

Ensuring food security in Africa through Sustainable aquaculture

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Sustainable Marine Aquaculture in Mauritius: Challenges and Opportunities



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Introduction

- Aquaculture (History)- Fattening of fishes in Barachois.
- Government has recently embarked on a new sector for the economy, namely the ocean. Aquaculture is key among the various activities identified for future development. Not only will it represent a new income and employment generating activity, it will also contribute to national food security.

Types of Marine Aquaculture in Mauritius

1. Barachois
2. Oysters farm (lagoonal)
3. Floating cage lagoonal aquaculture



Milestone in Aquaculture Development

Sites (2007)



NEW



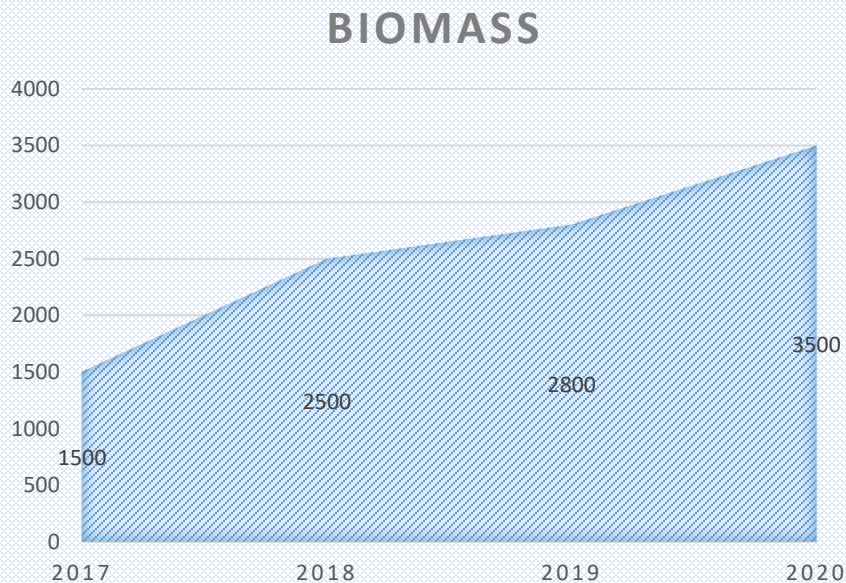
31 sites for marine aquaculture

Ferme Marine de Maheboug Fish Farm

Lagoonal Floating Cage Aquaculture

Red drum and seabass

FMM has more than doubled the production at sea in the last 4 years from 1500 tons of biomass at sea to 3500 tons in 2020





Lagoonal floating cage aquaculture

Government Initiative for fisher people

- Support to fishermen communities
- Provision of aquaculture system and rabbit fish (*Seganus sutor*)

Challenges: Training need and adequate facilities

Environmental Assessment

- 48 species of seaweeds
- 110 species of corals
- 132 species of fish
- And various other species of marine organisms

