



(RESEARCH ARTICLE)



## Tradition, outlook, and promotion of smoked fish industry: Pathways to product innovation

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### Abstract

This qualitative descriptive study explored the traditional methods, producer perspectives, and promotional strategies of the smoked fish industry in Barangay Libas, Roxas City, as pathways to product innovation. It aimed to document traditional production methods and examine how local producers sustain their livelihood amid modernization and changing consumer preferences. Grounded in a constructivist paradigm and guided by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Intangible Cultural Heritage framework, Social Practice Theory, and the 7Ps Marketing Mix (Product, Price, Place, Promotion, People, Process, and Physical Evidence), the study utilized semi-structured interviews and field observations with six purposively selected smoked fish producers. Findings revealed that production remains rooted in manual, wood-fired techniques involving cleaning, salting, and drying practices passed down through generations. Producers viewed the industry as a symbol of cultural identity, stable livelihood, and community pride. Promotional strategies were mostly informal, relying on word-of-mouth, customer loyalty, and product quality, with limited use of digital marketing tools. Challenges included physical exhaustion, rising production costs, and limited access to packaging innovation and modern technology. The study concluded that balancing traditional authenticity with evolving market demands is essential for sustainability. Recommendations emphasized local government-supported training, technology integration, and heritage-based branding to preserve the industry as a sustainable livelihood and culinary heritage. These findings highlight the importance of preserving indigenous production knowledge while adopting promotional approaches that can strengthen competitiveness, improve presentation, and expand consumer reach. The research also supports community-based development initiatives that encourage cultural preservation, economic sustainability, and industry resilience.

**Keywords:** Barangay Libas; Cultural Heritage; Marketing Promotion; Product Innovation; Smoked Fish; Social Practice Theory

### 1. Introduction

Smoked fish is one of the most valued traditional food products in many coastal communities in the Philippines. As a traditional food preservation practice, smoked fish production reflects the close relationship between livelihood, culture, and community identity. In many coastal areas, fish smoking is not only performed as a means of preserving seafood products but also as an inherited cultural activity passed from one generation to another through observation, participation, and hands-on learning [18]. In Barangay Libas, Roxas City, smoked fish production continues to remain an important source of livelihood among local producers and a representation of the community's cultural heritage and identity. Roxas City, widely recognized as the Seafood Capital of the Philippines, continues to sustain traditional fish processing industries that contribute significantly to local economic activity, food culture, and heritage preservation [19]. Traditionally, smoked fish production involves manual preparation techniques such as cleaning, salting, drying, and smoking fish using wood-fired smokehouses and bamboo racks. These practices have been passed down across

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generations through hands-on learning and community participation [19]. Beyond its economic value, smoked fish reflects craftsmanship, patience, and local identity, making it an important element of cultural continuity and heritage preservation [20].

Traditional food industries such as smoked fish production also play a significant role in sustaining local livelihoods and strengthening community participation. Producers serve as custodians of cultural knowledge by preserving traditional techniques and passing them on through experiential learning and shared practices [21]. Studies show that heritage food practices contribute not only to economic activity but also to social cohesion and cultural identity within communities [22].

Despite its cultural relevance, the smoked fish industry faces several challenges brought by modernization, changing consumer preferences, limited market access, inadequate infrastructure, and declining youth involvement [23]. Many traditional food industries struggle to compete with commercially processed alternatives and often experience difficulties related to production costs, promotion, packaging, and technological support [24]. Limited branding and marketing strategies also affect the visibility and competitiveness of smoked fish products in wider markets [25].

This study entitled "Tradition, Outlook, and Promotion of Smoked Fish Industry: Pathways to Product Innovation" aimed to explore the traditional methods, cultural significance, promotional practices, and challenges experienced by smoked fish producers in Barangay Libas, Roxas City. Specifically, the study sought to document traditional production methods, examine producer perspectives regarding cultural and economic value, identify current promotional strategies, and determine the challenges affecting production and innovation.

The study was anchored on the Intangible Cultural Heritage (ICH) framework of UNESCO [26], which recognizes traditional food production practices as living cultural heritage continuously preserved through community participation and intergenerational learning. It was further supported by Social Practice Theory of Elizabeth Shove, Mika Pantzar, and Matt Watson [27], and the Marketing Mix framework of E. Jerome McCarthy later expanded by Philip Kotler and Gary Armstrong [28]. These frameworks collectively explain how cultural practices, producer competencies, and marketing strategies interact in sustaining traditional industries while supporting product innovation and market relevance.

