IARJSET ISSN (O) 2393-8021, ISSN (P) 2394-1588

International Advanced Research Journal in Science, Engineering and Technology

Impact Factor 8.066 ⁜ Peer-reviewed & Refereed journal ⁜ Vol. 11, Issue 5, May 2024

DOI: 10.17148/IARJSET.2024.11501

Challenges in the Processing, Production, and Marketing of the Dried Fish Industry

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Abstract*:* The study aimed to explore challenges encountered by dried fish processors and owners across processing, production, and marketing aspects of the industry. Quantitative methods were employed exclusively for data analysis. A total of 100 participants took part, including dried fish processors, owners, barangay officials, and coastal barangay residents. Mean scores were utilized to analyze quantitative data, revealing various challenges such as technical assistance and sanitation issues, lack of high-technology equipment, insufficient training seminars, improper handling techniques, limited storage facilities, and financial constraints faced by dried fish processors and owners in the industry.

Keywords*:* Challenges, Processing, Production, And Marketing.

I. INTRODUCTION

Background of the Study

The dried fish industry encompasses a wide range of activities, from small-scale artisanal production to large-scale commercial operations. It involves fishers, processors, distributors, and retailers, each playing a crucial role in the value chain. The processing, production, and marketing of dried fish represent pivotal aspects of the seafood industry, deeply ingrained in the socio-economic fabric of coastal communities worldwide.

However, these sectors are not without their share of challenges, spanning from traditional methods of processing to modern marketing strategies. In this discourse, it delved into the multifaceted hurdles encountered in the processing, production, and marketing of dried fish, shedding light on the intricacies of an industry vital for both sustenance and economic livelihoods. Through an examination, it aimed to uncover the underlying complexities and potential pathways towards overcoming these challenges, ultimately fostering resilience and sustainability within the dried fish sector (Belton et al., 2022). [3]

The fish processing industry in the Philippines generally ranges from small to medium cottage industry level employing the traditional methods of salting, drying and smoking with the small units operating in strategic locations all over the country. The industry absorbs surplus fish catch during the peak season, offers a ready market at almost the same price as fresh fish during the lean months and provides storable protein diet items (Guevara et al., 2023). [4]

Furthermore, in the study conducted by Fitri et al. (2022), fish emerges as a valuable repository of nutrients, albeit prone to rapid spoilage. Hence, drying serves as a prevalent method for preserving fish, mitigating its perishability while preserving its nutritional integrity. Across diverse cultures, dried fish takes on myriad forms, employing an array of fish species and drying techniques. These culinary treasures transcend mere convenience, renowned for their healthful attributes, as extensively discussed in this comprehensive review. [6]

In a study conducted by Baes (2015), the dried fish industry underscored several critical challenges and innovative approaches crucial to its sustainability and growth. Studies have highlighted issues such as outdated processing techniques, insufficient production capacity, and limited access to modern marketing channels. Innovations in processing technology, including solar drying methods and mechanized processing facilities, have emerged as promising solutions to enhance product quality and efficiency. Similarly, initiatives to strengthen market linkages through e-commerce platforms and value-added product diversification aim to expand market reach and improve profitability for local producers. [1]

This study is conducted to identify the challenges in the processing, production, and marketing of dried fish industry. Thus, this quantitative study was drawn from the value chain theory and resource-based theory. Value chain analysis highlights the activities that take place inside and outside of a business and links them to an examination of the

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organization's level of competitiveness. In the context of resource-based theory, a firm is viewed as a strategic entity, functioning as a social structure engineered to effectively generate and distribute economic value (Barney, et al.,2021). [2].

Significance of the Study

This research holds potential benefits for dried fish processors and owners, consumers, entrepreneurs, fishermen, parents, Local Government Units, faculty, students, and prospective researchers.

Scope and Limitation of the Study

The study focused on the challenges in the processing, production, and marketing within the dried fish industry, scrutinizing the experiences and insights of both processors and industry owners. It sought to understand the interplay of factors shaping the industry's landscape, from traditional practices to their implications for the sector's sustainable growth and competitiveness. A total of 100 participants were actively engaged in the research study, offering a comprehensive cross-section of perspectives. Among them were 50 dried fish processors, 20 representatives of dried fish establishment owners, 10 barangay officials providing invaluable community insights, and 20 coastal barangay residents whose firsthand experiences enriched the survey data.