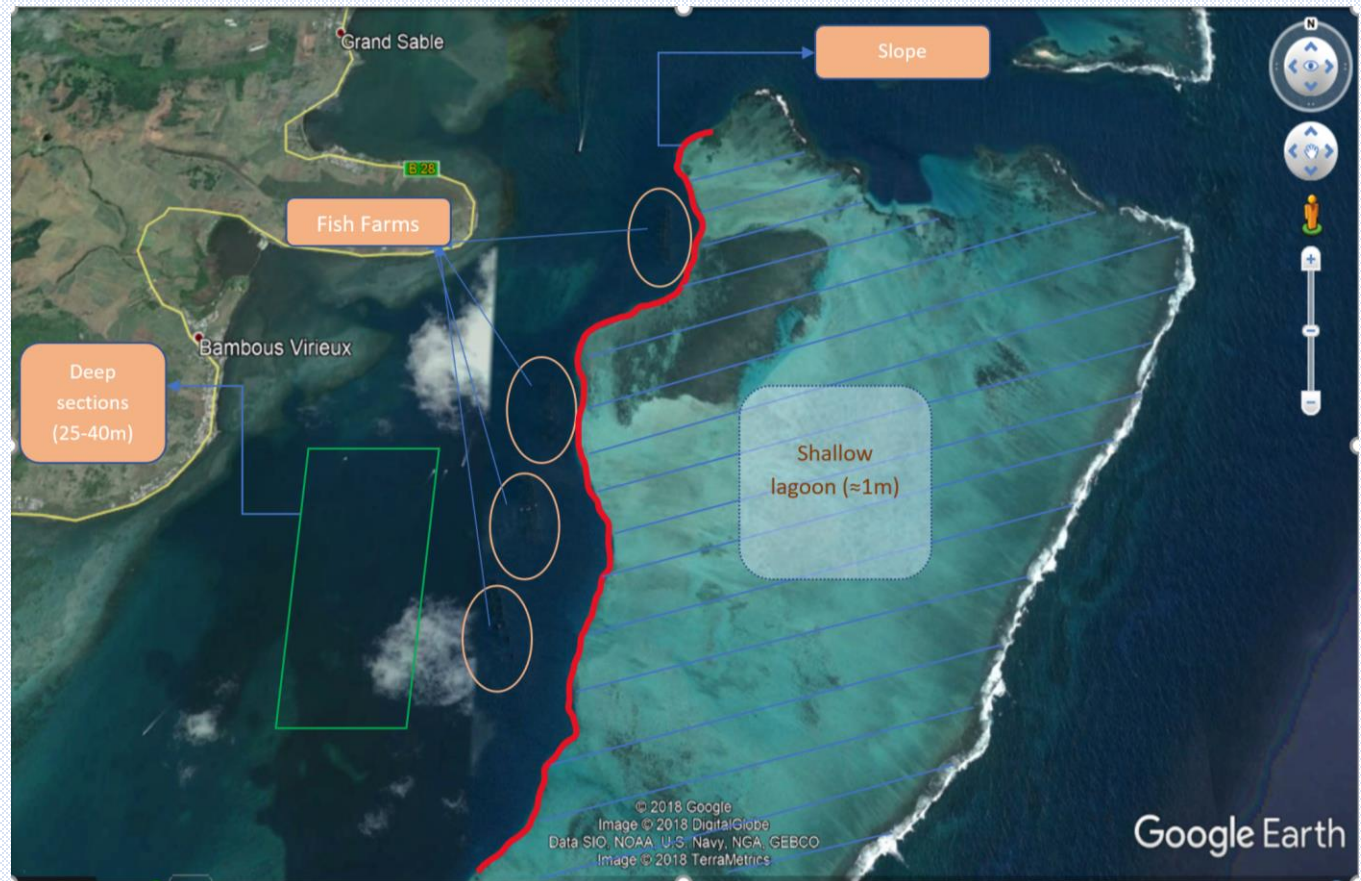
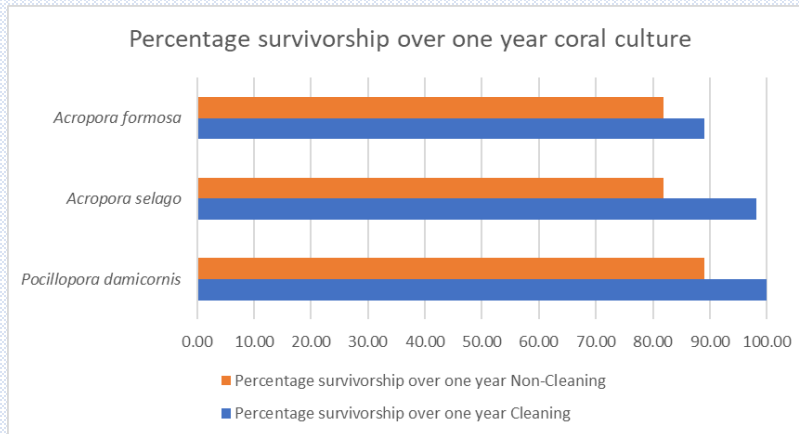


Figure 11: Map showing the marine biodiversity surveys. (Source: Google Earth)