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## 2. Literature review

The foundations of this study are anchored on the Intangible Cultural Heritage (ICH) framework of UNESCO, which recognizes traditional food practices as living cultural heritage preserved through community participation and intergenerational learning [26]. In the context of smoked fish production, this framework emphasizes the importance of preserving indigenous knowledge, traditional smoking techniques, and cultural identity while adapting to changing social and economic conditions. Traditional food practices such as smoked fish production serve not only as livelihood activities but also as expressions of local heritage, craftsmanship, and community identity [21]. Studies reveal that cultural food traditions are sustained through shared practices, experiential learning, and active participation among producers and communities [22].

This study is further supported by Social Practice Theory developed by Elizabeth Shove, Mika Pantzar, and Matt Watson [27], which explains that practices are sustained through the interaction of materials, competences, and meanings. In smoked fish production, materials include fish, smoking facilities, fuelwood, and production tools, while competences refer to the technical skills and traditional knowledge of producers. Meanings involve the cultural value, authenticity, and identity associated with smoked fish as a heritage product. Existing literature shows that traditional food practices remain sustainable when knowledge and skills are continuously transferred through observation, mentorship, and hands-on experience [20,23]. However, studies also indicate that modernization, declining youth participation, and changing livelihood priorities threaten the continuity of traditional food industries and weaken intergenerational knowledge transfer [24].

The study also draws from the Marketing Mix (7Ps) framework of E. Jerome McCarthy later expanded by Philip Kotler and Gary Armstrong [28], which highlights the importance of product, price, place, promotion, people, process, and physical evidence in sustaining traditional industries. Research suggests that heritage food products become more competitive when producers integrate cultural branding, product quality, packaging innovation, and promotional strategies while preserving authenticity [25]. However, many small-scale smoked fish producers continue to experience difficulties related to limited market access, inadequate infrastructure, weak branding strategies, and insufficient technological support [29]. Studies further emphasize that community participation, digital promotion, and heritage-

based marketing approaches contribute to the sustainability and visibility of traditional food products in wider markets [30].

The reviewed literature highlights that smoked fish production is not only an economic activity but also a culturally embedded social practice shaped by heritage preservation, community participation, and livelihood sustainability. The Intangible Cultural Heritage framework, Social Practice Theory, and Marketing Mix framework collectively provide the theoretical foundation for understanding how traditions, producer outlooks, and promotional practices influence the sustainability, cultural relevance, and product innovation of the smoked fish industry in Barangay Libas, Roxas City.

### 3. Methodology

This study employed a qualitative descriptive research design grounded in the constructivist perspective, which emphasizes that knowledge is developed through lived experiences, social interaction, and shared cultural practices [31]. The qualitative approach was appropriate for exploring the traditions, outlooks, and promotional practices of smoked fish producers in Barangay Libas, Roxas City, particularly in relation to cultural preservation, livelihood sustainability, and product innovation. Guided by the principles of qualitative inquiry, the study sought to understand how producers interpret and give meaning to their experiences in smoked fish production within their social, cultural, and economic contexts [32]. Studies emphasize that qualitative research enables participants to openly share their experiences and perspectives, providing deeper understanding of community-based practices and cultural traditions [33].

The study focused on smoked fish producers residing in Barangay Libas, Roxas City, Capiz. This locale was selected because smoked fish production remains one of the community's traditional livelihood activities and cultural practices associated with Roxas City as the Seafood Capital of the Philippines [19]. Participants were selected using purposive sampling to ensure that those included in the study had direct experience and active involvement in smoked fish production. The study involved six smoked fish producers with varying years of experience, production practices, and livelihood conditions, allowing the study to capture diverse perspectives and experiences related to traditional production methods, promotion, and sustainability.

Data were gathered through semi-structured interviews and field observations that allowed participants to openly discuss their experiences, challenges, production practices, and promotional strategies [34]. Field observations were conducted to document smoking procedures, tools, facilities, and work environments associated with smoked fish production. Ethical considerations were strictly observed throughout the study by ensuring voluntary participation, informed consent, confidentiality, and respect for participants' privacy during data gathering and analysis [35].

