



SETHU INSTITUTE OF
TECHNOLOGY



ECO-FRIENDLY ALGAL LAMP

Presented by: BIOMEDICAL STUDENTS

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WHAT WE'LL DISCUSS

- Objective
- Abstract
- Introduction
- Problem statement
- Existing models
- Flow chart
- Prototype model
- Specifications
- Advantages
- Applications
- Future features
- Conclusion

OBJECTIVE:

- Making an eco-friendly algal lamps.
- The energy is produced by the photosynthesis of dinoflagellate algae.
- It provides electricity-free light solutions.
- Here the weather conditions are rectified.
- We develop this single product with three applications including bio-lamp, bio-fuel and manure.



INTRODUCTION:

- Algae is a photosynthetic eukaryotic organisms.
- Here we use bio luminescent algae culture medium for light source
- Culture prepared using dinoflagellates
- "Algae Power" should be the next superhero, so here comes our eco-friendly algal lamp



PROBLEM

STATEMENT:

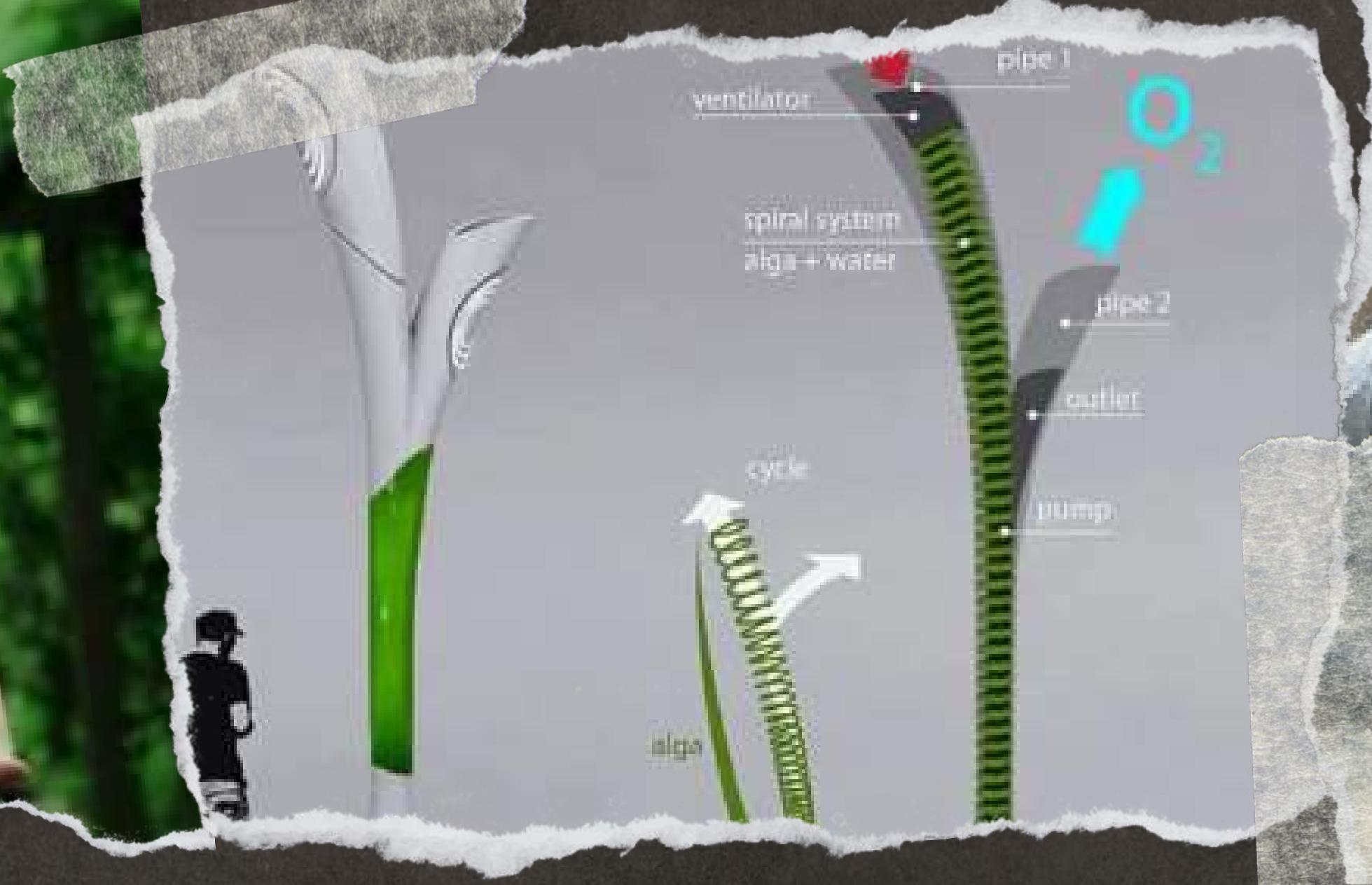
- Lithium lamps are abundant which are hazardous to environment.
- In acute lithium toxicity, gastro- intestinal tract will be affected
- Causes life threatening human diseases.



EXISTING MODELS



A small lamp that requires you to breathe into the algae container to provide them with carbon dioxide.



A schematic showing the design of an algae street light.



A prototype of one of the street lamps that is powered by algae. The lightbulb is encased by a clear structure that houses the algae, giving it a green glow.

DRAWBACKS:

Still in research:

Algae lamp currently helping light up a parking lot only in France and it is an ongoing project.

