# ALGOPLASTIK

## Pu enn Moris dirab

Yeshika | Kailesh | Doovesh | Isfaaq

# OUR TEAM

*our people*

**YESHIKA**

Research Assistant

**KAILESH**

Mechanical Engineering student

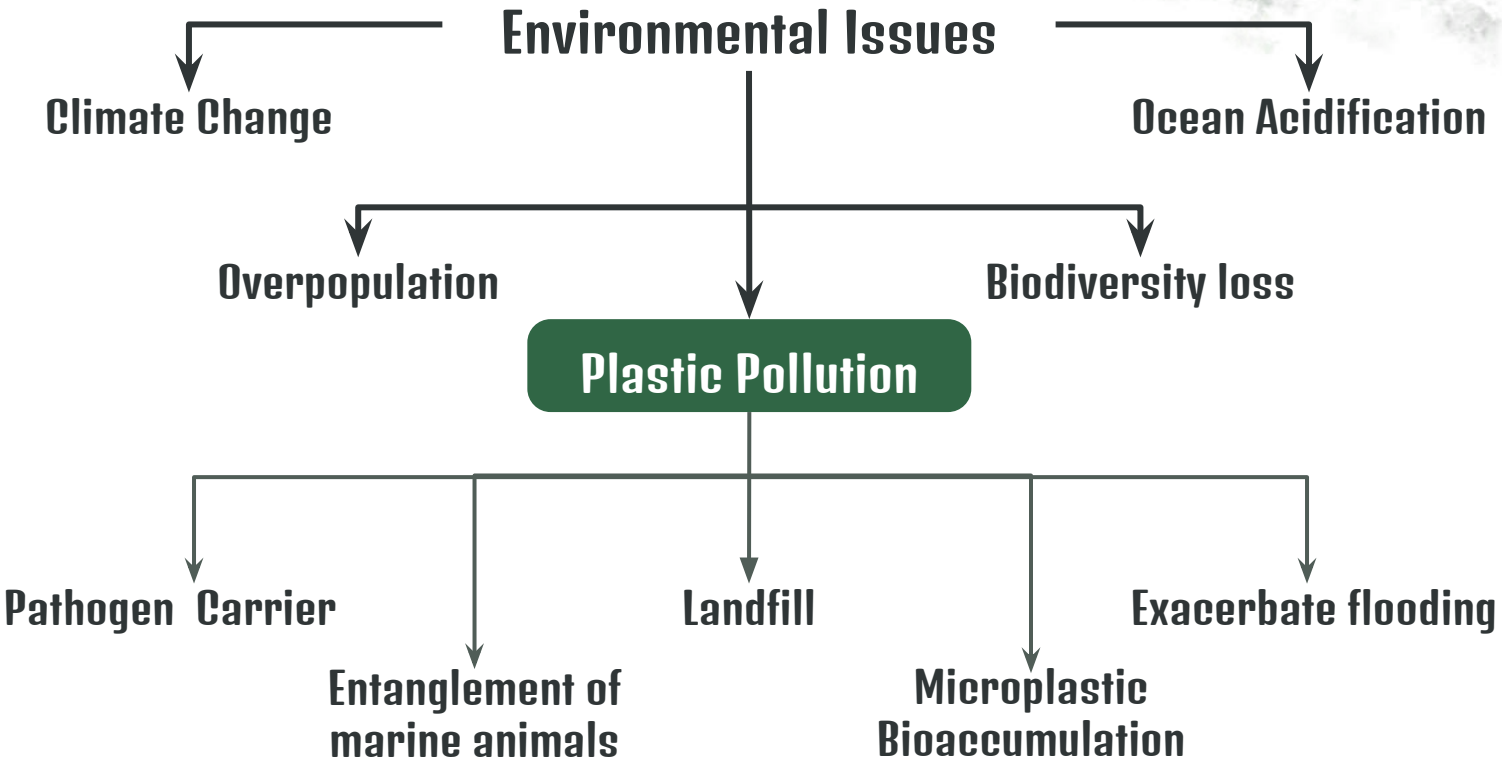
**DOOVESH**

ICT student

**ISFAAQ**

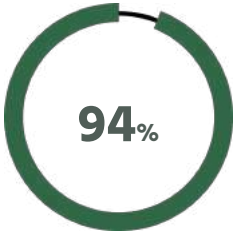
Programmer

# Why this project?



# SURVEY *gathering opinions*

- Conducted an online survey to
- find the true cause of plastic pollution in Mauritian society
- Some key findings;




