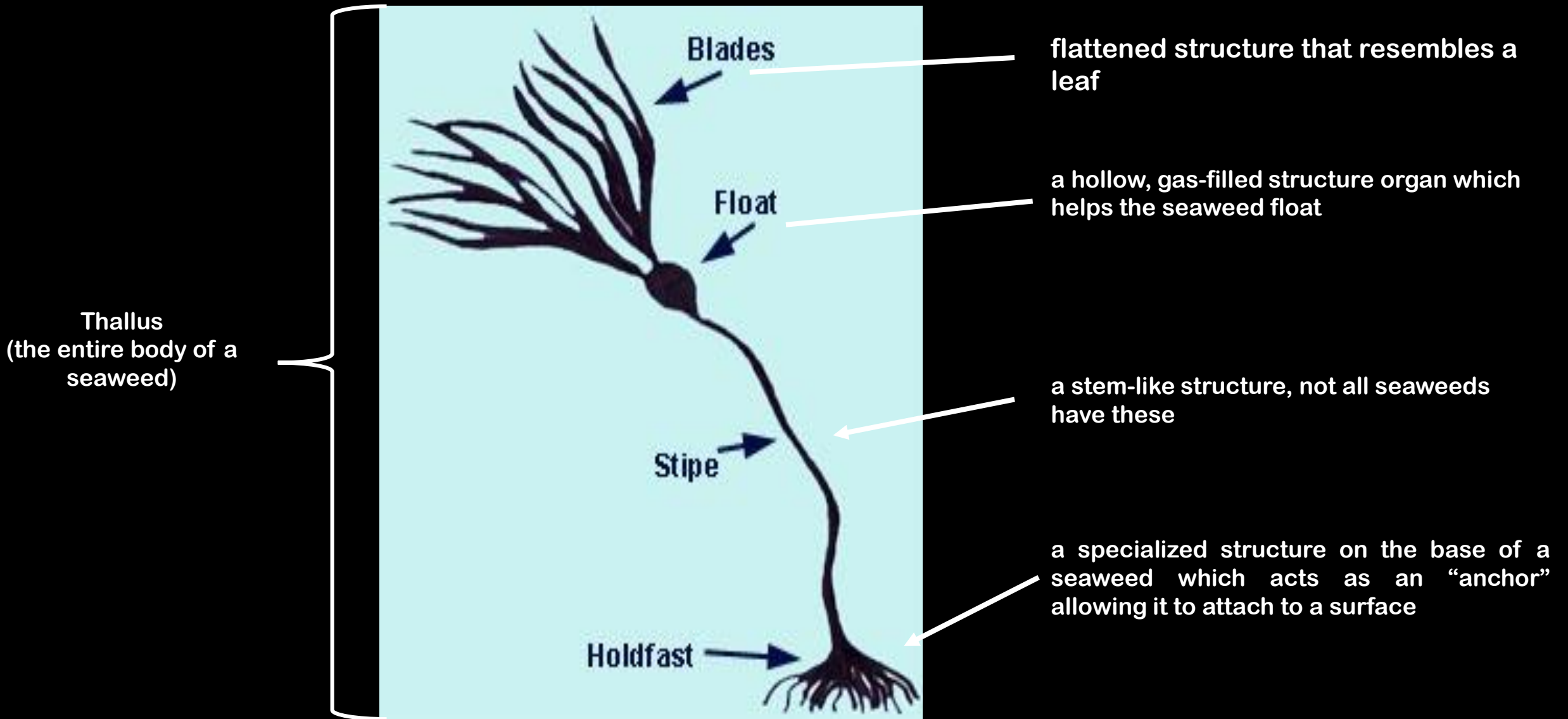


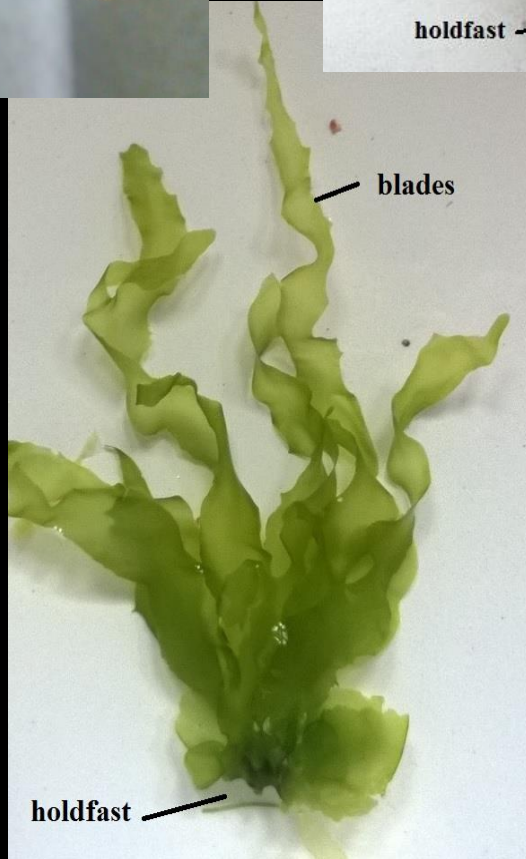
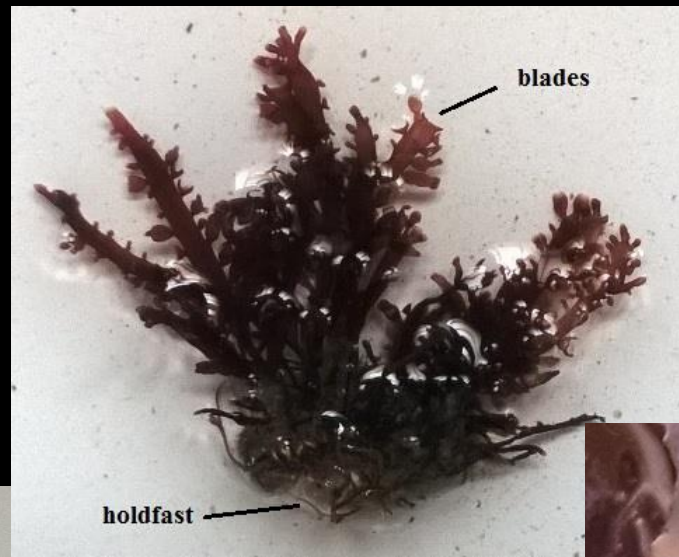
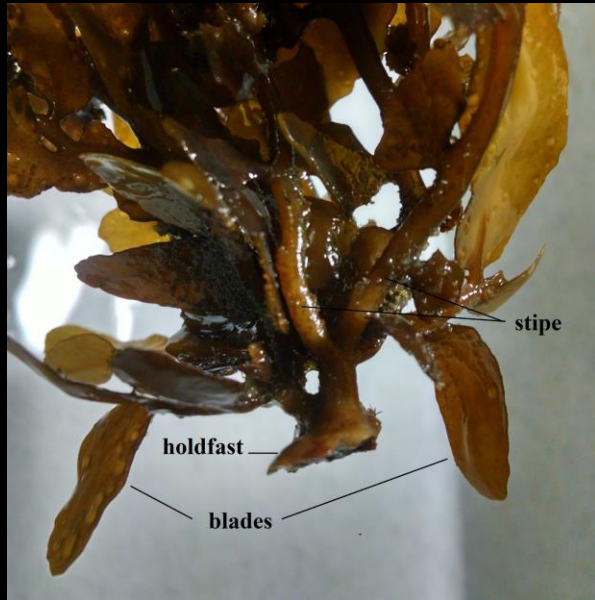
An underwater photograph showing a dense field of brown and green seaweed swaying in the water. Sunlight filters through the surface, creating a dappled light effect on the seaweed. The word "Seaweeds" is overlaid in white text in the center.

