



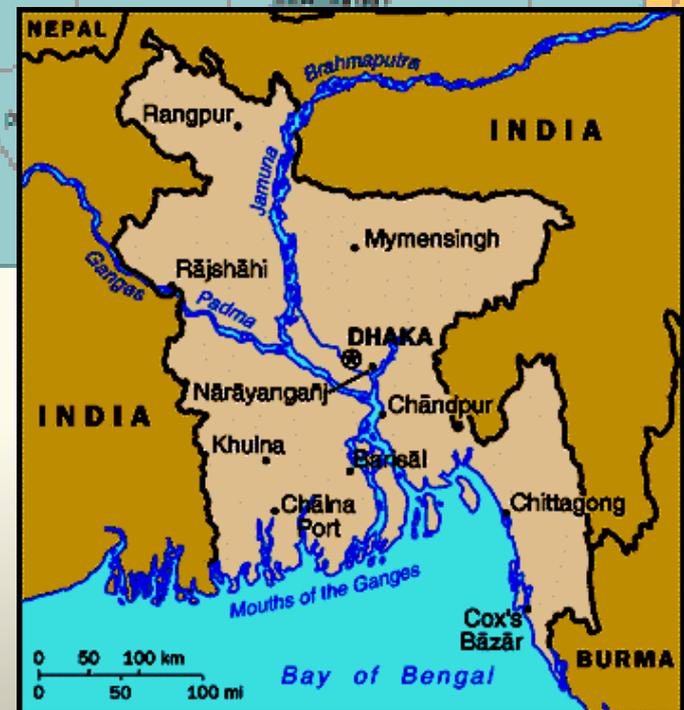
# Can Algae Grow the Future for Bangladesh?

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# BANGLADESH

- Bounded by India on the north and west, by India and Burma on the east, and by the bay of Bengal on the south.
- Clearly divided into two distinct regions - the North Eastern and the South Eastern mountain ranges and the vast alluvial plainlands



# Geography/People



Area: Land area: 133,910 sq km  
Comparative area: slightly smaller than Wisconsin

Population: 150 Million (July 2016)  
Ranks ## in the world

Capital: Dhaka

Language: Bengali/English

Currency: Taka

Average Life Expectancy: 64 years

Major Rivers: Padma, Meghana

Annual Rainfall: 2000 mm

**Religions: Muslim 83%, Hindu 16%, Buddhist, Christian, Other**

**Literacy: age 15 and over can read and write**

**56% of total population**

**63% males and 49% females**



# Government

Emerged as independent and sovereign country in 1971.

Official Name : The People's Republic of Bangladesh.

The borders of modern **Bangladesh** were established with the partition of Bengal and India in August 1947, when the region became East Pakistan as a part of the newly formed State of Pakistan.

The British East India Company gained official control of Bengal following the Battle of Plassey in 1757. Bengal became a major trading port for bamboo, tea, sugar cane, spices, cotton, muslin, jute and indigo.



Prime Minister: Sheikh Hasina



*Robert Clive's victory in Bengal marked the beginning of British colonial dominance in South Asia*



*Lord Curzon was the man behind the Partition of Bengal that gave modern Bangladesh its political boundaries.*

# IMPORTANT RELEVANT DATA

- Bangladesh annually imports about 3.5 million tons of different fuel oils.
- 1.45 million tons diesel, 380 tons kerosene, **USD 570 million.**
- 1.3 million tons are crude oil,
- 215 tons jet fuel and 155,000 tons petrol and octane .

## GDP/capita

USA \$ 53,041.98

Bangladesh: \$1,314

## Economy of BANGLADESH

- **Foreign Remittances**

Remittances from the Bangladeshi Diaspora provide vital foreign exchange. Remittance has become a major contributor to the Bangladeshi economy. As the emigrant workers from Bangladesh gradually increased over the years, the amount of annual remittance to the country significantly rose. According to World Bank, Bangladesh is now one of the largest recipients of remittance with almost \$14.5 billion as of June 2013.

