

Seaweed estates taking shape in Sabah

KOTA KINABALU: Universiti Malaysia Sabah (UMS) is trying out the mini estate concept to boost seaweed production that may help Malaysia emerge as one of the global seaweed producer.

The seaweed estates are now under trial in Semporna on the east coast of Sabah, the location seen most suitable as it is part of the Coral Triangle encompassing leading seaweed producers Indonesia and the Philippines.

According to Associate Professor Dr Suhaimi Md Yasir of UMS' School of Science and Technology phase one will stretch over 2,000 hectares that in terms of productivity should yield about one to five metric tonnes of seaweed per year.

"We will try to achieve this figure, which has a value of about US\$130 million (RM404.3m)", he says.

UMS is in the Malaysian Seaweed Development Industry Steering Committee chaired by the Fisheries Department.

"In Phase One we look at the database e.g. oceanography, water quality for that area and so on. Because when you have the database, it's easy for the investors to come in. They know the water quality, area, topography, weather pattern and so on.

"How you manage the nursery for the seedling collection is very important in maintaining growth rate and quality", stresses Dr Suhaimi.

Phase Two is from 2011 to 2015 (Tenth Malaysia Plan), covering not only Sabah but Sarawak and the Peninsula too. The seaweed planting trial has been conducted in Langkawi and Terengganu as well.

Dr Suhaimi says while Phase One is about capacity building among others, Phase Two will aim for national development, meaning seaweed becomes a commodity.

"It will no longer be small-scale but involves 50,000 to 100,000 hectares with a production target of about 200,000 to 300,000 metric tonnes per year.

"We want the private sector and government-linked companies (GLCs) to be involved. We also want to nurture small and medium scale entrepreneurs in this field. We work on the quality", he stressed.

Towards this end, UMS has already enlisted the collaboration of the Federal Land Development



Workers drying seaweed on a farm. - Bernama photo



Universiti Malaysia Sabah (UMS) has developed a Mini Estate Concept to boost seaweed production that might see Malaysia edging out some of the present global producer. There are four sectors involved in the concept of seaweed culture that is processing, product development, and quality development. - Bernama photo

Authority (Felda).

Even now a local company started by Salleh Mohd Salleh in 2009, with a few foreign investors and Tawau-based Tacara Sdn Bhd, are already producing 500 metric tonnes per month and are exporting seaweed-based products.

Indonesia is currently the leading producer of seaweed with an output of 150,000 metric tonnes in 2009 having overtaken the Philippines which could only manage 100,000 metric tonnes.

Presently, Malaysia is placed insignificantly under 'others' accounting for just five per cent. World demand is expected to reach 400,000 metric tonnes by 2012.

Indonesia has indicated that it would ban raw seaweed export by that time. Hence Malaysia's necessity to increase productivity, in order to cater for export and domestic needs.

The Coral Triangle is capable of supplying 80 percent of the world demand with the 'kappaphycus' type

of seaweed, known for its thickening and gelling properties, that can be found in abundance. It is a major source of carrageenan, a colloidal substance chiefly used as an emulsifying and stabilizing ingredient in foods, cosmetics and pharmaceuticals. UMS has already identified 11 species of the 'kappaphycus'.

To further develop the industry, the Coral triangle has signed an agreement with BIMP-EAGA.

In this regard, downstream processing is one ongoing activity, currently under Sirim's responsibility and led by UKM at its Seaweed Downstream Research Centre.

"With these products the target for the country is US\$1.5 billion (RM4.7b) per year. Although we are small we are capable of meeting the target", Dr Suhaimi said optimistically.

Conventionally, seaweed cultivation entails 80 per cent labour (working at the

sea) and 20 per cent technology.

"We want to turn it around now - the mini estate concept is eco-friendly, doing away with environmental issues associated with the tedious conventional method, labour effective, an easy strategy, with 80 per cent of the work done on the complex and 20 per cent under the sun.

Meanwhile, UMS Deputy Vice Chancellor Prof Dr Rosnah Ismail who led a team including the writer to the islands to see the progress noted that the university first initiated a seaweed farming project in Pulau Banggi, Kudat in 1998.

"The objective then was R & D and to raise the income of poor households. The project was to encourage as many participants as possible", she recalls.

The result of the Banggi Project was a success, raising the income of some 20 households that seriously participated to between RM3,000 and RM5,000 per



Dr Suhaimi Md Yasir

month.

"UMS is recognized as the lead agency for R & D in the BIMP-EAGA region", she says, adding that the university was supported with a grant of about RM3.5 million from the Department of Fisheries and LKIM for the Banggi project.

Meanwhile, Japson Wong, 25, from Kota Kinabalu and a UMS graduate in Marine Science is a participant in the mini estate concept.

His interest in seaweed aquaculture was sparked by his experience while doing field work in Banggi under Prof Dr Mohd Rizuan Nordin and further exposure to seaweed farming during his industrial training.

He applied through the Sabah Fisheries Department to be included in the Graduate Farmers Programme. By April 2009, he was already in Pulau Omadal, where he and 21 other participants, including four women from Lahad Datu, Keningau and Kota Kinabalu were allotted two hectares each, a house and the necessary tools to start their respective project.

"When we started we encountered a lot of problems. Bad weeds were growing because the area was quite shallow", he related. The unwanted weeds affected growth rate. Progress was slow and to make matters worse, the seaweeds would sometimes just drop into the sea.

There is also that seasonal challenge - the north and south winds. The north wind is the good one because the waves that follow are from the deep sea which contains the nutrients that nourish the seaweeds, he says.

Wong realises it is a tedious endeavour which will not make him rich in the near future. He does not know whether he could sustain. But the thought that he will eventually prosper from all the hard work keeps him going. - Bernama