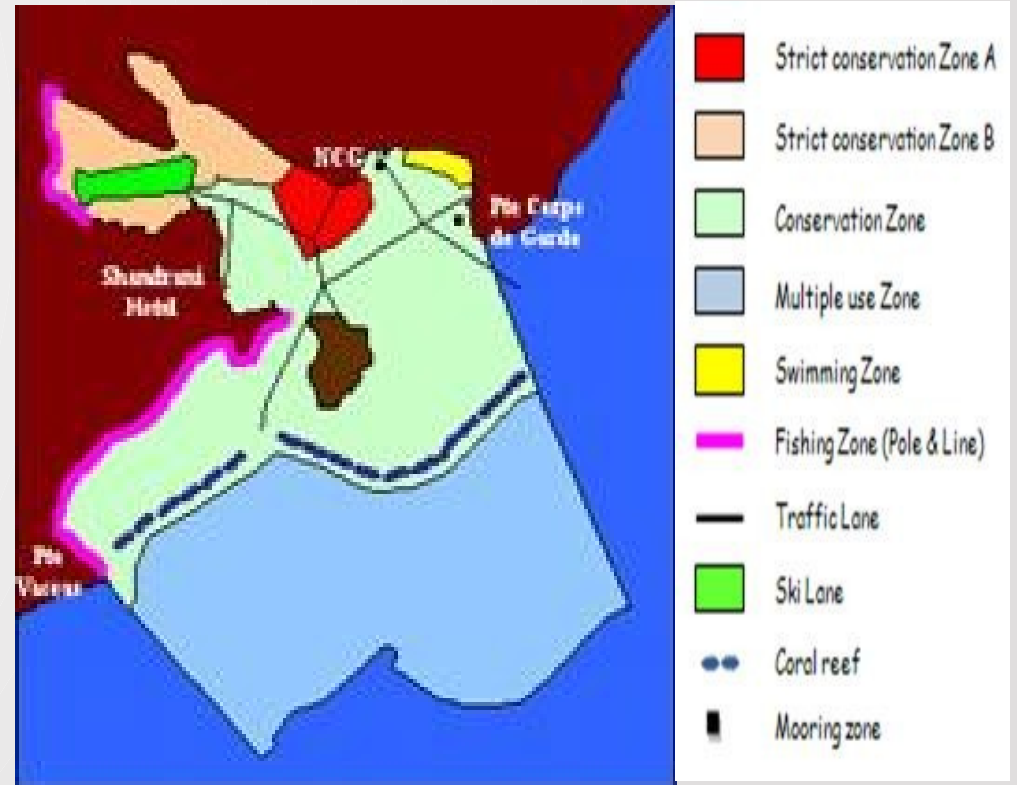
❖ Coastal development works



MARINE CONSERVATION DIVISION

- Responsible for the long-term protection and conservation of marine bio-diversity and habitats for sustainable use.
- Maximizing economic and social benefits derived from the coastal zone.
- Management of Marine Protected Areas (MPAs).
- Assess Environmental Impact Assessment (EIA)

Blue bay marine park



Swimming zone



Traffic lane

MARINE CONSERVATION DIVISION

- Carry out Post-EIA/PER monitoring for works in the coastal zone.
- Assess and make recommendations on proposals for coastal development and tourism related projects.
- Monitor state of corals, seagrass and associated biota, through field and underwater surveys, in Marine Protected Areas and coastal waters.
- Underwater ecological surveys for coastal development and tourism related projects such as undersea walk activities, demarcation of swimming zones, construction of jetties and the placing of platforms.
- Regulate permissible activities through the issue of permits for the Blue Bay Marine Park and interference permits for the other Marine Protected Areas.



