EMPOWERMENT OF WOMEN: EXPERIENCE OF OYSTER CULTURE AND VALUE ADDITION IN KERALA

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Introduction

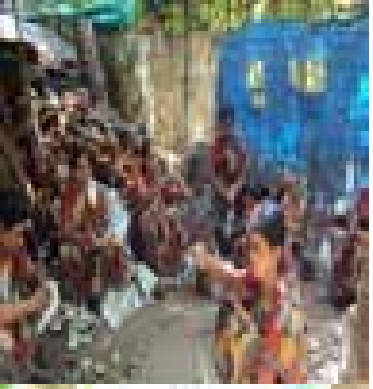
❖ The coastline of Kerala spreads over 590 km with 222 fishing villages

❖ Significant population of 11.36 lakh depends on fisheries sector in Kerala; 8.08 lakh is from marine fisheries sector and 3.28 lakh from the inland sector

❖ Marginalization is rampant among the women workers in fisheries sector and employment opportunities for women in fisheries is sparse

❖ Gainful employment ventures in harvest and post harvest sector of fisheries can effectively support the livelihoods of coastal fisherwomen.

❖ The enormous potential of inland water bodies can be utilized for culture with adequate support for starting small women enterprises preparing value added products on participative basis.



Introduction

- Oyster farming has the potential to provide significan economic benefits to rural and semi urban coastal communitie and can also benefit specific demographic groups such a women who suffer from low incomes and limited economi opportunities

- Culture of edible Indian oyster *Crassostrea madrasensis* preparation of value added products, awareness on ne mending etc. are economically viable practices that can b undertaken by fisherwomen

- Widespread adoption of oyster culture and its valu addition is expected to increase the socioeconomic statu of the area through additional income generation.

Initiative-----

❖To mobilize women Self Help Groups in the coastal transects of Kerala to take up oyster culture as an alternative avocation to support their livelihoods.

❖ This was done as part of the project “Location specific livelihood interventions for the empowerment of fisherwomen in coastal Kerala” funded by the Department of Science and Technology, New Delhi.

❖ This paper presents the outcome of the project activity organized among the coastal community of Moothakunnam in Ernakulam District in Kerala

❖ The research investigate the nature of oyster farming in these areas by examining both water quality parameters and the economics of culture.

❖ The study also attempted to identify farm management and operational challenges faced by the groups during the culture activity and in the post harvest scenario.

Oyster Culture

❖ The edible oyster *Crassostrea madrasensis* is commercially important bivalve and farming is becoming increasingly popular.

❖ C. *madrasensis* is suitable for culture because of faster growth rate and tolerance to wide range of salinity.




Study Area

❖ Moothakunnam, Ward 5 of Vadakkekkara Panchayath , in Paravur Block of Ernakulam district, Kerala selected for project intervention

❖ It covers an area of 11.25 Sq. km. The total population of the panchayath is 31,266 of which 15004 are males and 16262 are females

Moothakunnam, Ernakulam dist.

Why Moothakunnam

- Female population is high compared to males (sex ratio-1084) : The project targets women empowerment and hence it is considered appropriate to select a location where number of females dominate
- High literacy rate: Implies ease of adoption of new and scientific practices for betterment with positive attitudes
- Low female workers participation: Considering the high population rate and low female workers participation it is clear that there are a lot of women who do not have gainful employment or income. They do not posses any skills for starting self employment.

BACKGROUND

- The selected area is known for accumulation of wild oyster in the creeks and on the stones near the shores of the lake.
- Wild oyster collectors gather oyster meat from the shells using the indigenous technique of poking the shells with a sharp iron nail shaped devise which is comparatively larger than the ordinary nail.
- Shucked oyster meat is sold in the nearby markets and even they resort to door to door selling.
- As wild oyster collection is done according to demand of the market, gluts in the market are rare that they need not resort to value addition to prolong the shelf life.