**Table 1** Profile of the Participants

Participants	Age	Sex	Role in Smoked Fish Industry	Years of Experience	Primary Source of Income
P1	57	Female	Smoked Fish Producer	Highly experienced; I have been involved in smoked fish production since childhood (45 years)	Smoked Fish Production
P2	55	Female	Smoked Fish Producer	Highly experienced; involved in smoked fish production since high school (41 years)	Smoked Fish Production
P3	27	Male	Smoked Fish Producer	Highly experienced; involved in smoked fish production since 2018 (8 years)	Smoked Fish Production
P4	55	Female	Smoked Fish Producer	Highly experienced; involved in smoked fish production since her teenage years (41 years)	Smoked Fish Production
P5	59	Female	Smoked Fish Producer	Highly experienced; involved since grade 6 (47 years)	Smoked Fish Production
P6	37	Female	Smoked Fish Producer	Highly experienced; involved since childhood (25 years)	Smoked Fish Production

Source: Data from the Researchers.

Data were analyzed using thematic analysis to identify recurring patterns, meanings, and themes emerging from the participants' narratives and experiences [36]. This method enabled a deeper understanding of how smoked fish producers preserve traditional practices, respond to production challenges, and sustain cultural heritage while adapting to changing market demands. Through this process, the study aimed to document the experiences and practices of smoked fish producers and generate insights that may contribute to cultural preservation, sustainable livelihood development, and product innovation in Barangay Libas, Roxas City.

### **3.1. Research Instruments**

This study utilized semi-structured interviews and field observations to gather in-depth information regarding the traditions, outlooks, promotional practices, and challenges experienced by smoked fish producers in Barangay Libas, Roxas City. The semi-structured interview format allowed consistency in questioning while providing flexibility to explore participants' individual experiences, production practices, and emerging themes related to smoked fish production and sustainability. A researcher-developed interview guide was prepared and validated by experts to ensure the clarity, relevance, and appropriateness of the questions.

Interviews were conducted in convenient and comfortable settings to encourage participants to openly share their experiences, perspectives, and traditional knowledge regarding smoked fish production. With the participants' consent, interviews were documented through note-taking and audio recording to ensure accuracy and reliability of the gathered data. Field observations were also conducted to document production processes, smoking facilities, tools, packaging practices, and work environments associated with smoked fish production. Ethical considerations were strictly observed throughout the conduct of the study. Participants were informed about the purpose of the research, the procedures involved, and their right to voluntarily participate or withdraw from the study at any time. Informed consent was secured prior to data gathering. Confidentiality, privacy, and proper data management were maintained to protect the participants' identities, traditional knowledge, and personal experiences while upholding the integrity and ethical standards of the research process.

### **3.2. Data Analysis Procedure**

This study employed thematic analysis to examine the experiences, traditional practices, promotional strategies, and perspectives of smoked fish producers in Barangay Libas, Roxas City. The approach focused on understanding how producers described and interpreted their experiences in sustaining smoked fish production within their cultural, social, and economic contexts. Interview recordings and field notes were transcribed and repeatedly reviewed to ensure familiarity with the gathered data. Significant statements and responses were identified, coded, and grouped into themes reflecting common and unique experiences related to traditional smoking practices, livelihood sustainability, cultural preservation, promotional strategies, and product innovation [36].

The analysis was guided by existing studies emphasizing that traditional food production practices are socially and culturally embedded activities shaped by community participation, intergenerational learning, and livelihood experiences [21,22]. Attention was also given to how participants described their production practices, challenges, and adaptations to modernization and changing market demands. This process allowed the study to understand not only the operational aspects of smoked fish production but also the cultural meanings and values attached to the practice by local producers [23,24].

Through thematic analysis, the study identified recurring patterns related to cultural preservation, market sustainability, production challenges, and innovation opportunities. Findings revealed that smoked fish producers continue to preserve traditional methods despite difficulties related to rising production costs, limited technological support, inadequate promotion, and declining youth participation [25]. The analysis also highlighted the important roles of community participation, family knowledge transfer, and heritage-based practices in sustaining smoked fish production and strengthening local cultural identity [26]. Overall, the thematic analysis provided a deeper understanding of smoked fish production as both a livelihood activity and a culturally significant practice shaped by tradition, community participation, and changing economic conditions. The findings generated insights that may contribute to cultural preservation, sustainable livelihood development, and product innovation within the smoked fish industry in Barangay Libas, Roxas City.

