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COASTAL WOMEN AND THE POTENTIAL OF SMALL-SCALE FISH PRODUCT PROCESSING VENTURES

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Keywords: Coastal women livelihood, Small-scale fish product processing, Value-added seafood products, Fisherwomen income, Ready-to-eat fish curry, Fish pickle, Fish-based foods, Entrepreneurial development, Sustainable livelihood, Coastal community empowerment

Abstract

In the coastal regions of Tamil Nadu, fisherwomen primarily rely on vending freshly caught fish to make their livelihood. However, this is often not economically viable as they must sell their catch within a day, sometimes at a basic cost that does not even cover their expenses due to the short shelf life of raw fish. To overcome this challenge and increase their income, coastal women can explore small-scale fish product processing as a promising business opportunity. Value addition of seafood products can be achieved through the production of fish pickle, fish incorporated pasta, fish incorporated noodles, and Ready-To-Eat Fish curry. The manufacturing procedures for these value-added seafood products are simple and can significantly increase the income of the fisherwomen. Moreover, such products not only cater to the growing consumer base seeking nutritious and diverse fish-based foods but also provide health benefits to the consumers. Furthermore, the younger generation is constantly looking for new, easily available, and accessible products, making this field an excellent opportunity for entrepreneurial development among coastal women. By engaging in small-scale fish product processing, these women can enhance their personal capabilities and contribute to societal improvement. Such businesses can help empower coastal women, ensuring a more sustainable livelihood and better prospects for their families and communities.

INTRODUCTION

Coastal communities worldwide depend on marine resources for their livelihoods and food security (FAO, 2018). Women play a crucial role in these communities, contributing significantly to small-scale fisheries, aquaculture, and fish processing industries (Bennett, 2005; Kleiber et al., 2017). Despite their substantial involvement, women's roles in fisheries remain underrepresented and undervalued, leading to a lack of recognition and support for their contributions (Harper et al., 2013; Aguilar et al., 2019). The potential of small-scale fish product processing ventures as a means to empower coastal women and improve their livelihoods is an area that merits

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further investigation (Choo et al., 2008; Swathi Lekshmi et al., 2016).Small-scale fish processing ventures can enhance the value of fish products, increase income, and create employment opportunities for coastal women (Béné et al., 2016; Nayak et al., 2016). Fish processing activities, such as drying, smoking, and fermenting, have been practiced by women for centuries, with these traditional methods still being employed in many developing countries (Mohanty et al., 2006; Kamat et al., 2014). The adoption of new technologies and approaches in fish processing can further improve product quality, reduce post-harvest losses, and meet the growing demand for value-added fish products (Rahman et al., 2012; Sow et al., 2017). By engaging in fish product processing ventures, coastal women can potentially contribute significantly to food security, poverty alleviation, and sustainable development in their communities (FAO, 2018; Froehlich et al., 2018).

However, coastal women involved in small-scale fish product processing ventures often face numerous challenges that hinder their capacity to improve their livelihoods (Medard et al., 2015; Saraswathy et al., 2016). These challenges include limited access to financial resources, lack of training and skills development, and inadequate infrastructure and equipment (Béné et al., 2016; Nayak et al., 2016). Furthermore, gender-based constraints, such as social norms that restrict women's mobility and decision-making power, can also limit their ability to engage in fish processing ventures (Kleiber et al., 2017; Aguilar et al., 2019). Addressing these challenges requires a multi-faceted approach that involves empowering coastal women, providing access to resources, and creating an enabling environment for their participation in fish product processing ventures (Choo et al., 2008; Swathi Lekshmi et al., 2016).

This study aims to explore the potential of small-scale fish product processing ventures as a means to empower coastal women and improve their livelihoods. By examining the challenges faced by coastal women in these ventures and identifying the strategies and interventions that can support their participation, this research seeks to contribute to the ongoing discourse on gender equality and women's empowerment in fisheries and aquaculture (Harper et al., 2013; Froehlich et al., 2018). Further, it aims to provide valuable insights for policymakers, development practitioners, and researchers to design more inclusive and sustainable interventions that can enhance the livelihoods of coastal women and contribute to the broader goals of food security, poverty alleviation, and sustainable development in coastal communities (FAO, 2018; Aguilar et al., 2019).

