Towards effective development of community-based polyaquaculture: an alternative to small-scale fisheries and the destruction of reef habitats

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Since 2008, community-based aquaculture has been developed and is proving to be an effective alternative to collecting wild animals (by fishing) and as a solution against the chronic poverty of coastal communities. This aquaculture began with the development of holothuriculture (Holothuria scabra), strengthened by the integration of seaweed farming (Kappaphycus alvarezii) and the promising development of crab aquaculture. The development of this polyaquaculture sector is the result of an incontestable multi-stakeholder partnership involving the communities who form the basis of the production chain, private operators and investors, who guarantee the success of the production, research and training institutions that guarantee Scientific and technical achievements, administrative authorities that manage and apply the general policy, and NGOs that support the socio-organizational aspects. This socio-ecological production is an innovative and nascent system for Madagascar, but its positive evolution is a hope and a proof of its present effectiveness. The production of each sector, particularly seaweed, has shown a steady increase since the development of the system, with a doubling of production between 2013 and 2016. Being a nascent system, several aspects remain to be consolidated, notably the exploitation system by strengthening legislation and securing production through research development (seaweed and sea cucumber diseases, hatchery for crabs, development of a new sector to integrate, such as coral farming, fish farming, etc.). The partnership structure that ensures the efficiency of the production should also be secured. This new and innovative aquaculture exploitation system is a promising alternative to fishing and reef habitats destruction, adapted to the socio-economic contexts of developing countries such as Madagascar.