Acknowledge plastic pollution is an issue in Mauritius


Say that single use plastic is the main contributor to plastic pollution


Believe that biodegradable plastic is the solution

# Empathy Map

### Think & Feels?

- concerned about plastic pollution
- Marine animals → threatened
- Food chain → affected

### See?

- single-use plastics products contribute to pollution
- Measures are being implemented

### Hear?

- Rise in pollution despite ban
- Existing measures are not effective

### Say & Do?

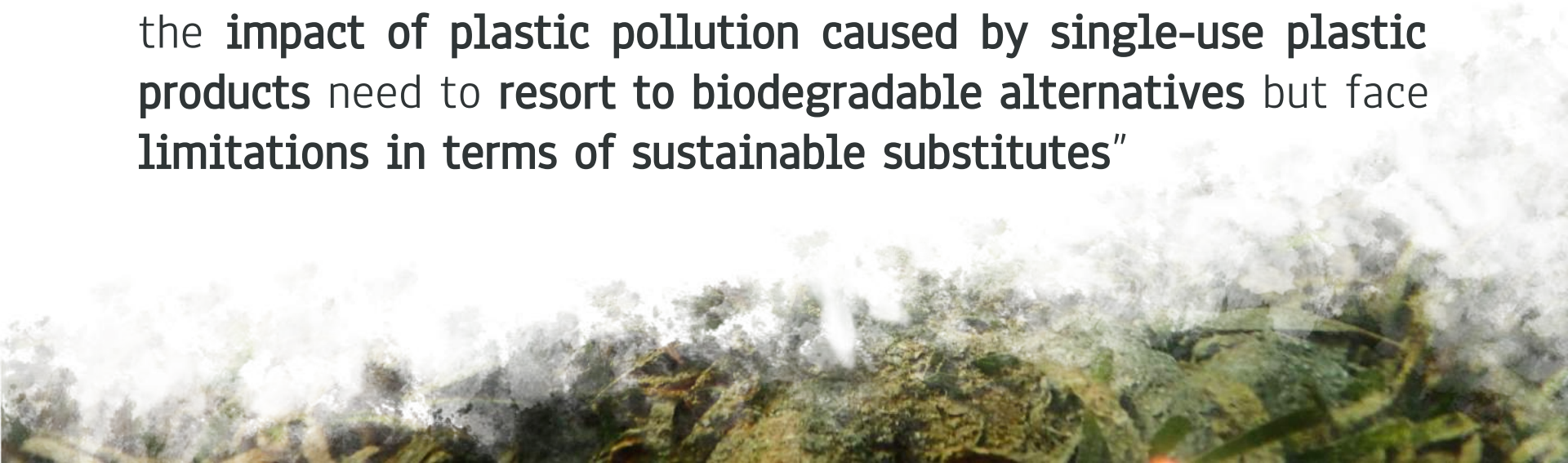
- Adopt alternatives
- Enforce regulations
- Tackle crux of plastic pollution

| Pains | Gains |
| --- | --- |
| • Alternative available on the marker are not sustainable<br>• Alternatives are not strong, accessible, cost effective. | • Reduction of plastic pollution<br>• Products made in Moris; no need for imports |

# PROBLEM STATEMENT

”

“Plastic **users and manufacturers** who feel **concerned** about the **impact of plastic pollution caused by single-use plastic products** need to **resort to biodegradable alternatives** but face **limitations in terms of sustainable substitutes**”