II. METHODOLOGY

This study exclusively utilized quantitative research methods, employing a descriptive correlational approach through a questionnaire. The focus was on gathering numerical data to understand patterns and relationships within the dried fish industry. The questionnaire aimed to capture perspectives from dried fish processors, owners, and establishments regarding processing, production, and marketing challenges. This quantitative analysis provided objective insights into the industry's dynamics and potential strategies for improvement.

III. RESULTS AND DISCUSSION

Challenges in the Dried Fish Industry in terms of Processing, Production, and Marketing

The findings regarding the challenges encountered in the dried fish industry specifically in Roxas City are explored. These challenges encompass aspects of processing, production, and marketing. The data reflects a noteworthy consensus across most statements, with a predominantly high level of agreement, as evidenced by an average mean score of 4.11, corresponding to the verbal interpretation of "Challenging." This collective affirmation underscores the importance of the identified challenges and highlights the pressing need for targeted interventions to address these issues effectively.

The results revealed that statement 1, pertaining to processing, achieved the highest mean score of 4.24, corresponding to a verbal interpretation of “Very Challenging,” indicating a significant consensus regarding the lack of technical assistance to meet the needs for efficient and effective business operations. Following closely, statement 2 garnered a mean score of 4.13, interpreted as “Challenging,” highlighting concerns about improper sanitation and the use of unhygienic raw materials, which result in losses in dried fishery products. Additionally, statements 3, 4, and 5 obtained the same mean scores of 4.12, also interpreted as “Challenging,” indicating widespread agreement on various issues including insufficient skill, training, and seminars on proper fish handling and processing, the absence of adequate technology to aid fish dryers in avoiding ground-level drying.

In terms of production challenges, the results revealed that poor handling techniques remarkably contributed to losses in dried fish products, obtaining the highest mean score of 4.17, which corresponds to a verbal interpretation of “Challenging.” Additionally, the utilization of poor-quality raw materials resulted in food loss and waste, achieving a mean score of 4.11 and interpreted as “Challenging.” Furthermore, the lack of adequate space for proper storage facilities, essential for sustaining the processing and production of dried products, posed a hindrance to production, obtaining a mean score of 4.10 and interpreted as “Challenging”. "Lastly, adverse weather conditions, characterized by increased humidity and precipitation, delayed drying processes and accelerated the deterioration of fish, garnered a mean score of 4.09, interpreted as “Challenging.”

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The results revealed various marketing challenges. The lack of financial support from the Local Government Unit to carry out extension services emerged as the most prominent, obtaining the highest mean score of 4.27, interpreted as "Very Challenging." Following closely was the limitation of capital, which restricts processors' ability to expand their businesses and explore the utilization and processing of other fishery resources, garnering a mean score of 4.10, also interpreted as "Challenging." The inconsistency of financial support and involvement from the local government unit and other concerned agencies received the lowest mean score of 4.04, interpreted as "Challenging" as well.

The result supported by the study of Guerrero (2019) claimed that due to the lack of funding and help from the government, starting a seaweed farm typically requires access to cash (funds). One of the issues preventing farmers in Tawi-Tawi, Southern Philippines, from stepping up seaweed farming was a lack of funding and government support, which led to low socioeconomic standing. Low tilapia output in aquaculture has been attributed, in large part, to a lack of funding and government support. [5]

According to Hossain et al. (2015) the business has made a strong position in the economy as it has its appearance both on local and international markets. However, both government and NGOs have not paid enough attention to the sector.

Entrepreneurship development, however, entails a complex set of interlinked activities pertinent to commercial production of commodities maintaining proper health and hygiene, value addition to the commodities, food safety, supply and delivery of inputs, and marketing distribution and trade of the commodities.

The main problem of pro-poor entrepreneurship development in Bangladesh is that effective value chain linkages among the farmers, traders, processors and business service providers are yet to develop. Small-scale producers need to be integrated with domestic as well as international markets. This is especially true for the high valued perishable commodities. In one hand, development of profitable technology plays an important role in promoting entrepreneurship and on the other hand value addition to the micro level production initiatives is also an important issue.