Seaweeds

Presented by:
Deepthi Hebbale
Research Scholar
Indian institute of Science, Bangalore

Seaweed structure





Types of Seaweeds

- Chlorophyta (green colour)
- Rhodophyta (red colour)
- Phaeophyta (brown colour)

Chlorophyta (green)



Ulva species

Green algae can be very common where the salinities vary a lot(Bays, Estuaries, Tide Pools)

➤ They are usually **bright green** because the chlorophyll is not masked by other pigments

➤ Green algae have a simple thallus when compared to red and brown algae



➤ Some seaweeds form spongy fingers

➤ Many forms are filamentous or form paper-thin sheets



Caulerpa species



Codium species



Halimeda species



Gracillaria species



Poryphyra species

Rhodophyta(red)

- Except for few species they are exclusively marine.
- They vary in size and shape.
- They are either epiphytes, grows as crust on the rocks or shells as a large fleshy, branched or blade like thalli.
- Encrusting varieties grow on the surface of rocks or other algae



Coralline algae, deposits CaCO_3 within its cell walls

Phaeophyta (brown algae)

- Brown algae are exclusively marine forms.
- They have different forms from simple, freely branched filaments to highly differentiated forms.
- They can be distinguished into blades, stipes and holdfast.
- Color varies from olive green to dark brown because there are many yellow-brown pigments that mask the color of chlorophyll
- Can grow up to 2 feet in one day maximum height 150 feet



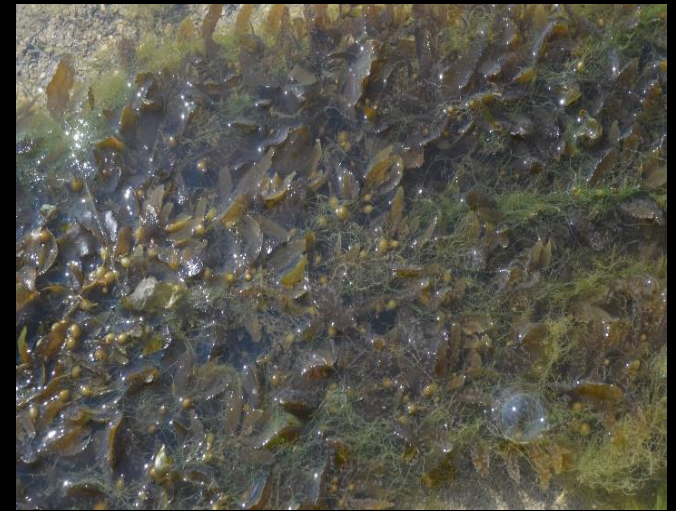
Nereocystis species



Macrocystis species



Dictyota species



Sargassum species



Padina species

Where are they found??



Estuaries



Tidal pools



Rocky shores



Mangrove roots

Seaweeds natural habitat



Belekan rocky shore



Belekan rocky shore



Belekan rocky shore



Kumta rocky shore



Mugli rocky shore



Mugli rocky shore



Gokarna rocky shore



Om Beach rocky shore

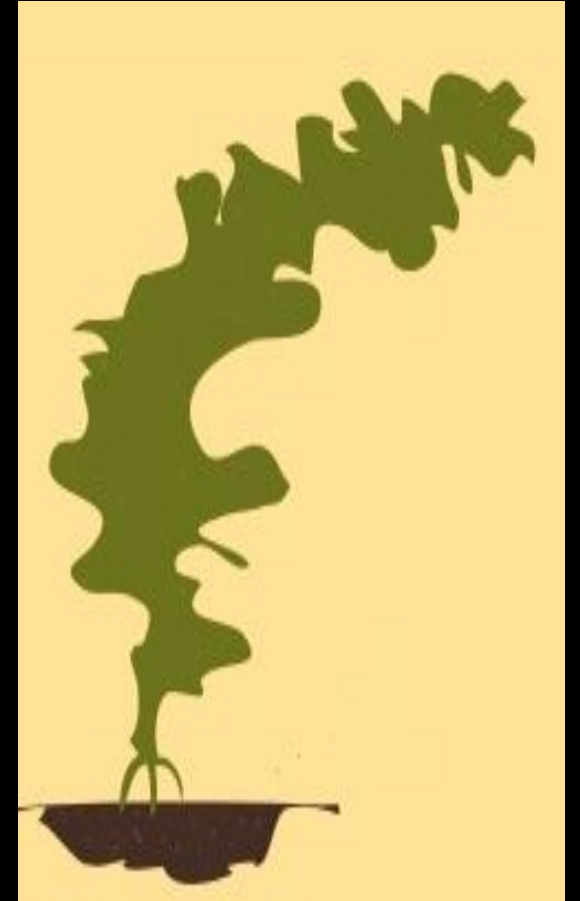
How do they grow?



