

Gracilaria collection, processing, marketing and consumption in Sri Lanka

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Abstract

The history of seaweed collection and export of Sri Lanka dates back to colonial times. Since then a number of studies have been conducted on seaweed culture and biology of seaweed, however few have addressed marketing and economic issues. This study was conducted to fulfill this gap for the development of seaweed industry of Sri Lanka. The Seaweed industry of the country primarily depends on wild collection from seas around Trincomalee area. The study concentrated on gracilaria collection methods, processing methods, economic factors such as cost and profit, marketing and distribution. Data and information were collected through direct interviews using structured questionnaires and secondary data was collected from Sri Lankan Customs during the period of March to November in 2013. The results revealed that the seaweed collection season is from July to November and around 150 to 200 people in surrounding area are engaged in the collection of seaweeds. Sun - drying is the main processing method used and around 90 MT of dried sea weed was exported to India and Japan in 2013. The producer price of 1kg of wet/raw seaweed is in the range of Rs: 5 to 7 and dried seaweeds (range of LKR 13 to 15). The average income for collectors is around Rs 30,000 per season. Since the seaweed industry is mainly based on the wild collection and primary processing, it is difficult to fulfill the export market requirements. Therefore, it is suggested new value added seaweed products development and strong promotional programs for the development of seaweed industry in Sri Lanka.

Keywords: Seaweeds, wild collection, Processing, Marketing, Consumption

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Introduction

Although there are thousands of seaweed species in the world, only about 340 species are found in Sri Lanka. Of these, only a few species such as *Gracilaria*, *Gelidium*, *Saragassum*, *Turbinaria*, *Ulva* and *Caulerpa* have been identified as economically valuable. At present the seaweed industry in the country is totally dependent on the collection of *Gracilaria* species such as *Gracilaria edulis* and *Gracilaria verrucosa* well known as Ceylon moss from Kalpitiya, Mannar and Trincomalee areas. This study was confined to *Gracilaria* species and was planned to collect data on product attributes and identify issues that affect the development of the industry.

Materials and methods

Data and information were collected through direct interviews using structured questionnaires during the period of March to November in 2013. The total number of samples was 37 representing primary collectors (30), secondary collectors or assemblers (5), exporter or processor (1) and local market suppliers (1). A set of questionnaires were used to collect data. Simple random sample technique was used to interview seaweed collectors (primary collector) and collected data presented by descriptive statistics which analyzed using Excel and SPSS statistical software package

Results and discussion

Collection and Processing

Primary collectors make their own hand net of an average cost of Rs 600.00. Although, the season usually starts in July a majority of collectors collect seaweed during the months of September and October of the year. During these two months, collectors are involved in the collection and drying of seaweed, spending around 8-10 hours per day at the beach.

Product types, Price and Marketing

There were two types of products: wet/raw and dried products. The producers, selling prices as well as marketing systems differ accordingly. Collected wet/raw seaweeds are spread on nets on the beach for drying by primary collectors. The producer price of 1kg of wet/raw seaweed is in the range of Rs: 5 to 7. Primary collectors sell their wet/raw and dried products to secondary collectors. According to the primary collectors, about 5kg of wet/raw seaweed is needed to produce 1kg of dried seaweed. Secondary collector collect and store dried seaweed for a number of days and sells to the processor or exporter. The selling price of 1kg of dried seaweeds is in the range of LKR 13 to 15.

Income of the collectors

Fisher' women are mainly involved with the collection of seaweed in the season. Therefore, fisher women are able earn significant income during the seaweed season. Since women are engaged in this economic activity, they are able to earn additional income for the family by selling seaweeds. Since the income is used for day to day expenditure, recognition and power of the women in the family and society has been increased. The average income of the season is around Rs 30,000 per collector.

Export Markets

Seaweed is exported and imported under the HS code of 121220. In last five years, an average of 90MT of seaweed has been exported. India, Japan and Maldives represent the dominant seaweed importers of Sri Lankan seaweed products. The highest quantity of seaweed had been exported in 2008 which was 183MT. In last five years averagely 750 Kg of seaweed has been imported and the main imported countries are China, Japan and Singapore.

Local Consumption

The general public and many fishers are not aware of the seaweed industry in the country. Almost all locally collected and processed seaweed is used for production of jelly for the local market.

Conclusion and Recommendations

Seaweed industry of the country is a nascent industry and is dependent on the wild collection of some *Glacilaria* species mainly in the eastern part of the country. Seaweed processing is also at a primary stage with minimal processing. The awareness of the general public on the nutritional value of seaweed is very low and this situation acts as a barrier to increase of local demand for seaweeds. Moreover, marketing and distribution system and activities are too negligible and involved a low number of intermediaries. The following recommendations are proposed for the sustainability of the seaweed industry of the country.

1. Modern technologies should be introduced for processing of seaweeds while maintaining the quality of seaweed. Alternative sources should also examine except sunlight for drying seaweeds. Technology induction and quality assurance lead to in search of new markets and demand expansion.
2. Value addition products should be examined and develop according to the market requirement. This can be done through proper marketing study.
3. A market promotional programme (through media and supper market) should be introduced using mass media for the enhancement of knowledge of general public to persuade consumption of raw seaweed products.

Government intervention is needed for the development and sustainability of this industry. This can be done through financial and technical support programs for all stakeholders in the industry. As the seaweed processing and marketing remains at a very primary level, processors and intermediaries should be trained through technology

transfer programmes. Further, they should be supported with introduction of small to medium scale credit grants under concessionary interest rates.

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