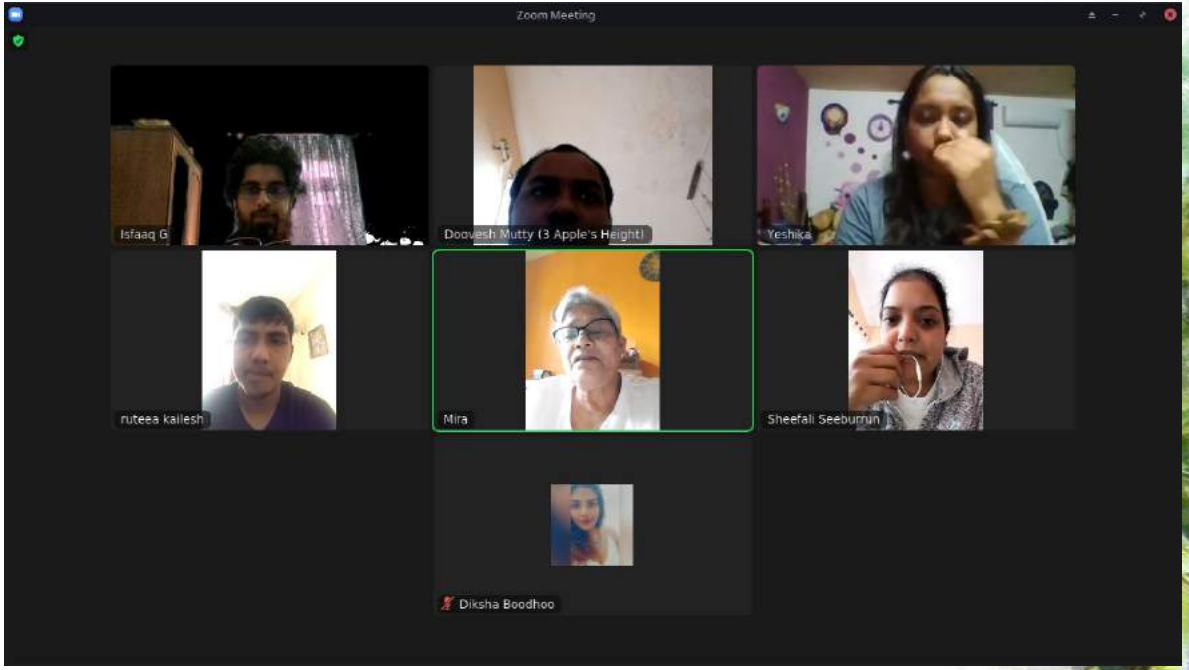


# IGNITE!

IDEA CONCEPTUALISATION

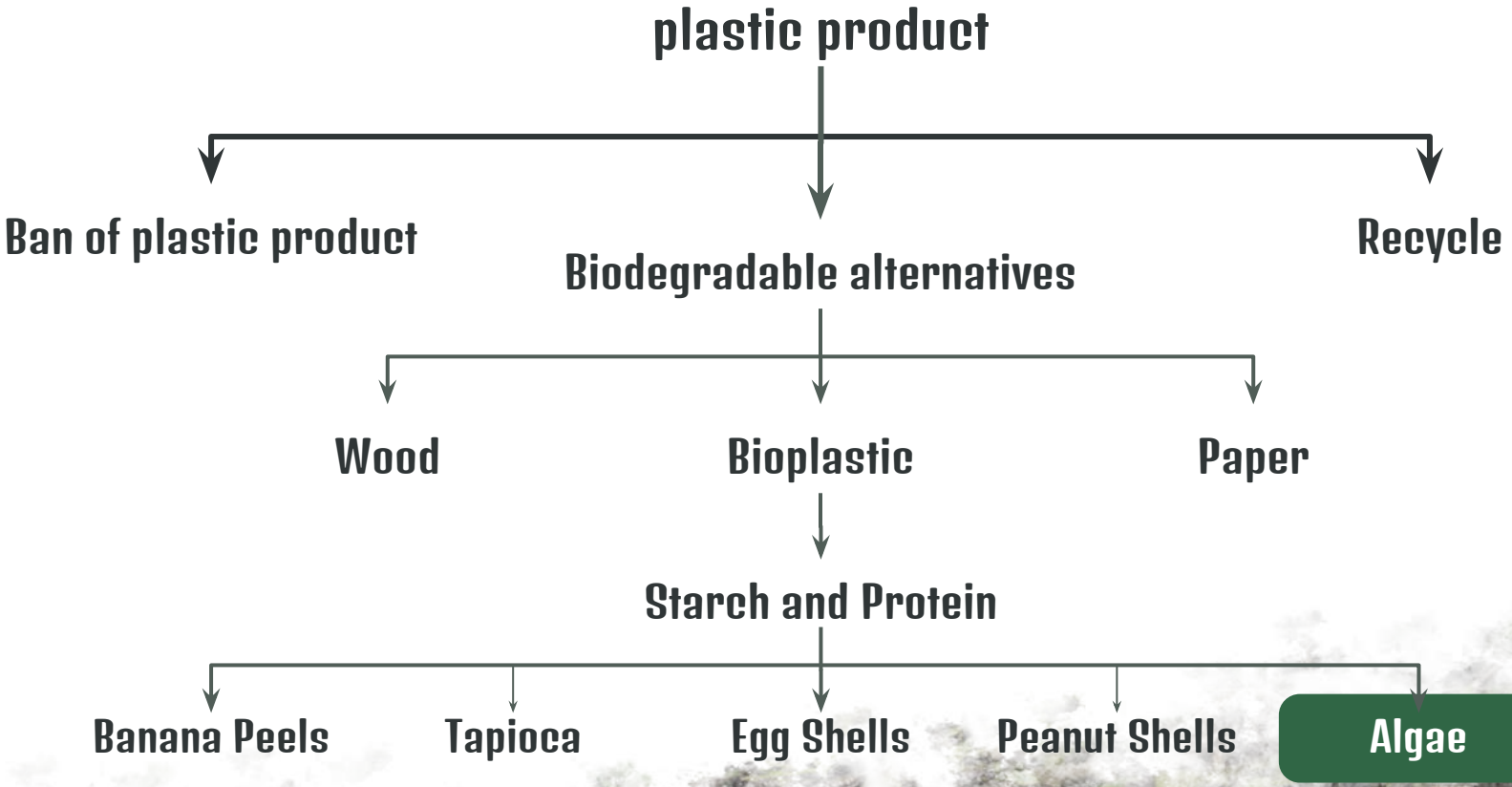
# BRAINSTORMING

- Several online discussions (zoom meetings)
  - About the problem
  - Potential solutions
  - Resources required
  - Task delegation




**Discussion with Trainers & Co trainers**

# The solution



# Why Algae?

# Readily available

# Overgrown algae affecting healthy coral

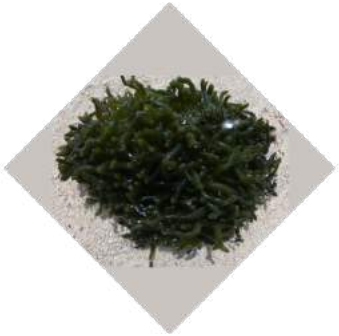
# Compostable

# ALGOPLASTIK

Compostable plastic made of algae

# What is AlgoPlastik?

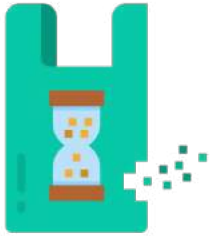
**AlgoPlastik is  a locally produced biodegradable plastic made of algae**



# Why AlgoPlastik?

MADE IN MORIS

locally sourced materials



BIODEGRADABLE

degrades in weeks

COMPOSTABLE

adds value to the soil

# DRIVE!

PROJECT INCEPTION and IMPLEMENTATION

# IMPLEMENTATION PHASE OVERVIEW

## COLLECTION

Collect algae from selected beaches

## PROCESSING

Process algae for required substrates

## TRIAL

Produce “plastic” sample

## TESTING

Subject the plastic to various tests

## MANUFACTURE

Make sample product with “plastic”