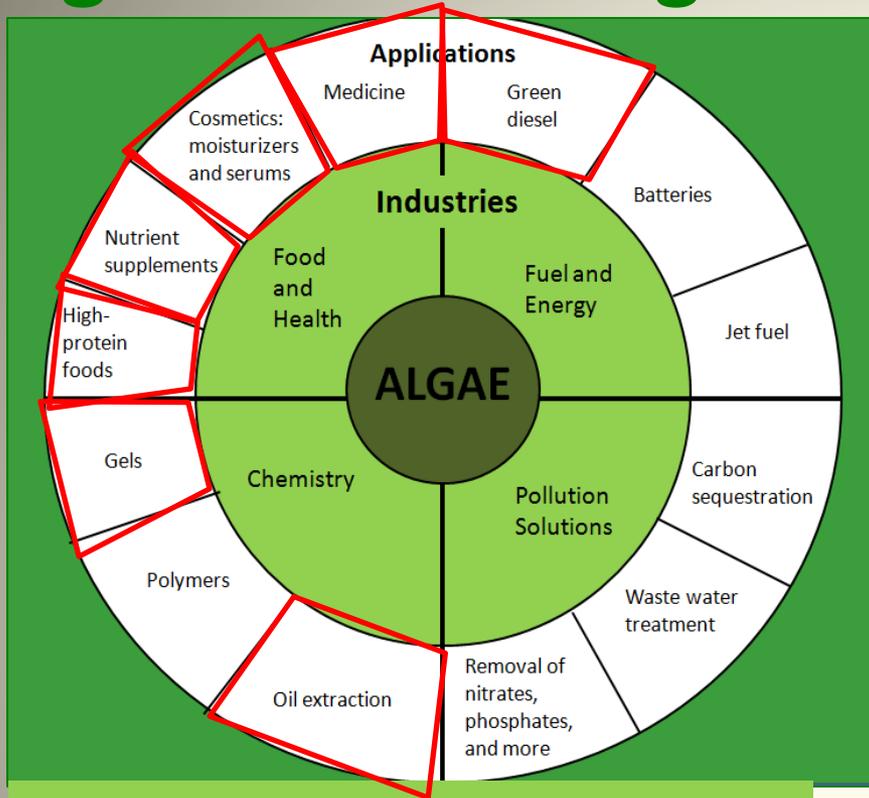


The World Bank 2015 study report shows Bangladesh has achieved significant progress in rural accessibility index compared to other developing countries of Asia and Africa.

***Bangladesh secured a rural accessibility index score 86.7***

***Microcredit, Women's Empowerment, Technology***

# Algae for Growing the Future of Bangladesh



Fuel  
Aquaculture  
Food: Malnutrition & Other Uses  
Cosmetics



Women's Empowerment  
(grow your own algae for home use)

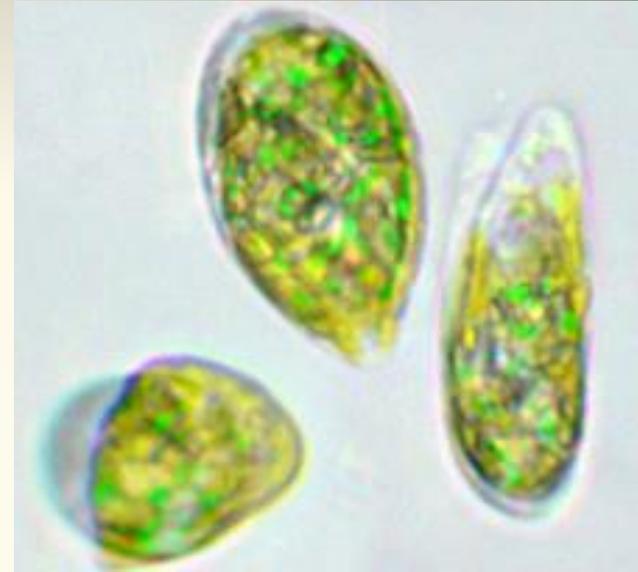
**Bengali: Shobuj Soibal or Sheola (Scum)**

- Records from the Ministry of Agricultural data show that 0.73 million hectares of land that are not suitable for any crop production can be used for algae production.
- Climate conducive for algae growth. Sunlight readily available.
- 300 species and varieties of freshwater algae have been described from Bangladesh.
- Extensive studies have been made on the freshwater blue-greens, euglenoids, chlorococcales, volvocales, zygnematales, oedogoniales, desmids, chaetophoralean algae, charalean members and red algae.
- 200 marine algal taxa (seaweeds) identified

# Japan Bangladesh Partnership with Euglena


ミドリムシカンパニー
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What we can do with total of **00000005800000000** billion euglenas ever produced.