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## **4. Results and discussion**

Traditional Methods and Practices are Employed in The Production of Smoked Fish in Barangay Libas, Roxas City. The findings revealed that smoked fish producers in Barangay Libas, Roxas City continue to practice traditional fish smoking methods that have been passed down through generations. Participants described smoked fish production as a labor-

intensive process requiring patience, experience, and traditional knowledge. Most producers still follow manual procedures such as cleaning, salting, drying, and smoking fish using wood-fired smokehouses and bamboo racks. These traditional methods remain important in maintaining the aroma, texture, flavor, and authenticity of smoked fish products. These findings support the study of Tahiluddin and Kadak (2022), which emphasized that traditional fish processing practices contribute to cultural preservation and community identity.

#### 4.1. Participant 2 shared: “We still use the traditional way because customers can recognize the taste and smell of fish smoked through wood fire compared to modern methods.”

The participant explained that traditional smoking methods continue to attract loyal customers because of the distinct quality and authenticity associated with manually smoked fish. Producers emphasized that preserving these traditional practices is important not only for livelihood but also for maintaining cultural identity and community heritage.

Similarly, Participant 4 stated: “Smoking fish is difficult because it requires experience. If the fire becomes too strong, the fish burns easily and affects its quality.”

Participant 4 described how proper temperature control and traditional smoking techniques are essential in maintaining product quality. The participant also explained that smoked fish production skills are commonly learned through observation, family participation, and long-term experience within the community. These findings are consistent with UNESCO (2024), which explained that traditional food practices are preserved through intergenerational learning and community participation.

**Table 2** Traditional Methods and Practices are Employed in The Production of Smoked Fish in Barangay Libas, Roxas City

Major Theme	Emerging Theme	Narrative (s)	Frequency
Producers as Guardians of Tradition	Preservation of Traditional Practices	P <sub>2</sub> “...we still follow the same traditional steps from the beginning.”	3 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> )
	Quality Control and Product Trust	P <sub>5</sub> “...flavor, aroma, and appearance attract customers.”	4 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>5</sub> )
	Labor-Intensive Production	P <sub>4</sub> “...the production is manual and requires hard physical labor.”	3 (P <sub>1</sub> , P <sub>4</sub> , P <sub>5</sub> )
	Intergenerational Knowledge Sharing	P <sub>5</sub> “...the legacy can continue for the future.”	2 (P <sub>2</sub> , P <sub>5</sub> )
Producers’ Outlook on Traditional Practices	Livelihood Commitment	P <sub>5</sub> “...it helps support my family and children’s education.”	2 (P <sub>1</sub> , P <sub>5</sub> )
	Resilience Amid Challenges	P <sub>3</sub> “...limited budget”	9
	Maintaining Product Quality	P <sub>1</sub> “...smoke, heat, and rising costs make production difficult.”	3 (P <sub>1</sub> , P <sub>2</sub> , P <sub>6</sub> )
	Preference for Traditional Methods	P <sub>1</sub> “...traditional cooking defines the product’s appeal.	3 (P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> )
		P <sub>2</sub> “...the production techniques remain unchanged.”	3 (P <sub>1</sub> , P <sub>2</sub> , P <sub>6</sub> )

*Legend:* P<sub>1</sub>-P<sub>6</sub>, Participants of the study; *Source:* Data from the narratives of the participants

Local Producers’ Perceive Smoked Fish in Terms of Cultural, Economic, and Social Value. The findings revealed that local producers in Barangay Libas, Roxas City perceive smoked fish not only as a source of livelihood but also as a cultural heritage and socially valued community practice. Producers emphasized that smoked fish production continues through traditional methods inherited from previous generations. These methods remain important in preserving the authenticity, aroma, flavor, and identity of smoked fish products. The findings support the study of Guo and Ahn (2023), which emphasized that cultural practices are sustained through continuous production, preservation, and community participation.

**4.2. Participant 1 shared: “Our process has been the same since before because it gives the fish its natural aroma.”**

The participant explained that maintaining traditional methods is important because customers recognize and value the natural aroma and authenticity of smoked fish products. Producers also emphasized that traditional knowledge and production skills are passed down through family participation and long-term experience within the community.

Similarly, Participant 5 stated: “I learned how to make smoked fish when I was still young because this has been our work in the family.”

Participant 5 described smoked fish production as a family heritage learned through observation and experience. The participant emphasized that smoked fish production is not only a livelihood but also a cultural responsibility preserved across generations. These findings are consistent with UNESCO (2024), which explained that traditional food practices are sustained through intergenerational learning and cultural continuity.