MARINE PROTECTED AREAS (MPAs)

 **Balaclava**
(485 ha)

 **Port Louis**
(331 ha)

 **Rivière Noire**
(797 ha)

 **Marine Park**
 **Fishing Reserve**



 **Poudre d'Or**
(2542 ha)

 **Poste La Fayette**
(280 ha)

 **Trou d'Eau
Douce**
(574ha)

 **Grand Port**
(1828 ha) Zone A

 **Blue Bay** (353 ha)

 **Grand Port**
Zone B

LABORATORIES DIVISION

**LABORATORIES
DIVISION**

**Marine
Chemistry
Laboratory**

**Marine
Microbiology
Laboratory**

**Fish Toxicity
Laboratory**

**Quality Control
Unit**



LABORATORIES DIVISION

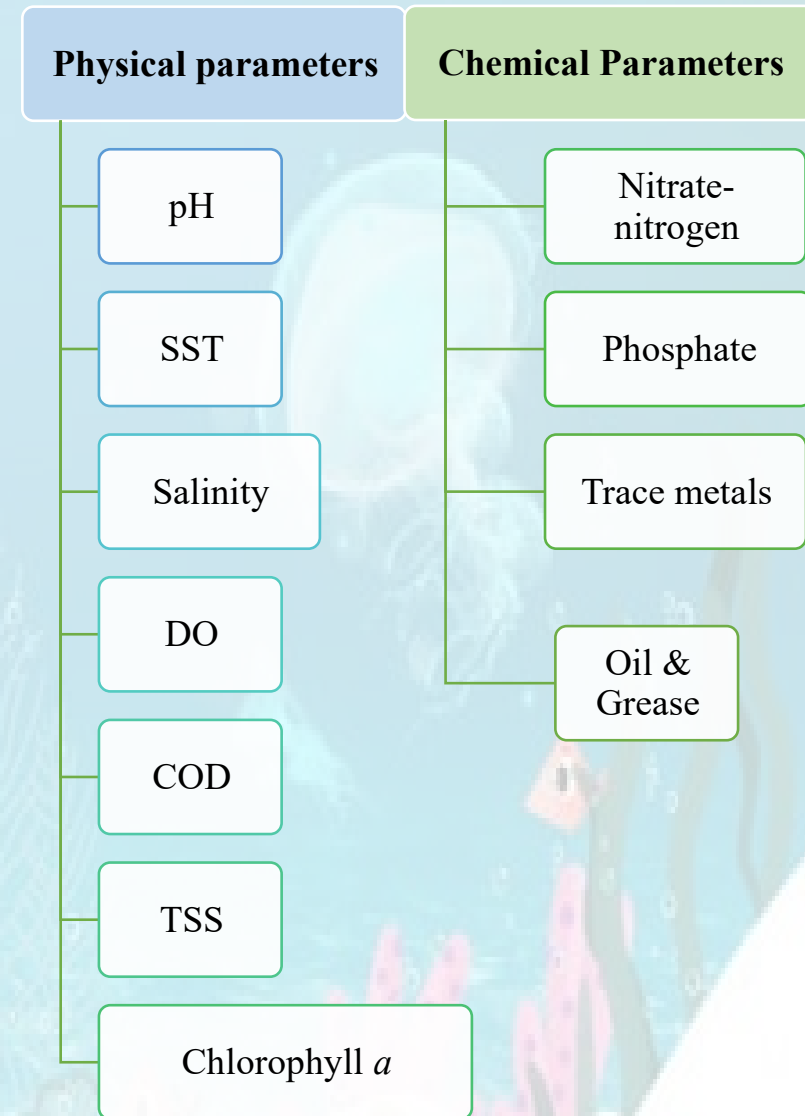
- Instill highest standard of quality for the testing of seawater, the screening of fish for toxicity and dispensing associated services in view of monitoring, protecting, conserving marine resources and safeguarding public health.
- The Marine Chemistry and Marine Microbiology Laboratories of the division are accredited to MS ISO/IEC 17025:2017 Standard.
- Long term monitoring of coastal water quality in terms of physico-chemical parameters at established sites to study the trends in water quality characteristics in accordance to the Guidelines for coastal water quality (1999).
- Long term monitoring of coliform bacteria at public beaches.



LABORATORIES DIVISION

Marine Chemistry Laboratory

- ✓ Undertakes long term monitoring of seawater quality at 30 permanent representative sites including mari-culture farms; marine parks; sewage outfalls; and harbour.
- ✓ It involves collection and analyses of seawater for physico-chemical parameters and monitoring data are compared with the limits of the **Guidelines for Coastal Water Quality 1999**.



LABORATORIES DIVISION

Marine Microbiology Laboratory

- ✓ Undertakes long term monitoring of the levels of coliform bacteria at 13 public beaches to ensure safety of beach users.