The government supports the agro-entrepreneurship with various incentive packages including tax exemption, import duty concession, special budgetary allocation and export promotion. However, it is necessary to examine how the policy issues support the marketing of dried fish both in domestic and international market and what more could be done to make the sector more pro-producers and sustainable. If the government takes steps to preserve marine fish, increase production, stop pirate attacks on fishermen and support the traders, the sector will turn into a profitable export oriented industry. [7]

The responsible factors for quality and nutritional loss of the final product include lack of infrastructure, lack of following appropriate drying methods or negligence and/or lack of awareness about proper handling and transportation of raw material as well as the final product, lack of proper knowledge of drying temperature and time, use of insecticides, unhygienic condition, lack of proper sanitation, the higher moisture content in the final product, low-quality raw materials, improper packaging and storage (Nawsad et al., 2015; Gutema et al., 2021).

The net effect of all these is compromised quality and safety of dried fish resulting in physical, nutritional quality and economic losses (Namwanje, 2018; Singapurwa et al., 2018). [8]

Table 1. Challenges in the dried fish industry in terms of processing, production, and marketing.

Statements	Mean	Verbal Interpretation
1A Processing		
Lack of technical assistance to meet the needs for efficient and effective business operations.	4.24	Very Challenging
Improper sanitation and unhygienic raw materials lead to losses in dried fishery products.	4.13	Challenging
Insufficient skill, training, and seminars on proper fish handling, processing, and quality consciousness among the fish processors contributed to product loss.	4.12	Challenging
Insufficient skill, training, and seminars on proper fish handling, processing, and quality consciousness among the fish processors contributed to product loss.	4.12	Challenging

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Lack of adequate technology to aid fish dryers to avoid drying fish just above the ground	4.12	Challenging
1B Production		
Poor-handling techniques contributed to losses in dried fish products.	4.17	Challenging
Poor-quality raw materials lead to food loss and waste.	4.11	Challenging
Lack of area for proper storage facilities that would sustain the processing and production of dried products.	4.10	Challenging
Increment weather delayed drying and hastened the deterioration of fish.	4.09	Challenging
1C Marketing		
Lack of financial support from Local Government Unit to carry out the extension service.	4.27	Very Challenging
Lack of capital limits the processor's ability to expand their business and explore the utilization and processing of other fishery resources.	4.10	Challenging
Lack of consistent financial support and involvement from the local government unit and other concerned agencies.	4.04	Challenging
Average Mean	**4.11**	Challenging

Note: Interpretation is based on the scale: 4.21-5.00 (Very Challenging), 3.41-4.20 (Challenging), 2.61-3.40 (Moderately Challenging), 1:81-2.60 (Less Challenging), 1:00-1:80 (Least Challenging)

IV. CONCLUSION

Processing plays a pivotal role in ensuring product quality and overall productivity. The challenges faced in this sector, such as balancing traditional methods with technological advancements, underscore the need for strategic interventions. By investing in training, modernizing equipment, and implementing quality control measures, stakeholders can effectively address these challenges. Furthermore, government support is essential to facilitate these initiatives and foster sustainable growth within the industry.

Production concluded that ensuring both product quality and quantity in the dried fish industry is paramount. Implementing measures such as modernizing production techniques, investing in quality control systems, and providing training for workers are essential. By prioritizing these aspects, stakeholders can meet consumer expectations, maintain competitiveness in the market, and contribute to the long-term sustainability of the industry. Moreover, focusing on the production of different dried fish product quality and quantity, it is evident that maintaining a balance between these factors is paramount for the success of the dried fish industry.

In marketing, addressing challenges is crucial for the sustained success and growth of the dried fish industry. One of the primary challenges faced by dried fish processors and owners is the limitation of capital and financial constraints, which can often hinder their ability to fully maximize the potential of their dried fish products. Dried fish products often compete with a wide array of alternative products in the market, making it challenging to capture consumer attention Additionally, there may be consumer perception issues surrounding dried fish, such as concerns about taste, texture, or hygiene standards. Overcoming these obstacles requires proactive strategies aimed at enhancing product visibility and addressing consumer concerns.

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