MATERIALS AND METHODS

In order to know the involvement and the profit gain obtained by the fisherwomen from the various villages of Nagapattinam a study was conducted. The study involved the five group numbered fisherwomen from villages of Keechankuppam, Akkaraipettai and Nagore from Nagapattinam. They underwent a training program for preparation of fish pickle, fish curry, fish incorporated pasta and noodles in Fish Processing Incubation Centre, College of Fisheries Engineering, Nagapattinam.

Materials

The ingredients for the manufacture of the products are purchased from a local shop in Nagapattinam. The fishes used are Red snapper and Tuna which are also purchased from the local fish market of Nagapattinam.

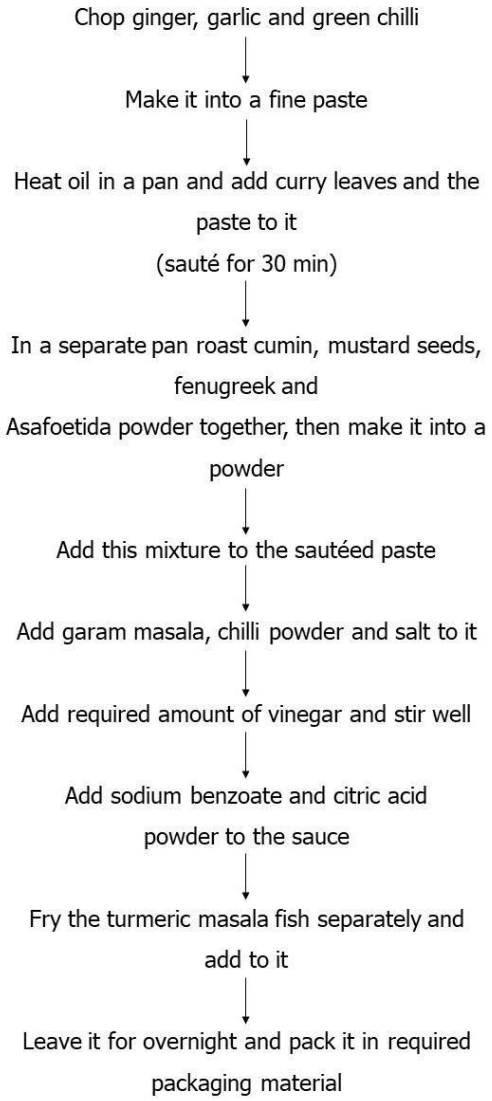
Methods

To make know about these opportunities available awareness was created among the coastal women regarding the nutritional benefits of the seafood and the business opportunities present in the value addition of seafood products. Later, to motivate the coastal women various psychological stimulation was given through social, economic, videos and the health benefits about these value added seafood products. Further to develop expertise, these women were trained to acquire skill upgradation, knowledge in areas of marketing, skills in production, processing and packaging, among which the procedure for the production of fish pickle, fish curry, fish

incorporated pasta and noodles are mentioned below. To ensure sustainability, continuous follow up of these groups were done with help in technical skills and knowledge.

