



Seaweed Farming

For Prelims: Seaweed, Special Economic Zone.

For Mains: Significance of Seaweed Farming, Benefits of Seaweeds.

Why in News?

The **Ministry of Fisheries, Animal Husbandry and Dairying** will set up a [seaweed park](#) in **Tamil Nadu** to improve the **livelihood of fishermen**.

- Tamil Nadu has been requested to set aside space for a [Special Economic Zone](#) for seaweed farming.
- In 2021, the Technology Information, Forecasting and Assessment Council (TIFAC) had launched a [Seaweed Mission](#).

What is Seaweed?

▪ About:

- They are the primitive, marine non-flowering marine algae without root, stem and leaves, play a major role in marine ecosystems.
- Large seaweeds **form dense underwater forests known as kelp forests**, which act as underwater nurseries for fish, snails and sea urchins.
- Some species of seaweeds viz. Gelidiella acerosa, Gracilaria edulis, Gracilaria crassa, Gracilaria verrucosa, Sargassum spp. and Turbinaria spp.

▪ Benefits:

- **For Nutrition:**
 - Seaweed is a source of vitamins, minerals, and fiber, and can be tasty.
- **For Medicinal Purpose:**
 - Many seaweeds contain anti-inflammatory and anti-microbial agents. Their known medicinal effects have been legion for thousands of years.
 - Certain seaweeds possess **powerful cancer-fighting agents** that researchers hope will eventually prove effective in the treatment of malignant tumors and leukemia in people.
- **For Economic Growth:**
 - Seaweed has also contributed to economic growth. Among their many uses in manufacturing, they are **effective binding agents (emulsifiers)** in such commercial goods as toothpaste and fruit jelly, and **popular softeners (emollients) in organic cosmetics** and skin-care products.
- **Bioindicator:**
 - When waste from agriculture, industries, aquaculture and households are let into the ocean, it causes nutrient imbalance leading to [algal blooming](#), the sign of marine chemical damage. Seaweeds absorb the excess nutrients and balance out the ecosystem.
- **Iron Sequestrator:**

- These aquatic organisms heavily rely on iron for photosynthesis. When the quantity of this mineral exceeds healthy levels and becomes dangerous to marine life, seaweeds trap it and prevent damage. Similarly, most heavy metals found in marine ecosystems are trapped and removed by seaweeds.
- **Oxygen and Nutrient Supplier:**
 - On their part, the seaweeds derive nutrition through photosynthesis of sunlight and nutrients present in seawater. They release oxygen through every part of their bodies. They also supply organic nutrients to other marine life forms.

What is Seaweed Farming and its Significance?

▪ Seaweed Farming:

- It is the practice of cultivating and harvesting seaweed.
- In its simplest form, it consists of the management of naturally found batches.
- In its most advanced form, it consists of fully controlling the life cycle of the algae.
- Seaweeds are abundant along the Tamil Nadu and Gujarat coasts and around Lakshadweep and Andaman & Nicobar Islands.

▪ Significance:

- By an estimate, if seaweed cultivation is done in 10 million hectares or 5% of the **Exclusive Economic Zone (EEZ)** area of India, it can
 - Provide employment to 50 million people.
 - Set up a new seaweed industry.
 - Contribute to national **Gross Domestic Product (GDP)**.
 - Enhance ocean productivity.
 - Abate **algal blooms**.
 - Sequester millions of tons CO₂.
 - Could produce **bioethanol** of 6.6 billion litres.

Source: PIB

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