Cultivation and Utilisation of Red Seaweeds in the Western Indian Ocean (WIO) Region

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Abstract

Seaweed farming in the Western Indian Ocean (WIO) Region is carried out in a number of countries, most of them farming *Eucheuma denticulatum*, *Kappaphycus alvarezii* and *Kappaphycus striatum*. These species are farmed mostly in Tanzania with limited production in Madagascar, Mozambique and Kenya; current production (2012) stands at 15,966 t (dry weight) year^{-1} of *Eucheuma* and*Kappaphycus*, valued at US$ 4.2 million with 95 % of this tonnage coming from Tanzania. Other countries in the region have limited or no seaweed production owing to problems of epiphytes, ice ice and markets. The problem of epiphytes coupled with ice ice that WIO countries are facing causes die-off of *Kappaphycus* which is the preferred species in foreign markets for its thicker gel, kappa carrageenan (vs. the weaker iota carrageenan from *Eucheuma*). New efforts are put to curb these problems including moving seaweed farms to deeper waters and cultivation trials of other carrageenophytes as well as agar-producing species, agarophytes. Research work has been initiated to evaluate *Gracilaria* and *Hypnea* farming and processing in Tanzania, the Republic of Mauritius and Mayotte. *Gracilaria* farming is at experimental stages as a biofilter of fishpond effluents and as potential species for the production of agar with growth rates of 1.5–1.9 % day^{-1}. *Hypnea*farming is only being initiated in Mauritius and Mayotte at present. Other innovations including value addition by making various seaweed products and encouraging the consumption of seaweed as food at least in Tanzania and Mauritius are increasing further the importance of the seaweed farming and processing industry in the WIO Region.

Keywords

Cultivation Challenges Value addition *Eucheuma Kappaphycus Gracilaria*