Scientific culture

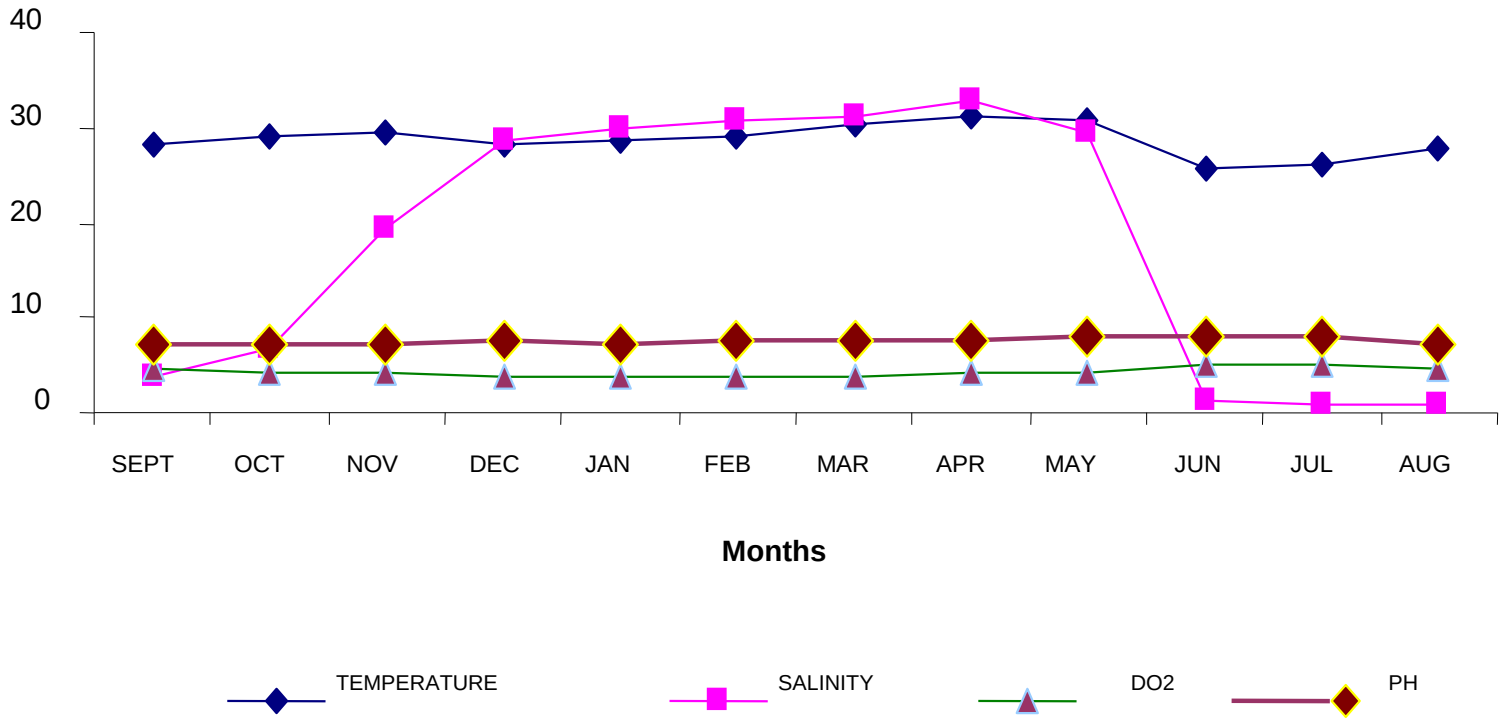
❖ Training was imparted to the stakeholders in doing the ‘rack and ren’ method of oyster culture.

❖ A series of vertical poles are driven into the bottom in rows to which horizontal bars are connected on top of the poles.

❖ Oyster strings (rens with spat) are suspended from the racks. The oysters reach harvestable size (80mm) in 7-8 months.

❖ The meat yield is 10% of the total weight of 80-100 tonnes/ha.

Hydrological Parameters



In real time-----

Farm management practices

- periodic cleaning of the oyster,oyster rearing trays, farm structure like racks, thinning, sorting or grading and manual removal of predators and foulers.

