SEAWEED FARMING FOR CARRAGEENAN AND AGAR RAW MATERIAL : AN ENTERPRISE PERSPECTIVE

Tropical seaweed farming provides a livelihood for thousands of families. Every year, about 250,000 dry tons of seaweeds are produced, generating a total annual income of more than US$200 million for farmers. In Indonesia and the Philippines, seaweed farming provides the primary economic basis for hundreds of coastal settlements.

These farmed cash crops are produced almost entirely by family-owned, village-based enterprises. They are the main raw material used for producing carrageenans and agars, vegetable gums that are widely used as ingredients in foods, personal care products, air fresheners and products for the healthcare and well-being markets.

The growing global market demand for agars and carrageenans has provided the main driver for the growth in tropical seaweed farming during the past 40 years. This growth has been supported by numerous government and non-governmental agencies, who have given financial support. This is a positive response to the clear benefits that seaweed farming offers to coastal villages, and the families who live there.

Almost all crop production comes from regions where carrageenan and agar seaweeds grow naturally. With proper site selection and the implementation of good agronomy protocols, seaweed farming has developed within its indigenous range without any harm to the local ecosystem. As is the case for most important crops, problems have occurred when seaweed types have been transplanted beyond their natural range, or when proper protocols were not followed. While these problems have drawn media attention, their impact has been minimal when compared with the positive benefits of seaweed farming on the local communities.

However, seaweeds are not just important as cash crops – they are also an essential component of sustainable development along tropical seashores. In many tropical regions, the destructive fishing methods employed by impoverished local people are devastating habitats along the seashore. Seaweed-based aquaculture can provide a practical alternative to this destructive exploitation, as long as sustainable methods are used. The productive capacity of tropical seashores can be optimised if seaweeds are produced not only for vegetable gum production, but also as foodstuffs and fodder, and as habitats for marine animals.

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More than 480 million people live in tropical areas, and about a quarter of these live in poverty. In addition, about one-third of the world's 350,000 km of seashores are in tropical regions. Seaweed-based integrated aquaculture development, including the production of fish and shellfish, can generate billions of US dollars every year for small enterprises owned and operated by local people. The cultivation of carrageenan and agar seaweeds as cash crops is an important "entry-level" aquaculture activity, because only modest investment is required to start a family business. This can provide year-round income to elevate the farmers well above poverty levels. This income can then be used to finance diversification into sustainable multi-species aquaculture systems, with a broad economic base.

A further advantage is its beneficial effect on ecology and climate change. By trapping carbon, seaweed farming could be one of the tools in the carbon credit system that is being developed. It also removes nitrogen and phosphorus nutrients from local waters, and thus could also be eligible for nutrient credits in eutrophication reduction.

This position paper was prepared for Marinalg by
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