Spores stick to
rocks or any hard
substrate and grow

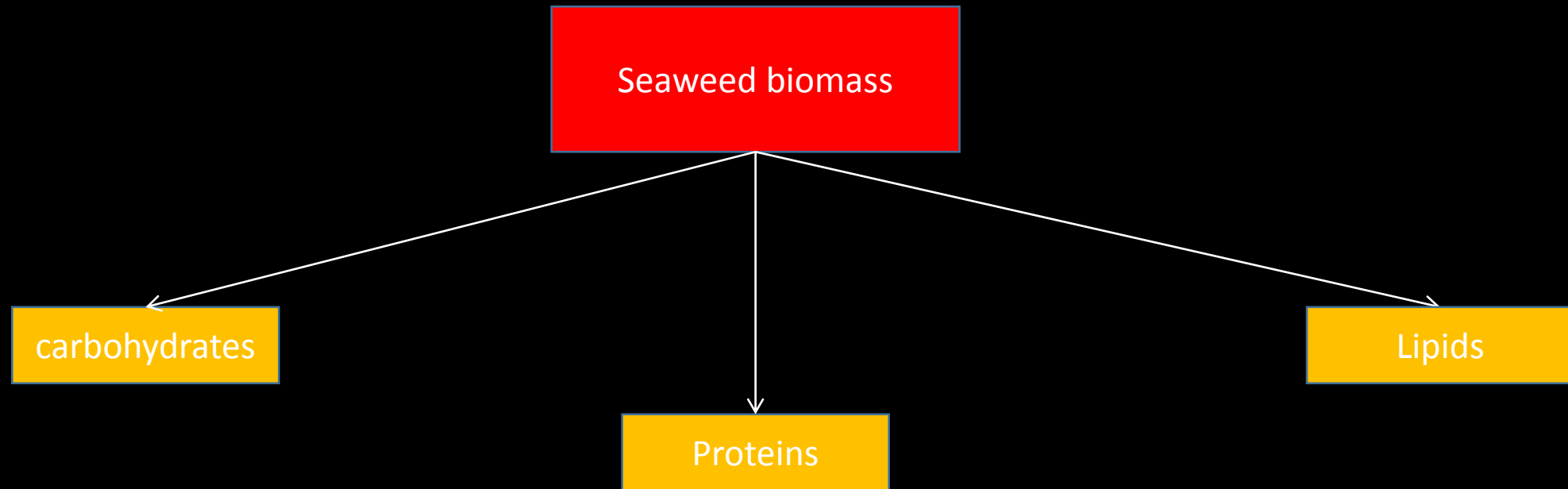


Spores turn into
young sea plant



Young sea plant
grows into adult
seaweed

Composition of Seaweeds



Uses of seaweeds

As food



Kombu



Nori



wakame

As cosmetics



Cream



Hair oil



shampoo

As fertilizers



Liquid Seaweed Fertilizer



Organic Seaweed Fertilizer

As Animal and fish feed

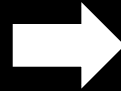


As Medicines



Economically important

Cultivation



