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SEAWEED RESOURCES OFF TAMIL NADU COAST : KATTAPADU-TIRUCHENDUR*

Introduction

The southern coast of Tamil Nadu from Mandapam to Kanyakumari supports luxuriant growth of economically important seaweeds and the total standing crop was estimated at 22,000 tonnes (wet). All the seaweed based industries in India mostly depend on the raw

material available from this area. The seaweeds exploited from this region, particularly the agarophytes *Gelidium acerosa* and *Gracilaria edulis* are insufficient to meet the raw material requirement of the industries.

Surveys of seaweed resources have been carried out by several workers from time to time in different regions of India to locate the seaweed growing areas and to assess the standing crop. While reviewing the seaweed resources estimates carried out from time to time by the CSMCRI, Rama Rao (*Proc. Sem. Expln. Sun, Sea & Shore, Retrospect & Prospect, CSMCRI; 71-81, 1984*) emphasizes the need for further systematic sampling surveys on the Indian coast. The total resource estimates for Gujarat, Maharashtra, Goa, Lakshadweep, Tamil Nadu, Andhra Pradesh and Orissa have been put at 77,000 tonnes (wet) and for some of the economic

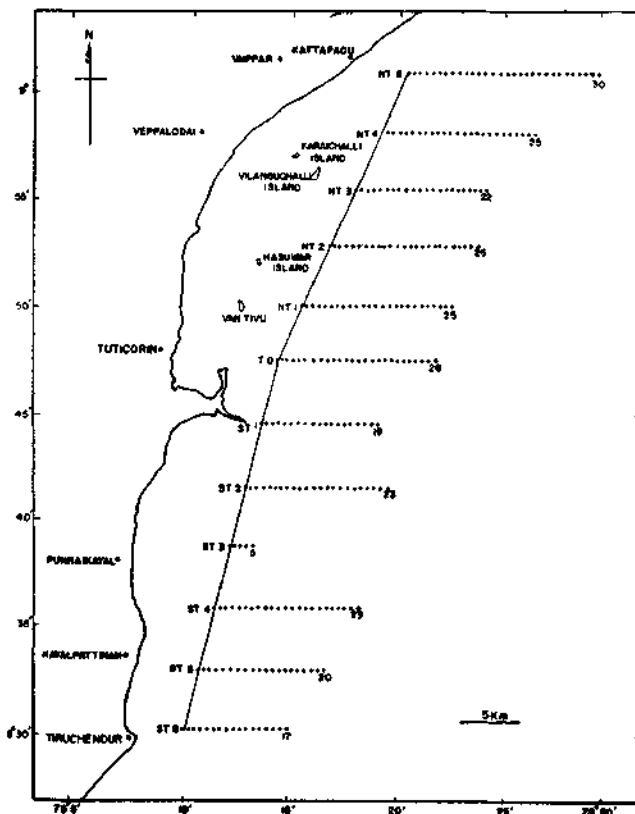


Fig. 1. Location of transects and stations surveyed. NT-Northern Transect; TO-O Transect; ST-Southern Transect.

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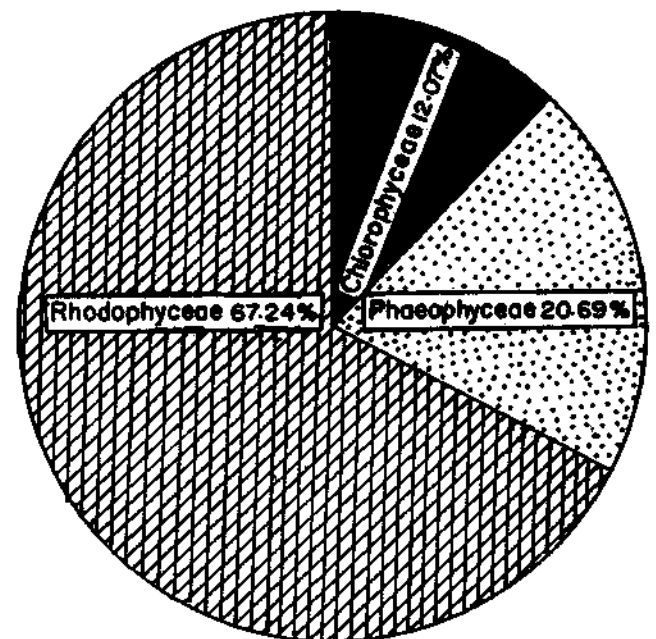


Fig. 2. Percentage composition of green, brown and red algae.

