

A guide to the seaweed industry

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A GUIDE TO THE SEAWEED INDUSTRY

Dennis J. McHugh

CORRIGENDUM

1. On page 22, Table 2, the Total should be 7 630 (not 77 630).
2. The photos in Figures 23 and 24 should be interchanged, see pages 30-31.
The photo in Figure 24, provided by J.M. Jones, should be with the caption of Figure 23.
The photo in Figure 23, provided by R. McPeak, should be with the caption in Figure 24.
3. On page 63, six lines from the bottom, (Figure 45) should read (Figure 44).
4. On page 68, the telephone and fax numbers of the Seaweed Industry of the Philippines should be +63 for the international code (not +62 as shown).
5. On page 73, Figure 47, the caption should read: "*Porphyra umbilicalis*. Scale: width of specimen is about 20 cm".
6. On page 102, at the end of the reference, FAO, 1987a, the following should be added. "See also References 2- Internet sources, below".
7. On page 104, in the reference Schramm, W. 1991a, the page numbers should be 378-408 (not 378-308 as shown).
8. On page 105, under References 2 - Internet sources, the following reference should be added.
FAO, 1987a. *FAO Fisheries Technical Paper, 288*. Available at:
<http://www.fao.org/docrep/X5822E/X5822E00.htm>



PREPARATION OF THIS DOCUMENT

This Technical Paper is written for those who know little about the seaweed industry, but wish to know more. It has been written with a minimum of technical language and is designed to help those who are asked to make decisions concerning the seaweed industry when they have little background information to assist them. Such decisions may be about regulation of the various sectors of the industry, about assistance to it, or financial investment in it. This may involve people in bodies such as government agencies, development banks, national and international aid and development organizations, NGOs and financial institutions.

It may also be of value to marine scientists, or students of marine science, who wish to extend their knowledge of the macro-algae and their application in the food, hydrocolloid and other industries.

Then there are those people, many of whom the author has encountered over the last twenty years, who observe the vast quantities of seaweeds on coasts and in seas around the world and ask “What can be done with it and how could they profit by utilizing this natural resource?” This paper is a useful starting point for such entrepreneurs.

The first section – Introduction to commercial seaweeds – is recommended to all readers, especially those who need a brief overview of the industry. Readers with more specific interests can then move to the other sections, which deal with particular sectors of the seaweed industry. Here, sufficient detail is provided for the average reader, but for those requiring more information on particular topics, lists of useful references are given in the text.

Distribution:

FAO Fisheries Department - Selected addresses

FAO Regional Fisheries Officers

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ABSTRACT

Seaweed is a very versatile product widely used for food in direct human consumption. It is also an ingredient for the global food and cosmetics industries and is used as fertilizer and as an animal feed additive. Total annual value of production is estimated at almost US\$ 6 billion of which food products for human consumption represent US\$ 5 billion. Total annual use by the global seaweed industry is about 8 million tonnes of wet seaweed.

Seaweed can be collected from the wild but is now increasingly cultivated. It falls into three broad groups based on pigmentation; brown, red and green seaweed.

Use of seaweed as food has strong roots in Asian countries such as China, Japan and the Republic of Korea, but demand for seaweed as food has now also spread to North America, South America and Europe. China is by far the largest seaweed producer followed by the Republic of Korea and Japan but seaweeds are today produced in all continents.

Red and brown seaweeds are also used to produce hydrocolloids; alginate, agar and carrageenan, which are used as thickening and gelling agents. Today, approximately 1 million tonnes of wet seaweed are harvested and extracted to produce about 55 000 tonnes of hydrocolloids, valued at almost US\$ 600 million.

McHugh, D.J.

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