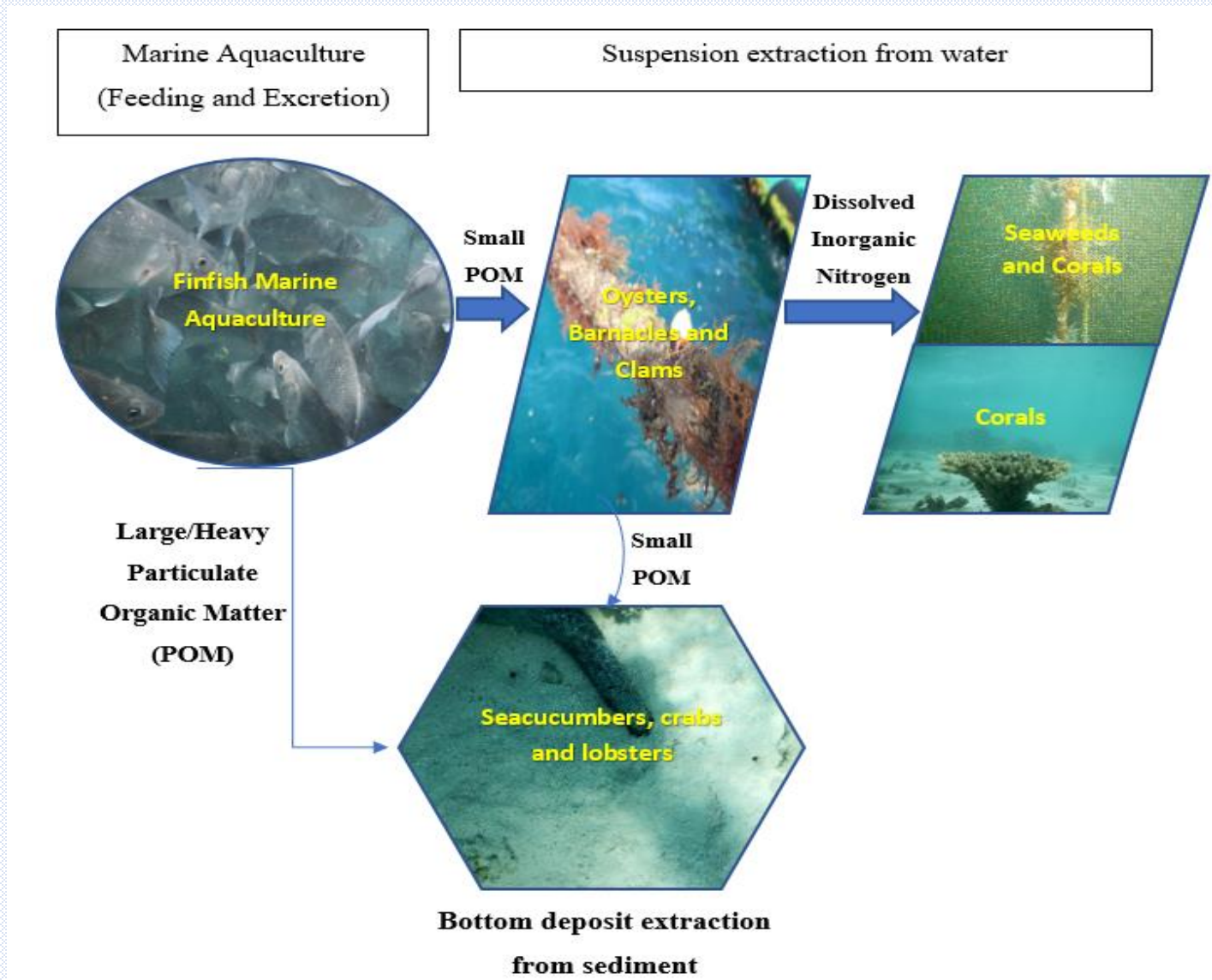
Corals



Phytoplankton

		Phytoplankton Density			
Stations		Amount Cells/L (n=3)			
		Summer	Winter	Summer	Winter
		Jan-16	Jul-16	Jan-17	Jul-17
Trou-aux-Biches Proposed Aquaculture Site (TABPMA5)	Total Phytoplankton Density (TPD)	$2.68 \times 10^4 \pm 4.10 \times 10^3$	$15.01 \times 10^3 \pm 10.51 \times 10^3$	$2.94 \times 10^4 \pm 2.11 \times 10^3$	$12.25 \times 10^3 \pm 1.24 \times 10^3$
Trou-aux-Biches Lagoon (TABL)		$2.01 \times 10^5 \pm 1.63 \times 10^4$	$1.92 \times 10^4 \pm 0.57 \times 10^3$	$2.07 \times 10^5 \pm 2.01 \times 10^3$	$1.76 \times 10^4 \pm 6.02 \times 10^3$
Fish Farm Site (FFS1)		$7.45 \pm 1.02 \times 10^6$	$3.51 \pm 0.27 \times 10^5$	$7.08 \pm 3.11 \times 10^6$	$6.24 \pm 2.03 \times 10^5$
Fish Farm Site (FFS2)		$8.28 \pm 1.17 \times 10^6$	$4.62 \times 10^5 \pm 6.55 \times 10^2$	$8.57 \pm 5.81 \times 10^6$	$4.72 \pm 2.21 \times 10^5$
Mauritius Ports Area (MPAS1)		$9.87 \pm 2.03 \times 10^6$	$6.07 \times 10^5 \pm 3.04 \times 10^3$	$8.04 \pm 2.52 \times 10^6$	$5.85 \pm 0.21 \times 10^5$
Mauritius Ports Area (MPAS2)		$7.53 \pm 2.29 \times 10^6$	$5.88 \pm 1.44 \times 10^5$	$9.23 \pm 2.33 \times 10^6$	$5.97 \pm 0.79 \times 10^5$
Balaclava Lagoon (BL)		$6.24 \times 10^5 \pm 2.06 \times 10^4$	$8.52 \times 10^4 \pm 1.24 \times 10^3$	$5.77 \times 10^5 \pm 3.23 \times 10^3$	$3.02 \pm 1.06 \times 10^3$

Potential for an Integrated Multi-Trophic Aquaculture



Challenges

Covid-19

- **95% of marine aquacultured product are exported;
40% USA – 40% EU – 20% Others**
- **Since lockdown no export (No Airlines)**
- **Local customers (hotels and restaurants also non-operational)**
- **More expenses in keeping fish in cages**
- **Higher risk of mortality and losses**