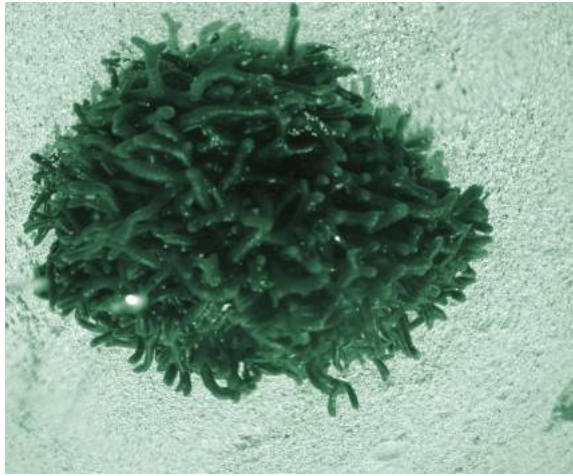
## MARKETING

Introduce the product to the public

# Collection of Algae : Procedures

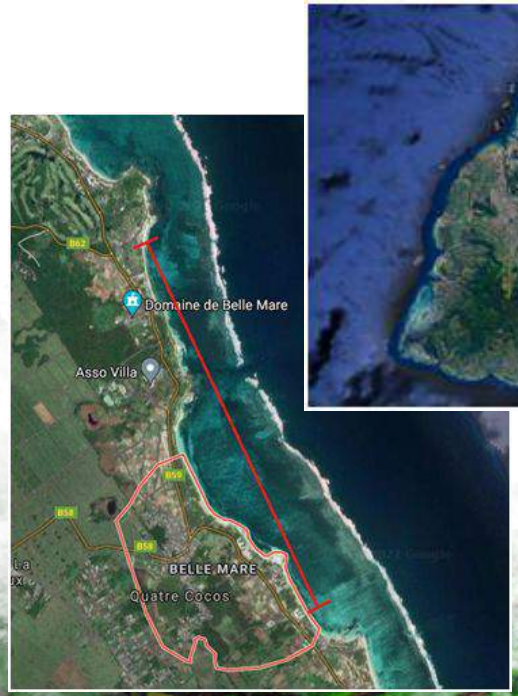
Procedures for collection of algae :

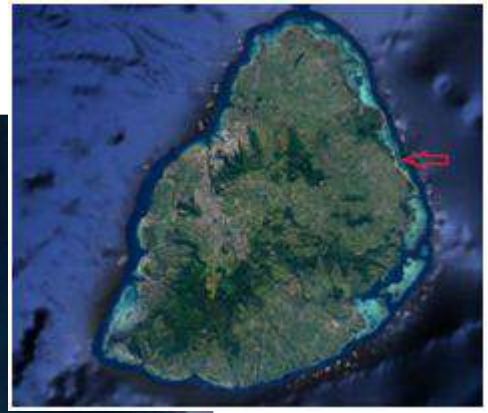
1. Site visit
2. Site selection
3. Permit from Albion Fisheries Research Centre



# Collection of Algae - Site selection

1. Belle Mare



# Collection of Algae - Site Selection

2. Palmar


# Permit from Albion Fisheries Research Centre

Approval of permit to collect algae from Ministry of Blue Economy, marine Resources, Fisheries and Shipping: 13th August 2021

In reply please quote
**F/5427/8/8/ECOM**

REPUBLIC OF MAURITIUS

Ministry of Blue Economy,
Marine Resources, Fisheries
and Shipping
4th Floor, L.I.C. Centre
Port Louis - Mauritius
Tel. No.: 211 2470 - 75
Fax No.: 208 1929
E-mail: blueeconomy@govmu.org
Website: http://blueeconomy.govmu.org

**13 August 2021**

**Nadeem Nazurally**
**President**
**EcoMode Society**
**Avenue des Cateaux Verts**
**Mont-Ida**
**Tel: +(230) 57434797/52518870**

Dear Sir,

**Subject: Permission to collect macroalgae**

Please refer to the above subject and to your letter dated 26 July 2021.