Fish Pickle

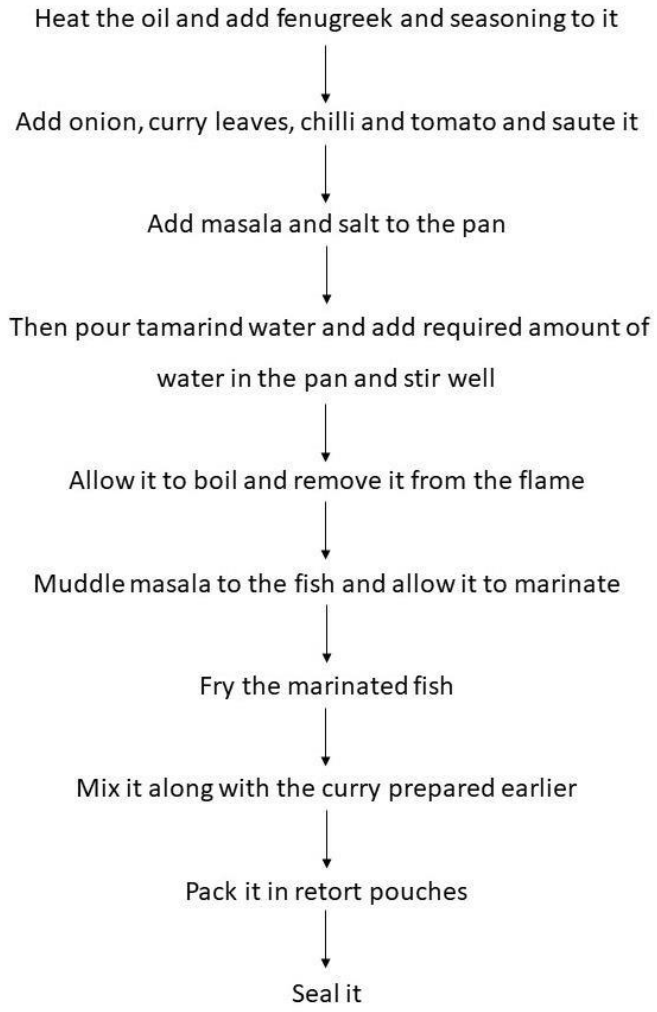
In food, process of extending the life span or preserving can be done by pickling. This can preserve the perishable food items for months as it has a low pH. The food's flavour, texture and taste is impacted by the process of pickling. The ingredient like mustard seed and garlic which are utilized has antimicrobial properties. The flowchart 1 below describes the preparation of fish pickle which can also be followed for the preparation of prawn pickle.



Flowchart 1: Fish pickle

Ready-To-Eat Fish Curry

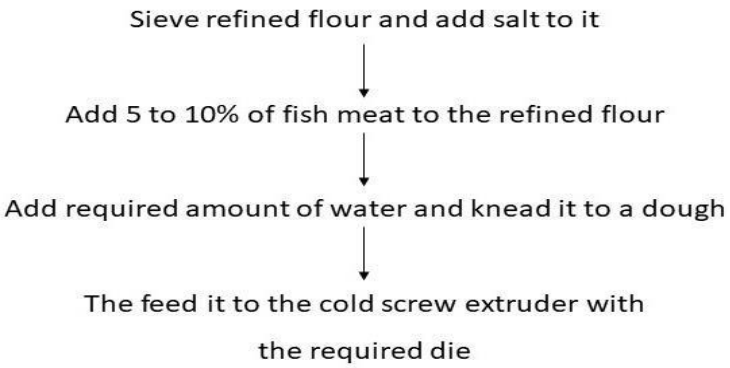
The use of complex combination of herbs and spices in the Indian subcontinent is known as curry. This curry cannot be stored for a longer period. In order to improve shelf life and also to increase the convenience thermal treatment is done by retort processing; ReadyTo-Product fish curry is manufactured. The ready to eat fish curry is usually manufactured traditionally but without the addition of coconut or coconut milk.



Flowchart 2: Ready-To-Eat fish curry

Fish incorporated noodles and pasta

Both pasta and noodles are cooked in hot water before being consumed. Nowadays it is also consumed with sauce or in soup, sometimes it is even fried. Noodles are long pasta, that are stretched and extruded or it is rolled flat which are then cut into any one of the numerous shapes that are available, like that of long waves, tubes, strings, thin strips and other shapes. Short pasta is found in various shapes with different names. These can be dried and stored or for short life span it can be refrigerated. To this fish is incorporated to increase the nutritional value of the product. Various compositions can be used in the manufacture of these products to make it healthier. Production of Value Added Fish Products A Potential



Flowchart 3: Fish incorporated noodles and pasta

RESULTS AND DISCUSSIONS

This study proved to be beneficial for the fisher women of all the three groups compared to that of their vending business. In this they were able to gain more than 40% of what they have invested in it, which covers the operation cost and the production cost, which was very difficult in the vending business. The manufactured products were sold in the brand name of Poombuhar Omega of Fish Processing Incubation Facility, College of Fisheries Engineering, Nagapattinam. In the fisher women who participated in this study, we also noticed that there was change in their confidence level, sense of achievement, enhanced awareness, improvement in leadership quality and in decision making and empowered economically.