Fishermen tying the seaweeds to rafts using ropes

Floating rafts used for seaweed cultivation



Different types of structures supporting seaweed cultivation



Drying seaweed for various purposes



Harvesting

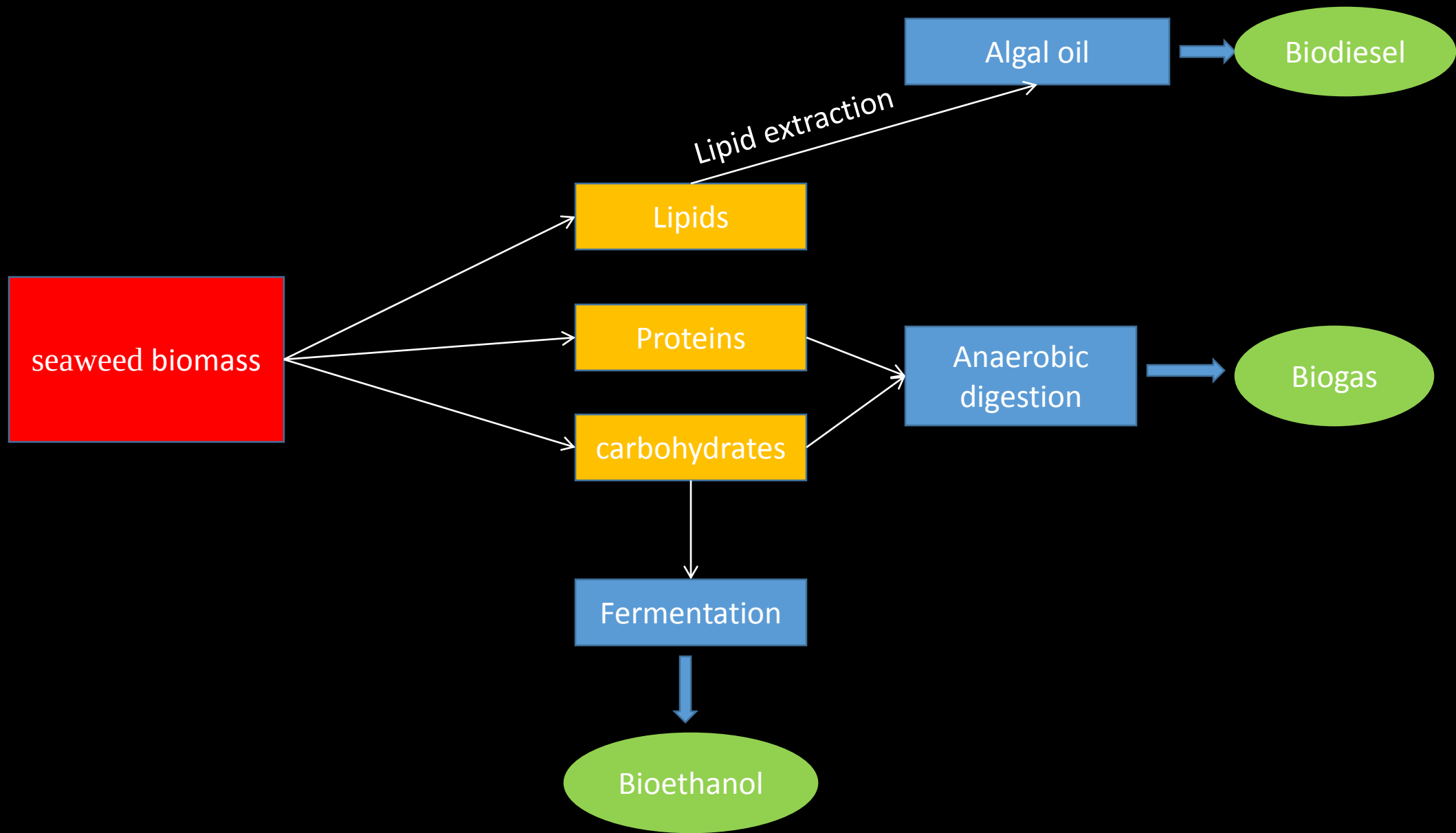


Fishermen's wives removing seaweeds from the ropes





Basket and truck full of seaweed harvesting in different countries



Sampling of seaweeds



Biomass estimation using Quadrat



Identification and Observations



Recording Field observations



Identification