**EcoMode Society**

# Collection of Algae - 4th September

**Inspected by Fisheries Officer from Trou d'Eau Douce**

# Processing the Algae - Laboratory Work

# Product Testing and Degradation lifetime


Week 4

Week 6

# Mould Making

Iterative process
Tried multiple materials

- Polystyrene
- Cement
- Silicone
- Clay


# Our Product

# AlgoPlastik Marketing at Flacq Coeur de Ville


# Marketing of Idea

## Algo Plastik
## Et si on faisait du plastique à partir des algues

R.S.

Jittun Ruteea, Doovesh Mutty, Isfaaq M. Goomany et Yeshika Khuttur s'investissent dans la protection de l'environnement. Ils forment un groupe pour travailler sur un projet, « Algo Plastik ». Cela, dans le cadre de leur participation au National Leadership Engine (NLE), un programme du National Productivity And Competitiveness Council (NPCC).

Avec l'interdiction d'utiliser les sacs en plastique, il existe des alternatives comme les sacs en plastique biodégradable. Ils sont faits à partir de fécule de pomme de terre. « *Un de nos membres a déjà essayé de faire du plastique à partir de la fécule de maïs alors qu'il était collégien. Nous voulions voir si on pouvait en élaborer avec des algues. L'enseignant de ce collège a accepté de nous aider* », explique Yeshika Khuttur, 23 ans.

*Le groupe est composé de quatre jeunes.*

Elle indique que les algues jouent un rôle important dans l'écosystème marin. « *Souvent, nous voyons des algues échouées sur les plages. L'algue est un produit organique et ne pollue pas. Pourquoi le jeter à la poubelle ?* » dit cette détentrice d'un BSC (Hons) Marine Environmental Sciences.

*Les algues pourront-elles être utilisées pour faire du plastique ?*

Pour le projet « Algo Plastik », deux types d'algues sont nécessaires. Le samedi 4 août, le groupe s'est rendu sur les plages de Palmar et de Belle-Mare pour les identifier. Quelques échantillons sont récupérés pour faire des tests. Ils seront utilisés pour fabriquer des cuillères et des fourchettes.

Ce groupe de quatre jeunes est guidé par Sachindave Sobraty, Diksha Boodhoo et Varsha Sheefali Devi Seeburrun, leur mentor. Ils bénéficient du soutien du ministère de l'Économie bleue, des ressources marines, de la pêche et du transport maritime, d'Ecomode Society et du Rotaract Club de Riche-Mare.