Economically, producers perceived smoked fish as an important and stable source of livelihood that supports daily needs, education, and household expenses. Participants emphasized that customer demand, loyal buyers, and repeat purchases help sustain their income and production activities. These findings support Zeithaml, Bitner, and Gremler (2018), who emphasized that customer satisfaction and perceived product quality influence customer loyalty and economic sustainability.

**4.3. Participant 5 shared: “The income from smoked fish helps us with our daily needs, especially for the education of our children.”**

The participant explained that smoked fish production remains an important source of financial support for the family despite production challenges and increasing costs. Participants also emphasized that loyal customers and repeat buyers contribute significantly to sustaining market demand.

Socially, producers perceived smoked fish production as a community-based practice that strengthens relationships among producers, vendors, and customers. Participants explained that product promotion often depends on customer recommendations, direct communication, and word-of-mouth promotion within the community. These findings are consistent with Santos and Dorado (2020), who emphasized that community support and customer recognition contribute to the sustainability of traditional products.

**4.4. Participant 6 stated: “We talk directly to customers and rely on their recommendations.”**

The participant described how personal interaction and customer trust help maintain product visibility and demand within local markets. Producers also emphasized that cooperation among producers, vendors, and loyal customers strengthens social support systems and contributes to the continuity of smoked fish production.

Overall, the findings revealed that smoked fish production in Barangay Libas remains culturally significant, economically sustaining, and socially supported. Producers continue preserving traditional production methods while adapting promotional strategies to maintain market relevance and customer demand. The sustainability of smoked fish production is therefore deeply connected to cultural preservation, livelihood dependence, and community participation.

Strategies Used to Promote Smoked Fish Within and Outside the Community. The findings revealed that smoked fish producers in Barangay Libas, Roxas City utilize both traditional and emerging promotional strategies to sustain product visibility and market demand within and outside the community. Producers primarily rely on product quality, customer satisfaction, word-of-mouth promotion, and community relationships to market smoked fish. At the same time, some participants have started using social media and online platforms to expand customer reach and strengthen market presence. These findings support the study of Kotler and Keller (2016), which emphasized that customer trust, product quality, and market visibility are essential in sustaining small-scale food enterprises.

**Table 3** Local Producers' Perceive Smoked Fish in Terms of Cultural, Economic, and Social Value

Major Theme	Emerging Theme	Narrative (s)	Frequency
Cultural Value	Preservation of Tradition	P <sub>1</sub> "...our process has been the same since before."	6 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> , P <sub>5</sub> , P <sub>6</sub> )
	Intergenerational Knowledge Transfer	P <sub>5</sub> "...I learned how to make smoked fish when I was still young."	4 (P <sub>1</sub> , P <sub>3</sub> , P <sub>5</sub> , P <sub>6</sub> )
	Cultural Pride and Identity	P <sub>3</sub> "...committed to continue the traditional production process."	4 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>5</sub> )
Economic Value	Primary Source of Livelihood	P <sub>5</sub> "...the income helps support our daily needs and children's education."	3 (P <sub>1</sub> , P <sub>4</sub> , P <sub>5</sub> )
	Market Demand and Profitability	P <sub>2</sub> "...we rely on loyal customers and word-of-mouth."	4 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>6</sub> )
	Dependence on Customer Loyalty	P <sub>3</sub> "...promotion is fifty-fifty between word-of-mouth and social media."	3 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> )
Social Value	Community Support and Networks	P <sub>2</sub> "...we both produce and sell within the community."	4 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>6</sub> )
	Word-of-Mouth Promotion	P <sub>1</sub> "...customers recommend our product to others."	4 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>6</sub> )
	Social Trust and Reputation	P <sub>6</sub> "...recommendations depend on trust and experience."	3 (P <sub>1</sub> , P <sub>3</sub> , P <sub>6</sub> )
Integrated Perception	Cultural-Economic-Social Interconnection	P <sub>2</sub> "...it continues because people support and buy it."	6 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> , P <sub>5</sub> , P <sub>6</sub> )
	Adaptation through Promotion	P <sub>5</sub> "...we also use online posting to reach more customers."	3 (P <sub>2</sub> , P <sub>3</sub> , P <sub>5</sub> )

Legend: P<sub>1</sub>-P<sub>6</sub>, Participants of the study; Source: Data from narratives of the participants

#### 4.5. Participant 1 shared: "We do not have formal advertising because our loyal customers help promote the product through word-of-mouth."

