Seaweeds Industry

Seaweeds is the most successful fisher product of the Philippines in recent years. It is essentially a small grower industry at the production side thus providing livelihood in the generally poor coastal areas. In the processing sector new investors are coming in while established ones improved their services to meet the increasing international demand. The Philippines were able to take hold of a significant portion of the market, however, the industry can still stand a lot of improvements.

Description
- There are five (5) species of seaweed in the country: Eucheuma (usually exported fresh), Caulerpa (exported fresh or in salted form), Sargassum (produced as meal for animal feed manufacture), Gelidiella and Gracilaria (both exported dried and/or alkali-tested)
- The most important variety of seaweed is Eucheuma of the red algae which accounts for 98% of the total Philippine production of seaweed.
- Eucheuma is the source of carrageenan, one of the world’s foremost food and industrial additives today.
- It is a valuable substance used in gelling, suspending, thickening or waterholding properties in various products.
- This red algae grows in sandy bottom of marine waters in intertidal or subtidal zones where the water is very salty, clear and fast moving. Its soft body is light brown to light green in color with erect or prostate branches.
- Carrageenan is a yellowish or tan to white coarse to fine powder that is practically odorless and has a mucilages taste. It has the unique ability to form an almost infinite variety of gels at room temperature, rigid or compliant, tough or tender with high or low melting point.

Production
- Of the 988,888.2 MT output in 2003, Mindanao produced 54 percent.
- In 2004 production increased by 21.83% to 1,204,807.6 MT of which Mindanao contributed 685,440.7 MT or 56.9%
- Volume of production in 2004 by region in Mindanao-Region IX (154,786.5 MT), Region X (39,155.6 MT), Region XI (1,145.6 MT), Region XIII (17,838.2 MT), ARMM (472,514.8 MT)
- Bulk of production in Mindanao comes from Western Mindanao where there are stretches of shoreline suitable for growing seaweed.
- ARMM is the top producing region at 68.9% of Mindanao.
- Region 9 contributes 22.6%

Processing
- The processing of seaweed into semi-refined carrageenan involves simple technology.
- With the exception of Shemberg Marketing Corporation, the industry has limited itself to the production and export of semi-refined product
where quality control is not as stringent and demanding as refined carrageenan.

- Refined carrageenan products are manufactured either through non-extractive or extractive methods.

**Cost and Return**

- 7 kgs. Of wet seaweeds yield 1 kg. dried seaweeds.
- In Stake method of seaweed production the expected yield is 22 mt/ha/cropping with an ROI of 355%.
- In monocline the yield is 9mt/ha/cropping but with a higher ROI of 700%.
- The raft method can yield 32 mt/ha/cropping with an ROI of 825%.

**Demand and Supply**

- The export market is still bright especially with the increasing demand from China.
- A 10%/year increase in export is highly doable
- The country is targeting a 10%/year increase in seaweed production

**Foreign Market/Trade**

- The world sea plant market is estimated to be worth US$ 3.5 billion annually.
- Globally, Japan, USA and to a lesser extent China purchase more than 50 per cent of world trade in Seaweed and other algae. These three countries are the largest importers of seaweeds.
- China (61%), Japan (10%) and the Philippines (8%) are the major export countries.
- In 2003, the Philippines generated $143.5 million from seaweed exports to the US. In 2004 the industry generated about $158 million, or a 10-percent increase from 2003.
- In 2004, the Philippines exported 11,958 tons of carageenan valued at US $54 million.
- Aside from this, the country is also exporting other seaweeds, mucilage and other algae (32,181 tons valued at US$410 million.
- The strongest market for the Philippine carrageenan is the United States (1,937 tons at US $ 9.4 million FOB) followed by the Denmark (1,066 tons at US$ 4.9 million FOB). In 2003, Indonesia has a 4.4% share in this market.
Source: SIAP

- China although the world’s largest exporter is also a large import market and Indonesia has a major share of this market. However China is generally a low price market.

Marketing Practices
The market structure through which the produce are channeled starts from:
1. the farmer-producer who may also double as collector or assembler;
2. to the small traders who act as middlemen or at the same time as small-scale assemblers or wholesalers;
3. to the large traders who are mainly agents;
4. to the exporters or the processor and/or exporter.

Problems
- Low farm productivity
- Poor quality of seaweed in some areas due to poor farming practices
- Lack of industry-wide quality standards on raw seaweeds
- Inadequate technical services and training
- Lack of farm or village level post-harvest and drying facilities
- High marketing costs from the farm to the processors
- Limited competition at the farm level marketing chain
- Lack of organized growers cooperatives
- Inadequate production credit access
- Weak government support in international regulatory forums
- Limited access to global market intelligence by many stakeholders
- Inadequate R & D budget on processing and product applications
**Price Trend**
- Average domestic price of seaweeds showed an increasing trend.
- Fresh seaweed is generally P4/kg, semi-dry is P30/kg and chips is P150/kg
- Export of carageenan was at $4.50/kg in 2004 down from $4.68/kg in 2003
- Seaweed export was at $1.11/kg in 2004 up 4.7% from 2003

**Credit Assistance**
- Quedancor-Integrated Livelihood Program for Fisherfolk (ILFPF), for aquaculture retail scheme maximum loanable amount is 80% of project cost but not to exceed P50,000/barrower. Interest of 12%/annum + 2% service charge for SRT.
- Quedancor Seaweed and Fish Culture Program (SFCP)

**Investment Opportunities**
- Seaweed farming
- Seaweed nurseries
- Seaweed processing

**Institutional Support**
- Seaweed Industry Association of the Philippines (SIAP)
- Provincial Seaweed Development Councils (PSDCs)
- Bureau of Fisheries and Aquatic Resources
- Growth with Equity in Mindanao (GEM) Program