# NEXT STEPS

Knowledge Sharing

WEBSITE

Mass Production

# NEXT STEPS Knowledge Sharing

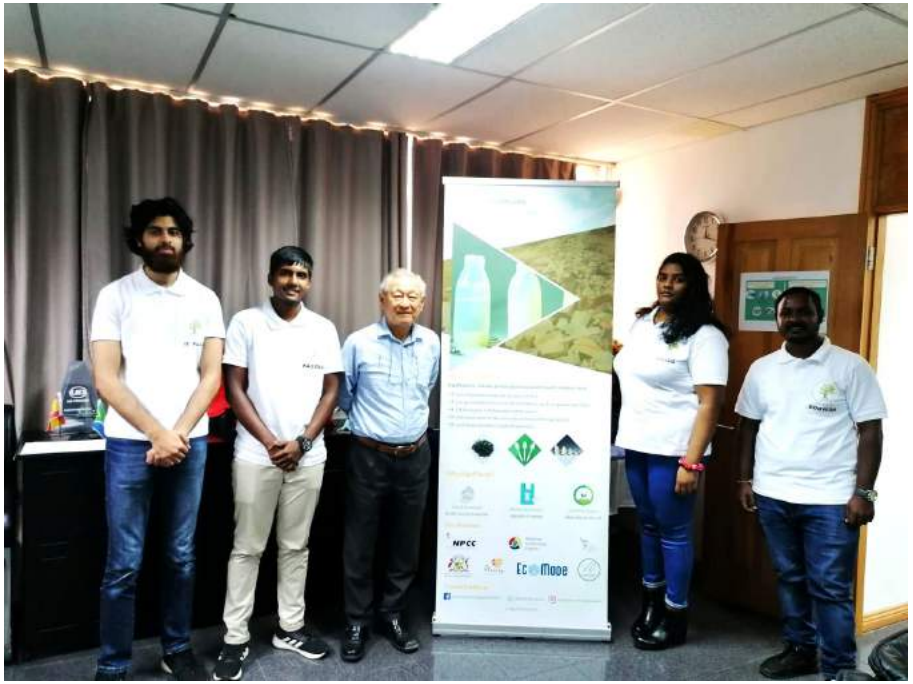
## Participate in Think Tank

- Demo and participate in Remember Future
- Expo will be held at Edith Cavell
- Melting pot of ideas

# NEXT STEPS Mass Production

**Collaborate with SW BioProcessors Ltd**

1. Large scale cultivation of algae
2. Access to industrial equipment



**Vincent Ah Chuen, MD ABC Group**

# NEXT STEPS Wider audience

Website - algoplastik.studio

1. Online presence
2. Report algae washed up
3. Ecommerce platform

# Challenges and Solutions

| | |
|---|---|
| **Project Implementation** | Adapted the PDCA Approach |
| **Site visit / No access to beach** | Literature reviews<br>Use of technology for locating algae |
| **Approval for collection of algae** | Stakeholders contacted concerned authorities |
| **Manufacturing Bioplastic/Testing** | Owner of laboratory provided with all equipments<br>Trial and error till best result |
| **Meeting with Stakeholders** | Help of Co-Trainer |

# To our stakeholders, Thank you

Ministry of blue economy, marine resources, fisheries and shipping- Hon. Sudheer Maudhoo who helped us to get the permit to collect algae


Ministry of information technology, communication and innovation - Hon. Deepak Balgobin

Ministry of public service Hon. Vikram Hurdoyal, who provided us with Polo- Shirts & Banner.

VIKRAM HURDOYAL

*We are not here for any position, but for a responsibility.*

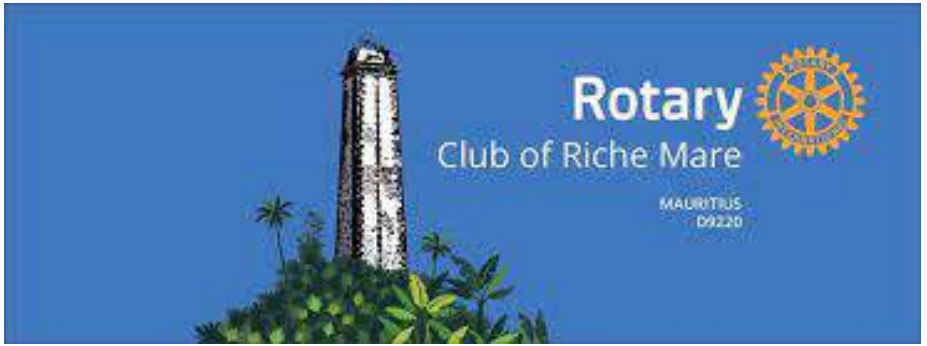
Flacq Coeur De Ville for the Exhibition.

flacq
cœur de ville

Members of the Ecomode Society, and the president

Ec Mode

Rotaract Club Riche Mare who helped us collecting Algae.




Madam Mira Hurbungs, Former Assistant Director of Albion Fisheries Research Centre who guided us for our project

# THANK *you!*

**Do you have any questions?**
algoplastik@gmail.com
Algoplastik.studio (coming soon)