Farm management problems

- Interfere with the feeding and respiration of the oysters.
- Develop a thick blanket of fouling organisms and silt develops and the growth of oysters is hampered.
- affect the growth and survival of the oysters by blocking water flow.
- Mortality also increases due to the restriction of water circulation over the animals.

How to Control

- Identify the annual fouling sequence and then culture oyster around the period
- Culture the oysters away from fouling areas
- Destroy the fouling organisms.
- Scraping or scrubbing oyster bags and equipment with sea water.

Nutrients and Salinity

- Rich nutrients discharged by rivers into the sea are responsible for high primary productivity.
- Being filter feeders; the oyster converts primary production in the water into nutritious sea food.
- Oysters can grow in a Salinity range of 22 to 35 ppt.

SHG Groups at Moothakunnam

Economics of Oyster culture

❖ The cost and earnings out of the oyster culture were monitored from the selected farms. The farms were of uniform size of 5 X 5 m.

Economics of edible oyster culture					
	MATERIAL /WORK	Area in square meters			
		50 m^2	30 m^2	25 m^2	1 hectare
A	Capital Investment				
1	Bamboo/casurinas poles 6m length	2500	1500	1125	4.83
2	Bamboo/casurinas poles 4m length	3500	2000	1200	6.16
3	Nylon rope 4 mm for rack construction	600	450	300	1.30
4	Cleaned oyster shells for making ren	500	300	250	1.00
	Total	7100	4250	2875	13.29
B	Depreciation @ 50%	3550	2125	1438	6.64
C	Labour and other charges				0.00
5	Rack construction labour	2500	1500	1500	5.33
6	Nylon rope for ren making	900	750	600	2.23
7	Ren making labour	500	300	250	1.00
8	Canoe hire rack making, farming, harvest	1200	1200	1200	3.73
9	Harvesting labour	1200	900	600	2.60
10	Depuration expense (shell on)	1500	1000	750	3.11
11	Charges for heat shucking				0.00
	Total	7800	5650	4900	18.01
D	Production cost	11350	7775	6337.50	24.66
E	Production Kg	5900	3510	2875	11.67
F	Heat shucked meat @ 4%	236	140.4	115	0.47
G	Selling price @ 80/kg	18880	11232	9200	37.33
H	Net profit	7530	3457	2863	12.68

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Why Depuration???

Clippings from training programme on 'Personal Hygiene in Seafood Processing

Hygiene kits comprising head gear, mouth cover and aprons were distributed to stakeholders.

Value Addition Opportunities

- The marketing of fresh oyster and heat shucked meat
- seasonal glut in the area due to harvesting of oysters in nearby locations.
- The project personnel had been aware of this situation in the past and had given enough remedial measures to overcome this problem by conducing training in value addition of seafoods including oyster.
- The members were made aware that the oyster products like pickle, cutlets, oyster balls and breaded and battered products would fetch a better price in the market.

Oyster Delights

- Hassan,F.:Mathew,S,;Vijayan, B.J.(2012)