Non commercial:

The available products not in market for commercial use.

Maintenance:

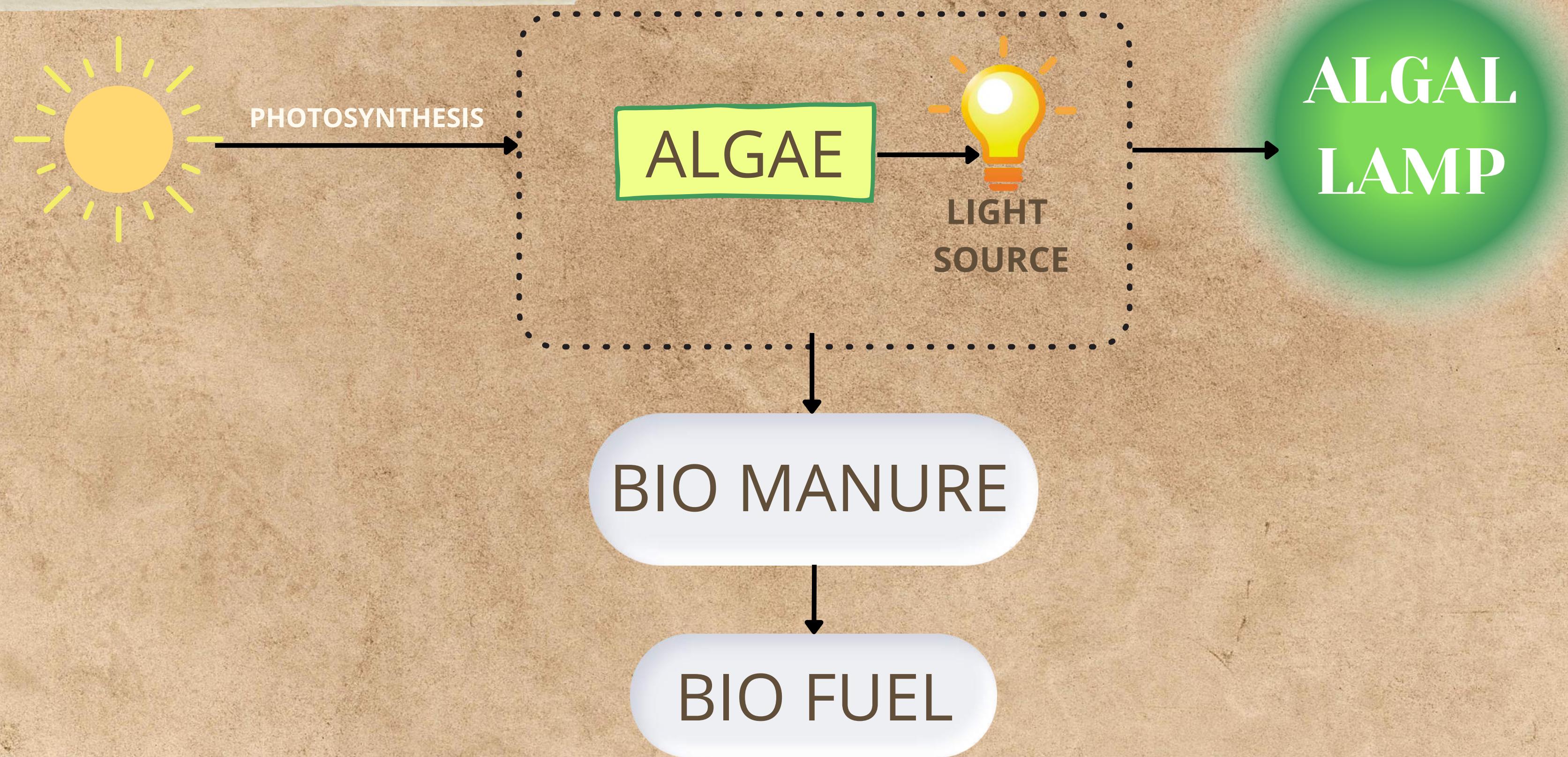
The physical parameters are not supported. the maintenance of algae culture is not rectified.

TECHNOLOGY USED:

- The main principle behind this is Electromechanics
- “Multidisciplinary research program to extract bio-oils from algae to produce fuel and other high-value algae products”



FLOW CHART:



PROTOTYPE MODEL



SPECIFICATIONS:

- SIZE: 120*70 cm
- MATERIAL: SODA LIME SILICATE GLASS
- WEIGHT: 3 POUNDS
- INTENSITY: 67 LUMENS PER WATT
- COST: Rs.500-700/-



SCHEDULE:

- Algae culture: 1st - 4th month
- Process: 4th - 5th month
- Product: 5th - 8th month

DURATION: 8 MONTHS



ADVANTAGES:

- The weather conditions and the maintenance of the lamp are perfectly rectified by some inbuilt methods.
- Life time of our product is extended.
- Controls carbon dioxide pollution
- Produces bioelectricity, bioethanol, biodiesel and other bio products.
- Emits light source

SMART CITY

- Can be used as the street lamps
- Used for rural development

PUBLIC SITES

- Used in public parks
- Can be used as beach lamps

APPLICATIONS

CANES

- This can be modified as the glowing walking stick

HILL STATIONS

- Can be used in areas where electricity transportation is difficult and risky

FUTURE -FEATURES

- Life time of the product is extended to 5 years
- This can also helpful during disaster period.
- Shape and colour of the lamp can be modified



THANK YOU
for listening!

