

## DEVELOPMENT OF A NOVEL MUSSEL CULTURE SYSTEM FOR COASTAL REGION OF GOA REGION

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### PROBLEM AND RESEARCH GAP

The green mussel, *Perna viridis* culture offers scope for augmenting the fish production from the estuarine ecosystems. A total of 0.5 lakh ha estuarine surface is available along Goa coast and about 20-25 % area hold scope for the mussel and oyster cultivation. The culture of mussel is relatively simple and economically efficient as these organisms utilize the phytoplankton available in water column. There are several methods adopted for the culturing the mussel, which varies its size and type of the rack, ropes, seeding and low harvest yields. Thus, a standard methodology was developed for cultivation of mussel based on design of rack, rope size and length, spacing between the ropes, size of mussel seed, seeding rate and culture period.



### PARTICULARS AND SALIENT FINDINGS

A standard methodology for mussel culture was developed for estuarine waters along the coastal region for improving productivity and income of the fishermen/women. The package of practice developed consisted of a 5m × 5m bamboo rack structure (bamboo of 22.5 cm in diameter) with 100 mussel ropes (nylon, 2.5 cm diameter) placed at a distance of 30 cm between ropes, each rope with one kg of mussel seed (20-30mm) packed in stitched cotton bags (thickness: 2 mm, size: 1m x 0.3m). The mussel ropes are hung from the bamboo poles at a clearance of 30-35 cm from the bottom. The package of practice has significant improvement on the spent attachment (80%) size of mussel harvested mussel (85-95 mm), the yield from a mussel rope ((4.2kg), coefficient of variation in variation in size of harvested mussel 12.8) and total harvest (3.8 times of the total stocked mussel). The benefit cost ratio and rate of returns showed higher values (20%) compared to the farmers practice. Thus, the standard methodology has been identified as a potential technology to the farmers of mussel in the estuarine waters of India. *uoraca*, *Epinephelus*



### IMPACT

The demonstration of the technology of 5m × 5m rack in area for 500 m<sup>2</sup> generated an income of Rs 0.30 lakhs with a production cost of 0.14 lakhs yielding a net profit of 0.16 lakhs. The benefit cost ratio was 2.14 from a single rack structure. The net income from the farmer's practice and the standardized method was Rs. 9400/- and Rs. 16,000/- respectively per rack. Therefore, the technology has yielded 83% higher income when compared to the existing methodology followed by farmers. The technology has a potential to generate an additional net income of Rs. 90 crores from the estuarine waters of Goa.



Novel mussel culture system developed for coastal region of Goa

### REFERENCES

ICAR Success stories: Glory of Mussel Culture Stimulates Entrepreneurship in Goa, <https://icar.org.in/node/433> ICAR.