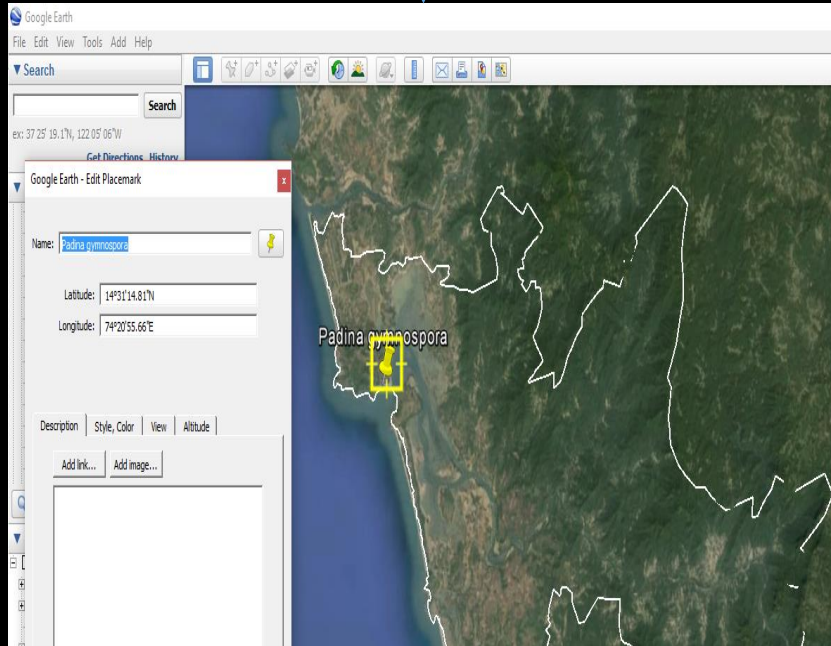
- www.algaebase.org
- <http://www.niobioinformatics.in/seaweed/index.htm>
- <http://www.marinespecies.org>



Photographs of seaweed natural habitat

Seaweed distribution mapping

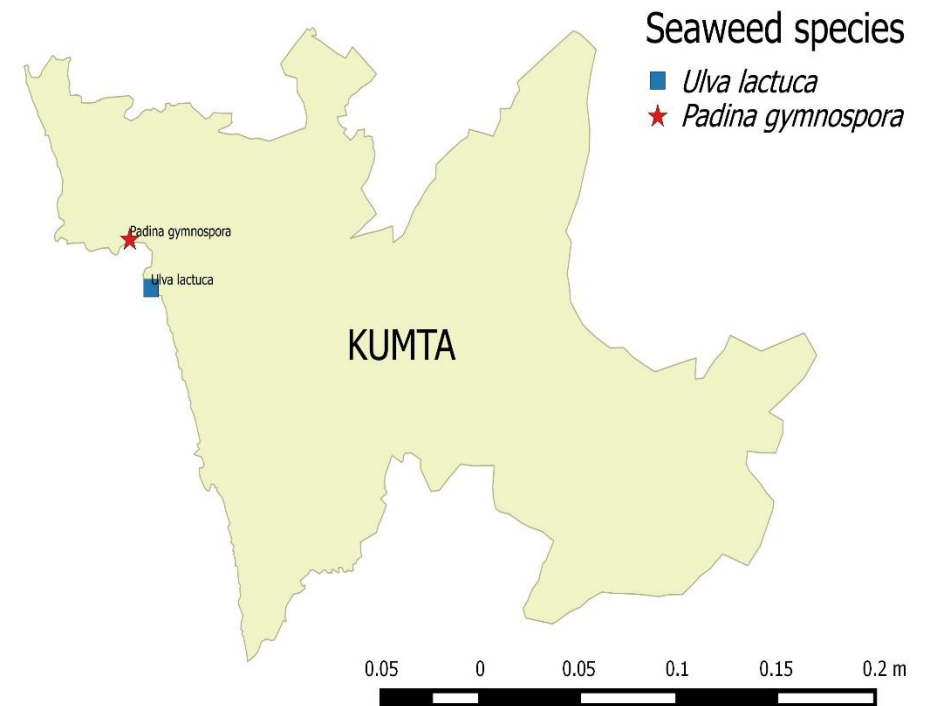
Seaweed location
GPS recording



Input GPS reading into
Google Earth

Importing
google earth file
into QGIS

Seaweeds species
distribution



Thank You

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Indian institute of Science, Field station

Kumta