The bar chart below (Fig.1) describes the monthly income that is earned by each women during their vending business in a month and also their earnings while being a microentrepreuneur.

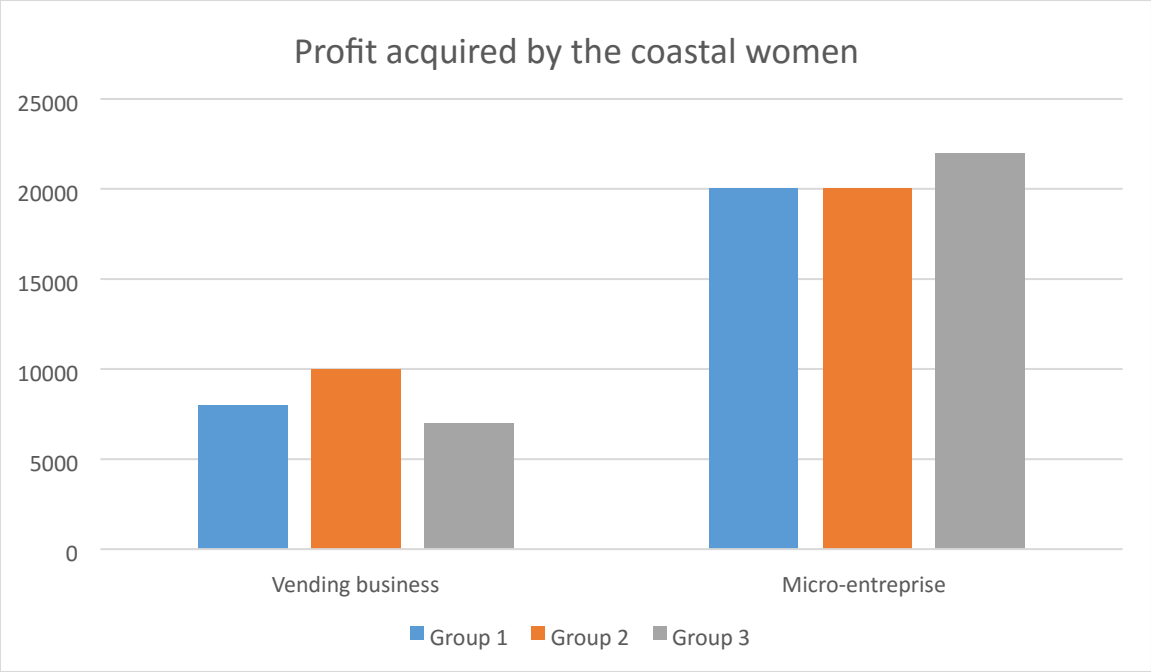


Figure 1: Profit acquired by coastal women in both vending and being a micro-enterprise

In the cost economics that is mentioned below (Table 1), for 10 kg of the end product the production, operation and the total cost is given. Moreover, the total margin gained is from the 10 kg production of the product. In case of fish curry, the groups made three batches of 10 kg which would triple the profit of the fish curry than regular vending process.

Table 1: Cost economics for production of value added fish product

PRODUCTS	PRODUCTION COST (Rs)	OPERATION COST (Rs)	TOTAL COST (Rs)	SELLING COST
Fish pickle	1790+300	326+121	2537	Rs. 50/100 gm Rs. 5000/10 Kg
Fish curry	1036+200	108+620	1964	Rs. 120/250 gm Rs. 4800/10 Kg
Fish incorporated noodles	670+400	210+90	1370	Rs. 30/100 gm Rs. 3000/10 Kg

Fish incorporated pasta	670+400	210+90	1370	Rs. 30/100 gm Rs. 3000/10 Kg

CONCLUSION

Women are known for the work they do both at home and at the area of field they work in as they possess great potential, knowledge, skill and resources which is the basic necessity for establishing and managing any enterprises. From this study, it is well observed

Production of Value Added Fish Products A Potential

and can be stated that the coastal women can make their livelihood more stable by becoming micro-entrepreneurs than that of by vending fish. Through these, they were able to preserve the fish products for a longer period of time through the thermal method of retort processing, value addition by incorporating fish into pasta and noodles and also through pickling. This naturally increases the income and also the availability of these value added food products in the market which also benefits the health.

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