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Carrageenan Prototype Mapping and Food Product Development of Seaweed at the Salabangka Islands of Central Sulawesi Province, Indonesia

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Abstract

Food product development is directed towards the consumer needs who nowadays concern more on the healthiness of their diet. Processed seaweed products are included in healthy food as semi-processed products such as carrageenan or as end-processed products such as candy, bread and cheese stick. The research objective was to get an overview of carrageenan levels of seaweed (*Eucheuma cottonii*) cultivated in different locations, as well as the opportunities to increase income for the coastal communities if they process seaweed to end products.

The results showed that carrageenan from the Karantu village has the best chemical, physical and functional properties while the seaweed contains 36.8 % of carrageenans, slightly higher than found in the Padabale village, 36.4 %. This finding is in line with the results obtained in a former coastal suitability study (2011) and meets the standards of FAO, FCC, EEC, and the EU (E407).

In order to evaluate the possibilities for local seaweed based end-products, three products were made on the base of seaweed puree: candy, bread and cheese-sticks and tested by a panel. The panel preferred cheese-stick, for candy and bread. Based on this organoleptic test the best recipes were introduced to women seaweed farmers at Salabangka Island, capital city of South Bungku District. The economic analysis showed that all end-processed products have an R/ C-ratio > 1 and therefore will be profitable for the local farmers.

Based on this carrageenan prototype analysis it can be recommended to take the two villages with the best carrageenan yield as a “nursery” for the development of seaweed. The end-processed seaweed based products favored by the panelists (sweets and cheese-sticks) should be further developed towards a locally based commercial production under supervision of the Central Sulawesi government.

Keywords: Formula product, income, local people, mapping