Parameters monitored:

1. Total Coliform;
2. Faecal Coliform;
3. E. Coli; and
4. Enterococci



Setting up filtration membrane

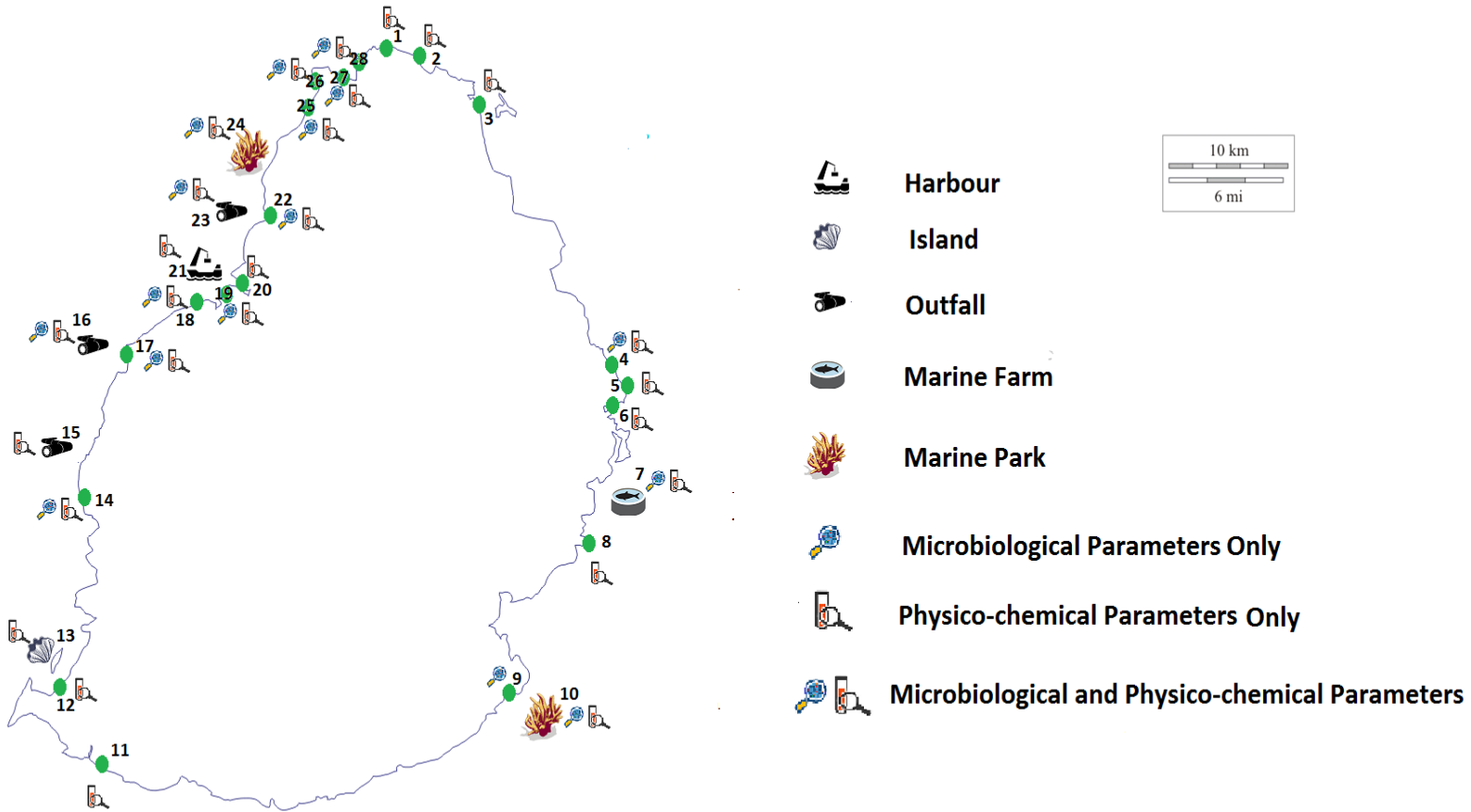


Collecting filter membrane in petri plates



Incubation

Monitoring sites for microbiological and physico-chemical parameters



1. Bain Boeuf
2. Anse La Raie
3. Poudre d'Or
4. Belle Mare
5. Palmar
6. Trou d'eau douce
7. Ferme marine de Mahebourg

8. Bambous Virieux
9. Blue Bay Public Beach
10. Blue Bay Marine Park
11. Bel Ombre
12. Le Morne
13. Ile aux Benitiers
14. Flic en Flac