The participant explained that repeat customers or suki play an important role in promoting smoked fish products within the community. Producers emphasized that maintaining good product quality, aroma, and flavor encourages customers to recommend the product to relatives, neighbors, and other buyers, strengthening customer trust and market sustainability.

#### 4.6. Similarly, Participant 2 stated: "The products are posted and marketed online so customers outside the community can also place orders."

**Table 4** Strategies Used to Promote Smoked Fish Within and Outside the Community

Major Theme	Emerging Theme	Narrative (s)	Frequency
Community-Based Promotion Strategies	Quality-Based Promotion	P <sub>4</sub> "...people always come back if the fish is well-smoked and cleanly prepared."	4 (P <sub>1</sub> , P <sub>2</sub> , P <sub>3</sub> , P <sub>4</sub> )
	Product Presentation and Appearance	P <sub>5</sub> "...customers like smoked fish that is clean, dry, and nicely packed."	1 (P <sub>5</sub> )

	Product Consistency and Standardization	P6“...every batch must meet customer expectations.”	2 (P5, P6)
	Social Relationships and Community Collaboration	P1“...vendors and loyal customers help promote the product.”	2 (P1, P6)
	Relationship-Based Selling	P1“...our loyal customers promote the product through word-of-mouth.”	2 (P1, P6)
Digital and Media Marketing Strategies	Informal Digital Promotion	P2“...the products are posted and marketed online.”	2 (P1, P2)
	Authentic Content Marketing	P1“...our manual process gives the product a unique flavor and natural aroma.”	2 (P1, P6)
Market Expansion and Product Positioning Strategies	Authenticity-Based Positioning	P2“...there are no machines, only basic tools for smoking fish.”	3 (P1, P2, P3)
	Hygiene and Cleanliness Practices	P6“...the environment must be clean to avoid contamination.”	2 (P5, P6)
	Sensory and Visual Product Differentiation	P1“...presentation is important to make the product enticing.”	2 (P1, P5)
	Packaging Improvement Strategies	P6“...handling and packaging are done manually.”	1 (P6)
	Production Scalability Challenges	P6“...the work remains labor-intensive and products are manually delivered.”	2 (P1, P6)
	Cultural and Heritage Positioning	P1“...the practice was passed down through our family.”	2 (P1, P6)

*Legend:* P<sub>1</sub>-P<sub>6</sub>, Participants of the study; *Source:* Data from the narratives of the participants

Participant 2 described how social media platforms such as Facebook Marketplace are used as simple promotional tools to increase product visibility and reach customers beyond the local area. Producers explained that although traditional selling remains dominant, digital promotion helps attract additional buyers and supports product expansion into wider markets. These findings are consistent with Gonzales (2021), which explained that small-scale traditional industries increasingly rely on both community-based promotion and digital platforms to sustain competitiveness and customer engagement.

Furthermore, Participant 5 emphasized: “Customers like it when the smoked fish is clean, dry, and nicely packed.”

The participant highlighted that product presentation, cleanliness, and packaging also function as promotional strategies because customers are more attracted to visually appealing and properly prepared smoked fish products. Producers noted that maintaining consistent product appearance and quality helps strengthen customer confidence and repeat purchasing behavior.

Overall, the findings indicate that promotion strategies in smoked fish production are deeply connected to product quality, community relationships, customer loyalty, and emerging digital marketing practices. Despite limited resources and reliance on manual production, producers continue to adapt by combining traditional promotional approaches with simple online marketing strategies to sustain smoked fish marketability and cultural relevance.

Challenges Affect the Production, Promotion, and Product Innovation of Smoked Fish in Barangay Libas, Roxas City. The findings revealed that smoked fish producers in Barangay Libas, Roxas City experience several challenges affecting production, promotion, and product innovation. Participants described smoked fish production as labor-intensive and

highly dependent on manual skills, physical endurance, and traditional processing methods. Producers also emphasized that maintaining product quality and consistency remains difficult because of time constraints, environmental conditions, limited equipment, and lack of modern facilities. These challenges directly affect productivity, market reach, and opportunities for innovation. The findings support the study of Philip Kotler and Kevin Lane Keller (2016), which emphasized that product quality, promotion, and innovation are essential factors influencing market performance and customer trust.

