

The Philippine Seaweed Industry

Anicia Hurtado-Ponce that appeared in the Assessment Reports - (Philippine) Export Winners published by the Department of Science and Technology in collaboration with United Nations Development Programme, 1997)

The Philippines is one of the major producers of the red seaweed *Kappaphycus alvarezii* (also known as the *cottonii* type) which is a source of the semi-refined or Philippine natural grade (PNG) carrageenan. The shortage of locust bean gum (used in pet food) gave PNG a place in the world market in 1994. Europe's acceptance of PNG as food additive was significant, increasing the number of buyers that already included the US, Japan, Latin America, other Asian countries and Canada.

PNG is also being used in the meat-poultry processing and personal care (tooth-paste) industries. Likewise, the interest of pharmaceutical industries in PNG may further increase demand for *Kappaphycus* and *Eucheuma*.

OPPORTUNITIES AND THREATS

PNG had to go through a stringent test in the US and Japan before it gained acceptance in the world market. The quality of PNG has to be maintained.

Indonesia, which expanded its *Kappaphycus* and *Eucheuma* culture, is the Philippines' strongest competitor.

Another threat to the industry is the deteriorating quality of *Kappaphycus* seedlings.

STRENGTHS

Alternative species

Other than *Kappaphycus*, the industry can culture and market the following species: *Gracilaria changii*, *G. firma*, *G. heteroclada* (= *Gracilariopsis bailinae*), *G. manilaensis* and *G. tenuistipitata*. These have been identified by R&D institutions as good sources of (bacteriological) agar

and agarose which would beacon the rise of *Gracilaria* industry.

It is also commercially viable to farm *G. heteroclada* in estuarines and in ponds as shown by AQD. There is also the potential of using *G. heteroclada* as biofilter in intensive shrimp farms.

Processing

The number of processing plants and refineries reflects the strength of the industry. The Philippines has the largest carrageenan refinery in Asia and one of the best in the world. This gives the country an edge over other producers. At present, there are three commercial agar processing plants in

Luzon operating seasonally during peak months of *Gracilaria* harvest (January-June).

WEAKNESSES

Production of seaweeds, however, is seen as erratic, and this is attributed to (1) indiscriminate harvesting, seasonal abundance of different species in different areas, and lack of proper management especially for *Gracilaria*; (2) shortage and deteriorating quality of seedlings especially for *Kappaphycus*; and (3) natural calamities.

Some recommendations for the industry's problems are tabulated below:

<i>Species / Problem</i>	<i>Recommendations</i>
<u>GRACILARIA</u>	
Erratic and seasonal supply of natural stock	Inventory, assessment and management of natural stock
Outdated agar processing plants	Upgrading of facilities
<u>KAPPAPHYCUS</u>	
Poor quality of seedlings	Strain selection; establishment of seedling bank; out-planting of selected seedstocks
Decrease biomass of harvested crops	Improvement of seedstock quality; optimization of biomass production; expansion of farming areas; improvement of farming techniques
Poor quality of harvested crop	Proper drying and storage facilities; ecological physiological evaluation of stock
"Ice-ice" phenomenon due to disease and environmental degradation	Proper farming practices
<u>SARGASSUM</u>	
Depletion of natural stock	Resource management; transplantation; spore recruitment
Absence of alginate processing plant	Establishment of pilot alginate processing plant; manpower development
<u>IN GENERAL</u>	
Lack of funds for expansion / upgrading to produce quantity and quality colloid	Linkage with government financing institutions
Limited product applications of carrageenan, agar & alginate	Development of new applications through R&D
Limited market information	Strong links between SIAP, DTI consular offices
Lack of skilled personnel	Degree and non-degree training programs

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