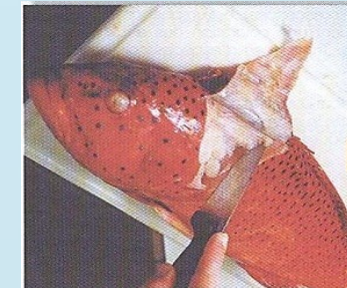
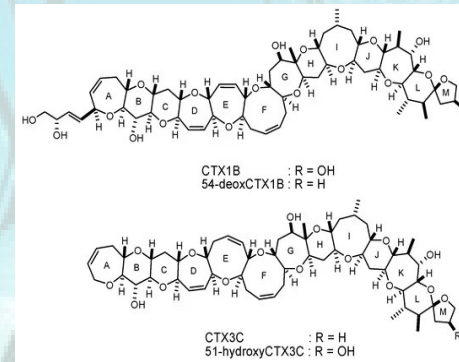
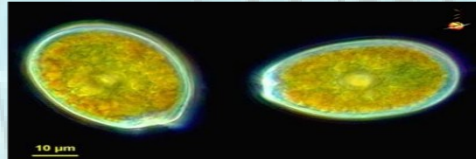
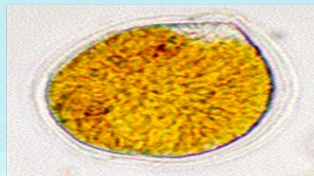
15. Pointe Moyenne Outfall
16. Montagne Jacquot Outfall
17. Albion
18. Pointe aux Sables
19. Sable Noir
20. Bain de Dames
21. Port Louis Harbour

22. Baie du Tombeau/Le Goulet
23. Baie du Tombeau Outfall
24. Balaclava Marine Park
25. Troux aux Biches
26. Mon Choisy
27. Grand Bay
28. Pereybere

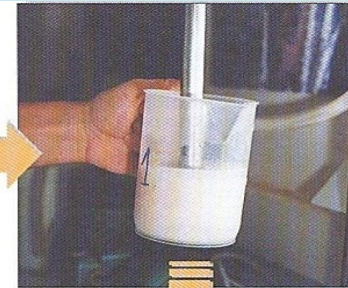
LABORATORIES DIVISION

Fish Toxicity Laboratory

- ❖ Conduct test on fish samples to detect presence of ciguatoxin;
- ❖ Screen fish deemed to cause ciguatera fish poisoning;
- ❖ Long term monitoring of harmful marine microalgae in the lagoon at established coastal sites;



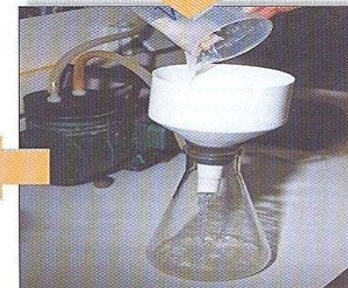
Step 1: Fish is measured, weighed and sample is collected



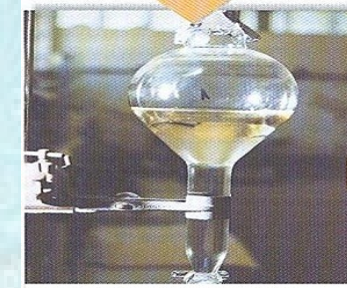
Step 2: Sample is crushed and mixed in solvent



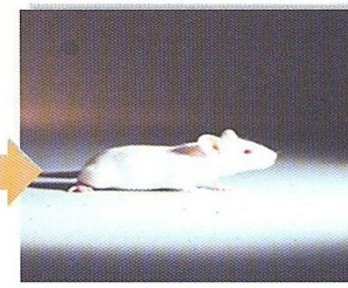
Step 4: The filtrate is evaporated in a Rotavapour



Step 3: Mixture is filtered; steps 2 & 3 are effected several times



Step 5: Sample is purified using liquid-liquid separation



Step 6: The different steps are tested on mouse

LABORATORIES DIVISION

Ad hoc Cases

- Attend to reported cases of fish kills, algal blooms and marine pollution including oil spills;
- Undertake analyses of seawater and fish in view to determine the causes.