#### 4.7. Participant 2 shared: “Customers come back when the fish is well-smoked and not burnt or undercooked.”

The participant explained that maintaining proper smoking techniques and consistent quality is important because customer satisfaction depends on the taste, texture, and appearance of the smoked fish. Producers emphasized that product consistency helps sustain customer trust and repeat purchases despite the difficulties encountered during production.

Similarly, Participant 1 stated: “Standing long hours near the fire causes body pain.”

Participant 1 described how prolonged exposure to heat, smoke, and repetitive manual labor creates physical strain and fatigue during production. The participant also explained that balancing production work with household responsibilities makes it difficult to maintain continuous output and efficiency. These findings are consistent with Food and Agriculture Organization (2022), which explained that traditional food processing systems remain labor-intensive and heavily dependent on manual work and household labor.

#### 4.8. Participant 6 further shared: “Promotion is difficult because we lack resources and knowledge in marketing.”

The participant explained that smoked fish producers mainly rely on word-of-mouth, loyal customers, and product quality rather than formal advertising and structured marketing strategies. Limited access to packaging materials, branding, and digital marketing platforms restricts their ability to reach wider markets and increase competitiveness. These findings support the study of Campita et al. (2022), which emphasized that small-scale industries require improved marketing strategies and promotional support to strengthen product visibility and business growth.

#### 4.9. Participant 5 also noted: “Innovation is difficult because we lack tools and resources.”

The participant explained that the absence of modern equipment and improved facilities limits opportunities for product diversification, packaging improvement, and experimentation with new processing techniques. Producers continue to rely on traditional methods because of limited technological support and financial resources. These findings align with the study of Guerrero et al. (2021), which highlighted that innovation in traditional food industries requires balancing authenticity with modernization and improved production support.

**Table 5** Challenges Affect the Production, Promotion, and Product Innovation of Smoked Fish in Barangay Libas, Roxas City

Major Theme	Emerging Theme	Narrative (s)	Frequency
Production Challenges	Time Management Constraints	P2“...production is often interrupted because we also have other duties.”	2 (P1, P2)
	Labor-Intensive Processes	P1“...standing long hours near the fire causes body pain.”	2 (P1, P5)
	Quality Control and Consistency	P2“...customers come back when the fish is well-smoked.”	2 (P2, P4)
	Physical Strain and Health Risks	P6“...the smoke and heat make the work tiring.”	2 (P1, P6)
	Environmental Factors	P4“...it is harder when conditions are not good for processing.”	2 (P2, P4)
	Collaboration and Knowledge Sharing	P2“...it is easier when we help each other.”	3 (P2, P5, P6)

Promotion Challenges	Lack of Marketing Strategies	P2“...we do not have formal ways of advertising.”	2 (P2, P6)
	Product-Based Promotion	P4“...people buy from us because they trust the taste.”	2 (P3, P4)
	Limited Packaging and Presentation	P5“...we try to make it presentable.”	1 (P5)
	Limited Market Reach	P1“...we mostly sell to people who already know us.”	2 (P1, P4)
Product Innovation Challenges	Limited Access to Technology	P2“...there are no machines; everything is manual.”	2 (P1, P2)
	Lack of Product Diversification	P3“...we follow the same way of making smoked fish.”	2 (P3, P5)
	Traditional Processing Methods	P6“...we continue using the same methods we learned before.”	2 (P4, P6)
	Constraints in Packaging Innovation	P5“...we cannot improve packaging because we lack materials.”	2 (P5, P6)

Legend: P1-P6, Participants of the study

Source: Data from the narratives of the participants

**Key Insights on Sustainability and Product Innovation.** The experiences of smoked fish producers in Barangay Libas, Roxas City provide important insights into sustainability and product innovation in traditional food processing industries. The participants’ narratives highlighted that smoked fish production is sustained through traditional practices, community cooperation, and gradual improvements shaped by experience and customer needs. Their lived experiences emphasized that smoked fish production is not only a source of livelihood but also a cultural practice that preserves local identity and strengthens community participation.

In terms of sustainability, the participants emphasized that traditional methods such as manual cleaning, salting, drying, and smoking remain important in maintaining the taste, aroma, texture, and authenticity of smoked fish products. These practices continue through observation, family participation, and shared learning within the community. Producers also make small adjustments in processing, handling, and packaging to respond to customer preferences while still preserving traditional methods.