Euglena, is a microalgae with the features of both plants and animals and grows in fresh water.

It can store energy by the means of photosynthesis like plants while it can also move around like other microorganisms.

## euglena solution



Human Health



Green Technology



Energy



Food

## euglena labo



What is euglena?



Research and business strategy



Founding

## CORPORATE



About Us

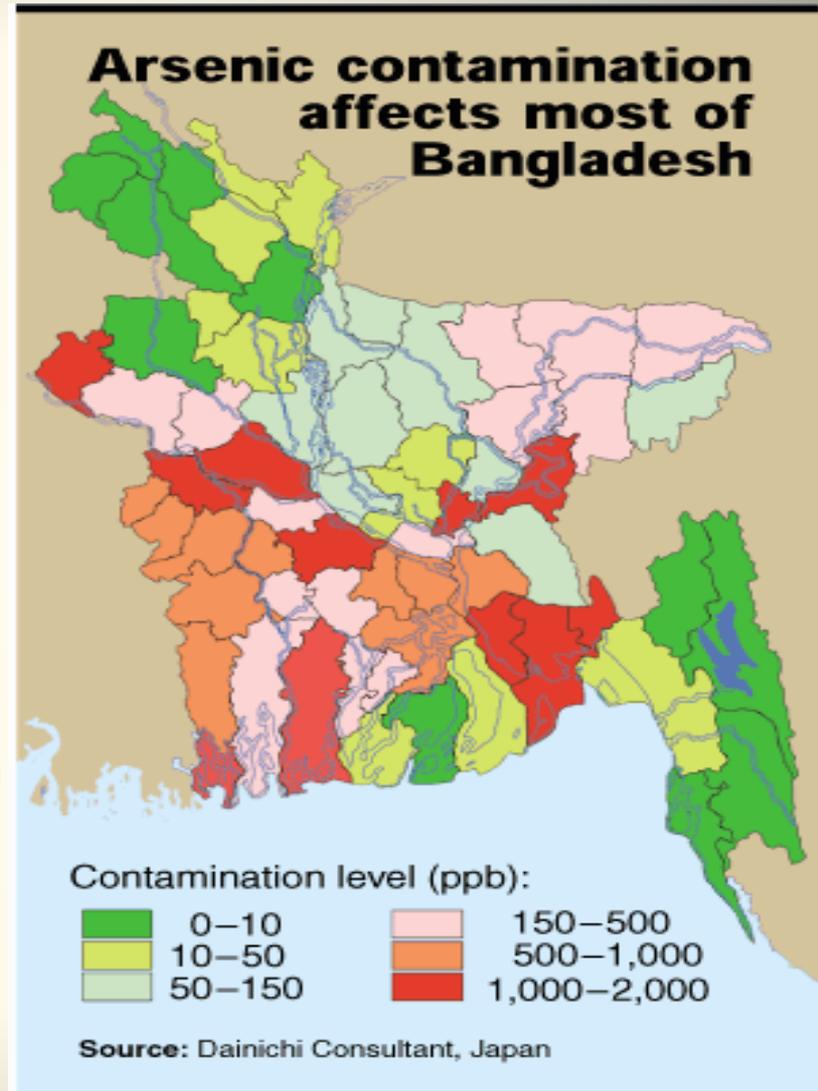
# Concerns- Arsenic in Bangladesh

- Bangladesh is the site of the “*world’s largest mass arsenic poisoning in history*”
- The arsenic is naturally occurring in the alluvial and deltaic sediments in the aquifers
- An estimated **75 million** people are at risk of developing health effects from arsenic ingestion
- Approximately **1/3 of all the wells** in Bangladesh have arsenic concentration exceeding the standard of 50 ppb

Some areas have arsenic levels **40 times higher** than the standard and over half the wells in the country have concentrations exceeding the World Health Organization’s standard of 0.01 mg/L

USEPA , WHO Standard

MCL 10 ppb



# Conclusions

Algae can be a viable industry for Bangladesh

Algae culture (freshwater and marine) will lead to jobs and empowerment

Reduce fossil fuel dependency

Eliminate childhood malnutrition

Assist in developing other industries such as cosmetics, medicine, health and food.

Social changes