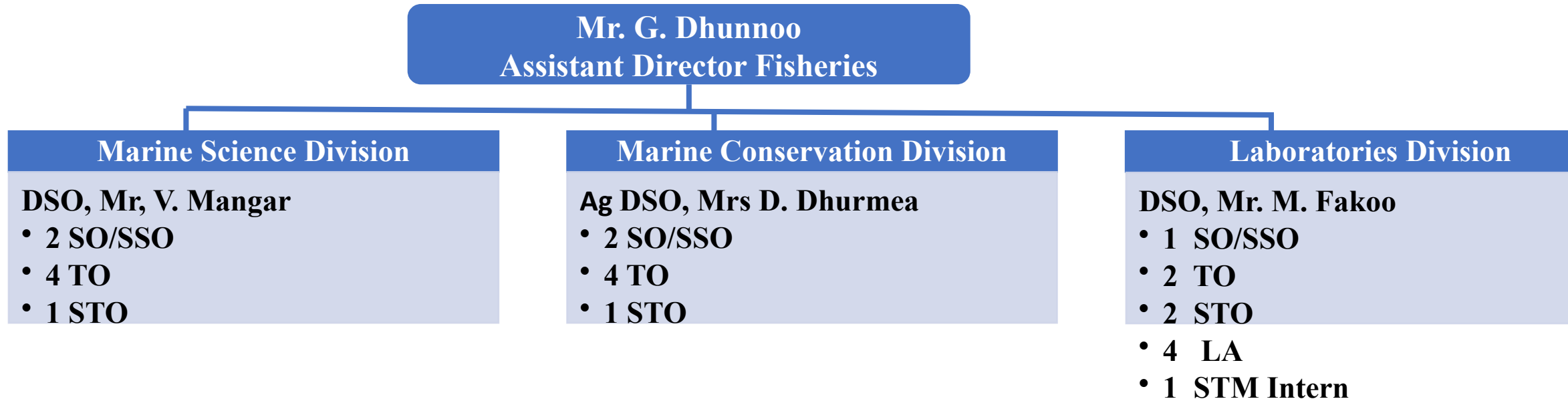
ON-GOING MAIN PROJECTS

- ❑ **Assistance scheme for coral farming and fish breeding programme.**
 - ✓ The project is being funded by the National Environment and Climate Change Fund, and implemented jointly with MOI. It involves the training of registered fishers and applicants in two techniques of coral farming. The objective is to train 100 trainers and 300 trainees in coral table technique and rope nursery technique in 4 regions around the Island (Belle Mare, Bel ombre, Le Morne and Grand Gaube).

- ❑ **JICA Project for the Development of Integrated Coastal Ecosystem Management System in the Republic of Mauritius**
 - ✓ It is a technical cooperation between the Fisheries Division and the Japan International Cooperation Agency (JICA) aiming to restore the coastal the southeastern area of Mauritius, affected by the ship-grounding and other anthropogenic impacts (2022 -2027).

- ❑ **UNDP/Adaptation Fund “Restoration Marine Ecosystem Services by Rehabilitating Coral Reefs to meet a Changing Climate Future” Project.**
 - ✓ The objective of this Project is to reduce the impact of climate change on local communities and coral reef dependent economic sectors in the Republic of Mauritius and the Republic of Seychelles by implementing coral reef restoration with thermal tolerant corals as adaptation to climate change.

ORGANIGRAM



Challenges And Constraints

- **Budget constraints**
- **Staffing issues**
- **Facility limitations**
- **Equipment availability**
- **Collaborative limitations**
- **Data management issues**

An underwater scene with a blue background. In the center, a large blue rectangular box with rounded corners and a drop shadow contains the text "THANK YOU" in a bold, black, serif font. The box has a white scroll-like effect on its top and bottom edges. The background features two large, glowing jellyfish, one on the left and one on the right. Several smaller jellyfish are scattered throughout the water. In the foreground, there are green seaweed-like plants and pink coral. A few small orange fish are visible near the bottom right. The overall scene is bright and colorful, with a soft, ethereal glow from the jellyfish.

THANK YOU