The findings further revealed that customer relationships and direct selling practices help sustain market demand. Producers rely on suki relationships, word-of-mouth promotion, and personal interaction with customers to maintain trust and loyalty. However, limited access to modern packaging, technology, and marketing strategies restricts wider market expansion and product innovation.

The study also provides insights into product innovation in smoked fish production. Innovation was found to be gradual, experience-based, and dependent on available resources. Producers improve their products through small changes in smoking techniques, handling methods, and packaging based on customer feedback and market experience. However, innovation remains limited due to the lack of machines, improved facilities, and financial resources.

The findings suggest that sustaining smoked fish production requires balancing traditional knowledge with gradual innovation and improved market support systems. Strengthening access to modern tools, packaging materials, and marketing strategies can help improve competitiveness while preserving the traditional identity of the product. These findings align with UNESCO (2017) and FAO (2019), which emphasized that traditional industries remain sustainable through cultural preservation, community participation, and adaptive innovation [25].

## 5. Conclusion

The study concludes that the Smoked Fish Industry in Barangay Libas, Roxas City is a culturally rooted livelihood shaped by traditional practices, community cooperation, promotional activities, and gradual product innovation. The findings revealed that producers rely heavily on traditional knowledge and manual processing methods such as cleaning, salting, and smoking fish, which help maintain product quality, authenticity, and customer trust. Smoked fish production

remains not only an important source of livelihood but also a reflection of the cultural identity and heritage of the community.

The findings further reveal that the sustainability of the industry is influenced by several interconnected factors, including labor-intensive production, environmental conditions, limited marketing strategies, and restricted access to modern technology. Producers continue to rely on word-of-mouth promotion, suki relationships, and direct selling to sustain customer loyalty and local market demand. Although product innovation is present through small improvements in packaging, handling, and processing, development remains gradual and limited because of inadequate resources, facilities, and technological support.

The study emphasizes that Smoked Fish producers demonstrate resilience, adaptability, and commitment despite challenges such as physical strain, rising production costs, seasonal raw materials, and limited opportunities for market expansion. Their experiences show that sustainability depends on balancing the preservation of traditional practices with gradual improvements in production efficiency, marketing systems, and product innovation. Overall, the study highlights the importance of strengthening institutional support, access to technology, and market opportunities while preserving the cultural identity and authenticity of smoked fish production in Barangay Libas, Roxas City.

### *Recommendations*

The study recommends that Smoked Fish producers in Barangay Libas, Roxas City continue preserving traditional smoking practices while gradually improving production methods, sanitation, and product quality. Producers are encouraged to strengthen cooperation through shared learning, apprenticeship activities, and community participation to ensure that traditional knowledge and skills are passed on to younger generations. The Barangay Council, local leaders, and educational institutions may also support cultural preservation programs that promote the smoked fish industry as part of the community's heritage and identity.

The study further recommends that the Local Government Unit (LGU), the Department of Trade and Industry (DTI), and the Bureau of Fisheries and Aquatic Resources (BFAR) provide assistance through modern equipment, food-grade packaging materials, technical training, and sanitation support to improve production efficiency and competitiveness. Producers are also encouraged to develop simple product innovations such as improved packaging, labeling, and ready-to-eat smoked fish products to expand market opportunities while maintaining traditional quality and authenticity. Strengthening marketing strategies through social media promotion, customer engagement, and organized associations or cooperatives may also help improve market reach and sustainability.

In addition, the study recommends improving production facilities and working conditions to reduce physical strain, heat exposure, and health risks experienced by producers during processing activities. Community-based support programs, shared processing areas, and training on food safety, product handling, and marketing may help strengthen productivity and product consistency. Future researchers are also encouraged to conduct further studies on food safety practices, consumer preferences, packaging innovation, and sustainable marketing strategies to support the long-term development of the smoked fish industry.

Finally, the study recommends the implementation of community-based sustainability and innovation programs that combine traditional knowledge, gradual product improvement, and market-oriented support systems. These programs should emphasize cooperation among producers, government agencies, and community organizations to preserve the cultural identity of smoked fish production while improving livelihood opportunities and market competitiveness. Through this integrated approach, the smoked fish industry in Barangay Libas may continue to grow as a sustainable livelihood and an important cultural tradition for future generations.

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### **Compliance with ethical standards**

#### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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