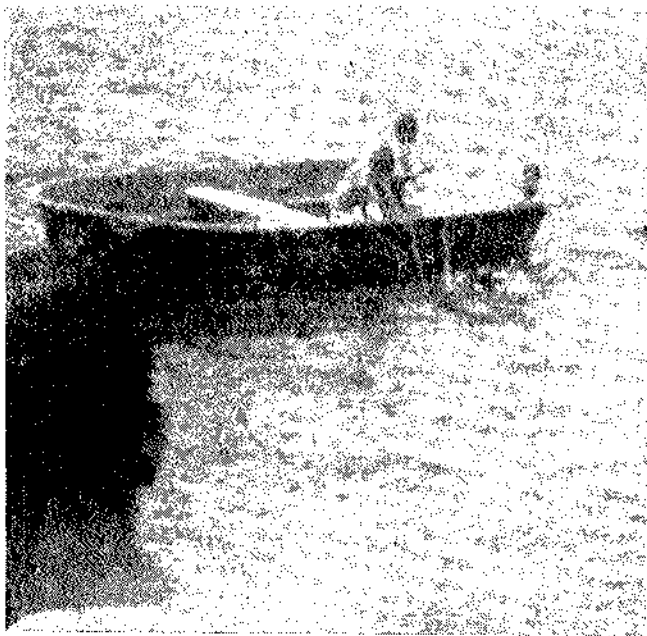


Fig. 3. Collection of seaweed by SCUBA diving in progress.



Fig. 4. Preparing herbarium of seaweeds.

seaweeds such as *Sargassum* spp., *Turbinaria* spp., *Gelidella accrosa*, *Gracilaria* spp. and *Hypnea* spp. are 31,200, 700, 1,000, 3,000 and 16,000 tonnes respectively. All these surveys have been restricted to nearshore areas of the coast (4m depth). Only very few attempts were made on the qualitative survey of seaweeds occurring beyond this depth range. In order to locate and assess the standing crop of seaweeds from these depths (5.5-17 m) in Gulf of Mannar region, Central Marine Fisheries Research Institute and Central

Salt & Marine Chemicals Research Institute have jointly undertaken the survey of seaweed resources from Kilakkarai to Kanyakumari. The results obtained on the survey conducted from Kattapadu to Tiruchendur during December, 1986 to March, 1987 are presented here.

Among the 260 stations sampled covering in all 12 transects, only 50 stations had vegetation. The seaweeds were generally found growing on the rocky/coral

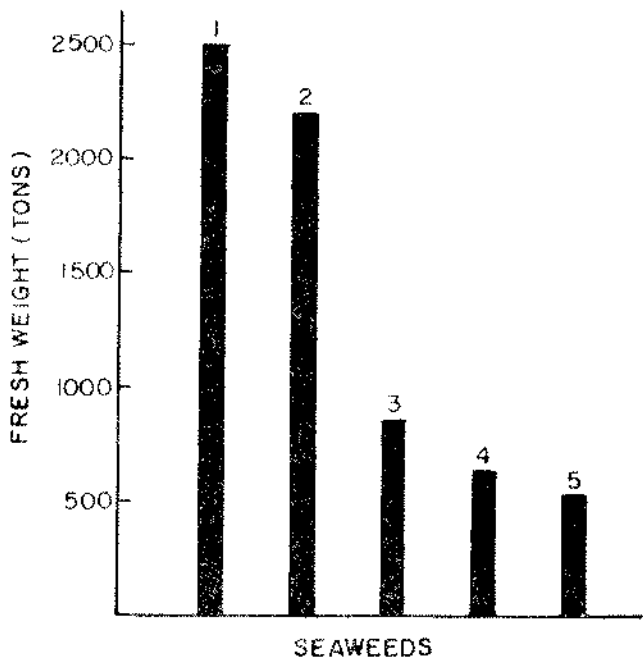


Fig. 5. Standing crop of some commercially important seaweeds in order of their abundance. 1. *Hypnea valentiae*; 2. *Solieria robusta*; 3. *Dictyota bartayresiana*; 4. *Sargassum tenerrimum*; 5. *Dictyota maxima*.

substratum. The total area surveyed was 650 sq. km. However, only 125 sq. km supported vegetation whose biomass was 9,100.5 tonnes (wet). In the sampling stations, the biomass of seaweeds varied from a minimum of 5 g/m² to a maximum of 785 g/m². A total of 34 genera and 58 species of algae were recorded from all the 12 transects of which 5 genera and 7 species belonged to Chlorophyta, 5 genera and 12 species to Phaeophyta and 24 genera and 39 species to Rhodophyta. The percentage composition of green, brown and red algae is given in Fig. 2. Out of 58 species recorded, 32 species were found in estimable quantities (> 5 g/m²). The seaweeds with biomass above 500 tonnes (wet) were *Sargassum tenerrimum*, *Dictyota bartayresiana*, *D. maxima*, *Solieria robusta* and *Hypnea valentiae*. Totally 3 species of seagrasses *Cymodocea serrulata*, *Halophila ovalis* and *H. ovata* were recorded at the depths ranging from 7 to 16 m. The present survey reveals that species of *Sargassum* and *Hypnea* that occur in large quantities near Tuticorin and Tiruchendur respectively can be exploited for manufacture of phycocolloids.