'Oyster Delights''Central Institute of fisheries Technology, cochin-682029

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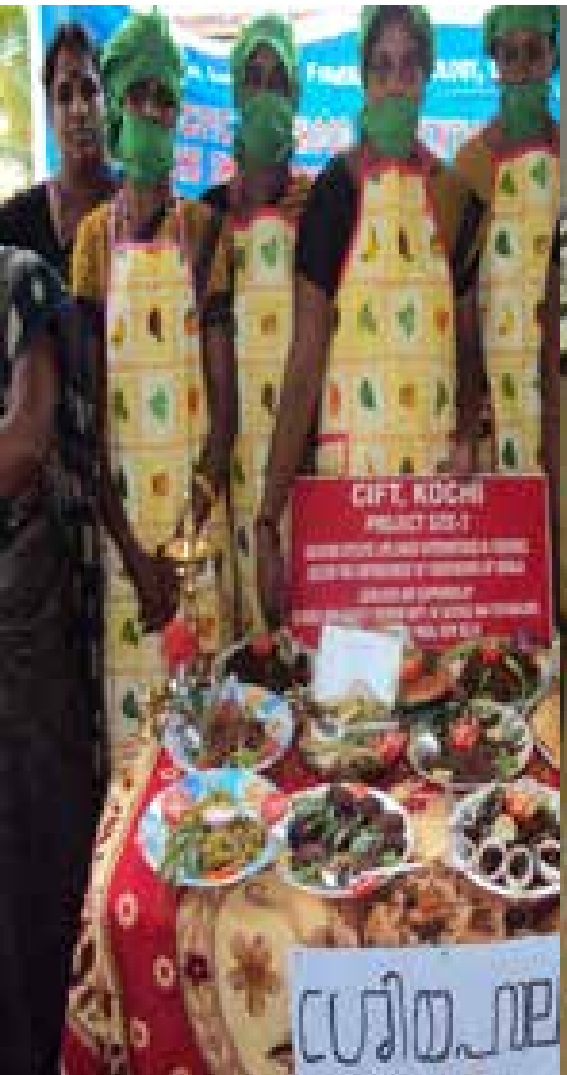
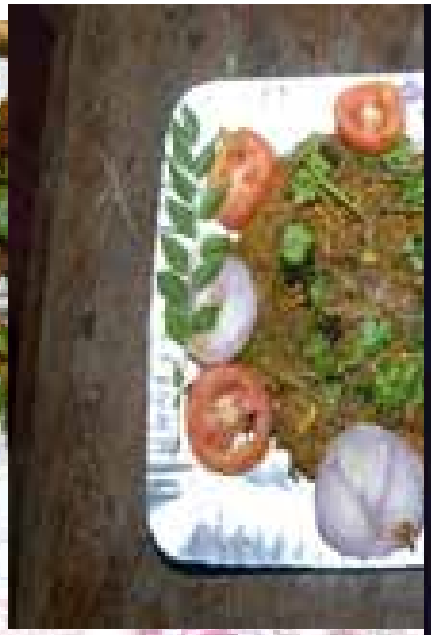
Palmphlets-for educating and creating awareness

Groups with the ready –to-eat products



Delicious products….



The 'Seafood Fest' –an exhibition of exquisite seafood cuisines




Economics of preparation of value added items from low value fish intended for local bakeries	
Items	200 cutlets (1 cutlet=35gm) Amount (Rs)
A. Cost of production	
Raw materials	253.75
Other ingredients	374.25
Packing charges	60
Wages to labour	200
Other expenses	50
Total	938
B. Revenue/Profit	
Selling price/Kg	171.43
Cost of production/Kg	134
Profit per piece	1.31
Profit per Kg	37.43
Break Even Production	286.26

Economics of preparation of pickles from seafood		
	Prawn pickle	Fish Pickle
Items	100 bottles (1 bottle=250gm	200 bottle (1 bottle=250gm)
A. Cost of production		
Raw materials	4700	4000
Other ingredients	1670	3484
Packing charges	770.68	1441.36
Wages to labour	1000	1000
Other expenses	200	200
Total cost of production	8340.68	10125.36
B. Revenue and profit Rs./Kg		
Cost of production	333.63	202.51
Selling price	440	300
Profit/Kg	106.37	97.49
Profit per bottle	26.59	24.37
Break Even Production	705.07	769.29

Opportunities

- Water source
- Tasty &Nutritious
- Export potential
- Scope for Value addition
- Economic
- Women empowerment

challenges

- Natural spat collection
- Growth and shape of oyster is not uniform
- Lack of Ready market
- High labour costs for handling and shucking
- Lack of depuration
- Technological intervention for promoting RTE and RTC products
- High risk product

Conclusion

- The project outcome has recognized the urgent necessity of providing skill to women to gain economic freedom, which is essential to bring gender equity in society.

- Income generating activities like edible oyster culture and value addition options using fish has been successfully implemented as part of the project.

- The capacity building of fisherwomen through training on modern methods of culture and preparation of value added products were found beneficial to enhance productivity and profitability.


THANK YOU