

Business Standard



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A seaweed has turned out to be a lucrative commercial marine crop. Called *Kappaphycus alvarezii* in scientific parlance, this seaweed has already become a source of supplementary income for fishing households in the coastal areas of Tamil Nadu.

The seaweed's commercial value lies in its carrageenan content, which is a gel-forming agent, and is widely in demand by the industry engaged in the production of pharmaceuticals, cosmetics, food products and pet feed. It has a good export market, besides sizeable domestic demand.

The technology for seaweed cultivation has been developed by the

Central Salt and Marine Chemicals Research Institute (CSMCRI), an organ of the Council for Scientific and Industrial Research (CSIR). And it is being promoted among the fishing families by Pepsi Foods Pvt Ltd under its contract farming initiative.

Significantly, while this gel-forming agent is extracted normally from dry seaweed in other countries, the pioneering Indian technology allows it to be drawn from wet weed. This provides an additional advantage of producing a sap that contains residual solid matter and has been found to serve as an efficient organic fertiliser. An application has already been filed for patenting this unique

integrated method for the production of carrageenan and liquid fertiliser from fresh seaweed.

According to Pepsico exports director Abhiram Seth, the company provides extension services for passing on the CSMCRI seaweed-growing technology to the fishing communities, especially women, with assured buy-back at pre-agreed prices. This is sought to be done largely through the self-help groups of seaweed growers. As such, seaweed cultivation provides an alternate and sustainable source of income to coastal women who otherwise have limited employment opportunities. The Pepsico project was

launched in 1999 in the coastal areas of Tamil Nadu.

In seaweed cultivation, the planting material is attached to the ropes tied to bamboo rafts. These are anchored like boats in the sea for 45 to 60 days before bringing them back to the shore for harvesting. A small part of the harvested stuff is re-used as planting material, while the rest is used to extract carrageenan and liquid sap through dry or wet technology. Much of this work is done by women, utilising their free time, to supplement family income. The most notable aspect of this venture is that it is wholly eco-friendly as it does not involve

the use of any chemical or artificial fertiliser. The *Kappaphycus* plants grow totally under natural marine conditions.

The economics of seaweed cultivation, as worked out by Pepsico, indicates a household engaging two people in this venture can earn a net monthly income of about Rs 8,000 by using 90 rafts for growing it. The cash investment, largely on purchasing material like rafts, is estimated at nearly Rs 50,000, which is usually raised through bank loans. The government is also providing some subsidy on that.

The liquid fertiliser (sap) produced from this plant, according

to the CSMCRI analysis, contains a large number of micro-nutrients like iron, zinc, copper, cobalt, molybdenum and others, though its nitrogen and phosphorus contents are meagre. Besides, the presence of growth hormones, such as auxins, cytokinins and gibberellins, further enhances its utility.

All this makes it an excellent non-chemical fertiliser for several crops. Indeed, it is ideally suited for organic farming where chemical fertilisers are totally prohibited. The growth hormones are believed to boost plant growth, resulting in better seed formation, besides offering various other benefits. Significantly, this fer-

Weeds of fortune

How a seaweed found in Tamil Nadu has turned out to be lucrative business for fishing households

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tiliser has been found to release nutrients gradually into the soil. Equally significantly, this can be applied to crops even in the form of spray, using only small quantities, to meet the plants' micro-nutrients requirement. Moreover, it facilitates improvement in the soil regime due to stepped up metabolic activities.

Field trials to assess the performance of seaweed sap liquid fertiliser have thrown encouraging results in several crops, especially paddy, maize, gram, brinjal, okra, tomato and some others. The increase in the yield in the case of corn, gram and brinjal has been observed to be as much as 32 to 36 per cent. In tomato, too, a yield advantage of over 26 per cent has been noticed. However, the results of its use on Basmati rice have not been encouraging. It seem to cause increased lodging (falling down) of plants, neutralising the other gains.