

Self-regulatory quota system in the brown mussel fishery at Vizhinjam

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Managing fisheries of bivalve mussels is challenging because these are highly variable resources due to their strong dependence on annual recruitments. As a result of environmental and oceanic conditions, their abundance may also exhibit cyclical tendencies. The sedentary nature, combined with the coastal nature of the fishery, makes them highly vulnerable, particularly at low stock sizes, increasing the risk of overfishing and depletion. Therefore, the management of sedentary bivalves needs to adapt to the fluctuations in productivity and abundance of these resources to minimize the chances of collapses. The Vizhinjam-Kovalam region of Kerala is one of India's important brown mussel (*Perna indica*) fishing areas. The mussel fishery supports the livelihood of nearly 300 fishermen in the area. This communication is a detailed description of the self-regulatory quota system in continuation of the earlier initiatives instituted in 2019 by fisherfolk to protect juvenile brown mussels (Gomathi *et al*, 2019). The "Diving Workers Welfare Society" of the Vizhinjam-Kovalam Coast has established a new fishing quota system for brown mussels and set 23rd October as the start date for the 2022 mussel fishery season. This policy change is being implemented to lengthen the fishing season. This system is also known as Individual transferrable quota (ITQ). The daily limit for a single mussel fisherman under this system is 40 kg or two baskets ('Kutta'). An individual who catches more than his quota must transfer the excess catch to a fisherman who catches less.

Besides the quota system, the committee has also fixed a minimum Landing Centre Price (LCP) for mussels, where one 'Kutta' of about 20 kg will realize an LCP of ₹800. This guaranteed minimum LCP provides a stable income for the fishermen throughout the year, regardless of when they land their daily catch, besides a minimal value guarantee. In the past, when outside auctioneers set the price, it

dropped from ₹1000 to ₹200 per basket during the glut and there was no guaranteed minimum price; in addition, the day's landing time affected the mussels' prices, with early landings fetching higher prices. These mussel pickers formed the 'Mungal Thozhilali Kshema Sangom' (Diving workers' welfare society) (Reg.No.TVM/TC/1514/2014) to uplift the diving community, which has 252 fishermen as registered mussel fishers who elect office bearers of the society which includes a President, Vice President, Secretary, Joint Secretary, Treasurer and Executive members. The Society decides the commencement of mussel fishing season, timing of fishing activities, and quantity of mussels allowed per diver. The welfare society has a bank account and collects ₹50 from each diver every week which will be used for the fishermen in case of medical emergencies or fishing accidents. Money is collected at the landing centre every Thursday, and the person in charge of this activity hands it over to the President of the welfare society who deposits it in a bank. The Society also determines the optimal time to go mussel harvesting based on the engine power of the vessel. Mussel fishing begins at 6.30 am and ends at 10.00 am. Fishermen who use non-motorized catamarans, which require more time to reach the fishing spot, are granted special consideration and permitted to leave for fishing earlier (6.10 am). The next category consists of fishermen who use catamarans or boats powered by motors of two hp capacity. The earliest time a fishermen using nine hp motors are permitted to go out is 6.30 am.

For the timely management of the mussel fishery, committee members meet every Thursday to take crucial decisions affecting mussel fishing regulations and financial aspects. Since 2019, the committee has formulated and efficiently implemented new rules and regulations. Decision/ information is communicated to the fishermen verbally and by posting



Brown mussel in 'Kutta/basket' harvested from the Vizhinjam-Kovalam Coast.

notices at the mussel landing centre. The fishery's voluntary management is followed without enforcement by the government or other institutions. Further, different rules and regulations implemented are limiting the collection of juvenile mussels and there is a closed holiday for fishing on Fridays. There is also a restriction on fishing by outsiders,

and the fishermen are not allowed to collect both lobster and mussels on the same day. Mussel collectors and traders are subject to penalties for ordering or purchasing juvenile mussels. Since it is self-regulated and voluntary, there have been no known violations, though the committee has decided on a fine of ₹2000–₹10,000 for anyone breaking the rules.