Saintek Perikanan: Indonesian Journal of Fisheries Science and Technology
Available at http://ejournal.undip.ac.id/index.php/saintek
Vol. 21 No. 4 : 299 - 305, December 2025

GENDER ROLES IN TRADITIONAL FISH PROCESSING BUSINESS IN SMALL ISLANDS IN MALUKU

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ABSTRACT

Traditional fish processing businesses represent a vital livelihood and economic sector in Maluku's small islands. Understanding the precise allocation of gender roles within these enterprises is crucial for enhancing family economic resilience and developing effective sectoral policy. This research aims to analyze gender roles in traditional fish processing businesses. A sample of 24 fish processing business units was drawn purposively from several smoked fish processing places in Ambon City, dried fish in Eastern Seram Regency (Geser) and salted fish in Central Maluku Regency (Perigi). The data obtained was analyzed descriptive quantitatively. The research results show that activities in each traditional fish processing business can be divided into pre-production, production, and post-production stages, with the number of activities in each stage varying. In the smoked fish business, women and men collaborate significantly in the pre-production and production stages. In contrast, in post-production activities, women have significant roles in selling the products. In the dried and salted fish business, pre-production and production activities are mainly carried out by women, while men carry out post-production activities. Most of the men in the village who produce dried and salted fish earn their living as fishermen, so pre-production and production activities are carried out by women during the day when their husbands are at sea. The smoked fish produced is generally sold locally around the production site, while dried and salted fish are sold outside the island and the province.

Keywords: Gender Roles; Business; Traditional Fish Processing

INTRODUCTION

Maluku is one of the archipelagic provinces in Indonesia, which has more than a thousand small islands. The area of the ocean is more significant than land, which means that its fisheries resources are vast. Decree of the Minister of Maritime Affairs and Fisheries of the Republic of Indonesia No. 19 of 2022 notes that Maluku Province's fisheries production contributes 1/3 of national fisheries production. The potential and production of abundant fisheries resources is a source of cheap and healthy nutrition and creates employment opportunities for the community.

Due to the perishable nature of fish, proper handling and processing are crucial to extend their shelf life and facilitate wider distribution. Several processed fish products are often found in Maluku, for example, smoked fish (Rieuwpassa *et al*., 2010; Tapotubun *et al*., 2024), salted fish (Moniharapon *et al*., 2021; Pattipeilohy *et al*., 2023; Apituley *et al*., 2024), dried fish (Tapotubun *et al*., 2017), fish fermented (*inasua*) (Putri & Kusdiyantini, 2018; Mahulette & Kurnia, 2021) and so on. These products are predominantly produced in traditional, family-managed businesses without any clear specialization of roles, and often lack formal operational standards.

Family businesses play an important role in the economic development of local communities (Zahra & Sharma, 2004) to the world economy (Muñoz-Bullón and Sanchez-Bueno, 2011). Many people believe that a family business is a profit-making entity that actively involves people who are related by blood. This means that the people who work in the business are related and biologically connected, which means that the company is not as commercially oriented as non-family businesses (Ratten, 2023).

According to Safitri & Ika (2022), most businesses in Indonesia started as family businesses, which contributed 82% to the country's Gross Domestic Product (GDP) and 40% to its market capitalization. Like family businesses in general, traditional fish processing businesses in Maluku are carried out with all family members and do not have standard rules that require someone, whether husband, wife, or children, to carry out certain activities related to the processing business. Generally, men or women can carry out all activities at every stage in the processing business: pre-production, production, and post-production. However, women play an important role in production, distribution, and marketing in the agricultural food value chain. Globally, more than 37 percent of the world's rural agricultural workforce are women, and this ratio increases to 48 percent for low-income countries (estimates based on International Labor Organization models for 2020). The role of women as farmers, businesswomen, entrepreneurs, and community leaders, ensuring food and nutritional security at the community and household levels, is implemented.

This research aims to analyze the characteristics and roles of gender in several traditional fish processing businesses in Maluku.

Received: 15 August 2025, Last Revised: 20 October 2025, Accepted: 17 November 2025, Available Online: 25 November 2025, Published: 1 December 2025

RESEARCH METHODS

The basic method used in this study is a descriptive survey, which is suitable for analyzing the relative frequency and distribution of sociological variables, such as gender roles, within the processed sample unit. This survey uses questionnaires and interviews as research tools carried out on large and small populations (Halupa, 2022).

The data studied is from samples taken from the population so that relative occurrence, distribution, and relationships between sociological and psychological variables are found.

Data Collection Method

The data sources collected in this research consist of primary and secondary data. Primary data was obtained through questionnaires and structured interviews with the main parties (husbands and wives) involved in the processing activities. The data included respondent characteristics, fish processing techniques, and the division of labor among family members. Secondary data were collected from government reports and other literature to provide context and general information about the research locations.

Research Location Determination Method

The research locations were selected purposively to represent the main types of traditional fish processing in Maluku. Hatiwe Kecil, Gunung Malintang, and Seilale villages (in Ambon City) were chosen as representatives for smoked fish, Keffing Village (in Geser island, Eastern Seram Regency) for dried fish, and Parigi Village (in Central Maluku Regency) for salted fish. (Figure 1).

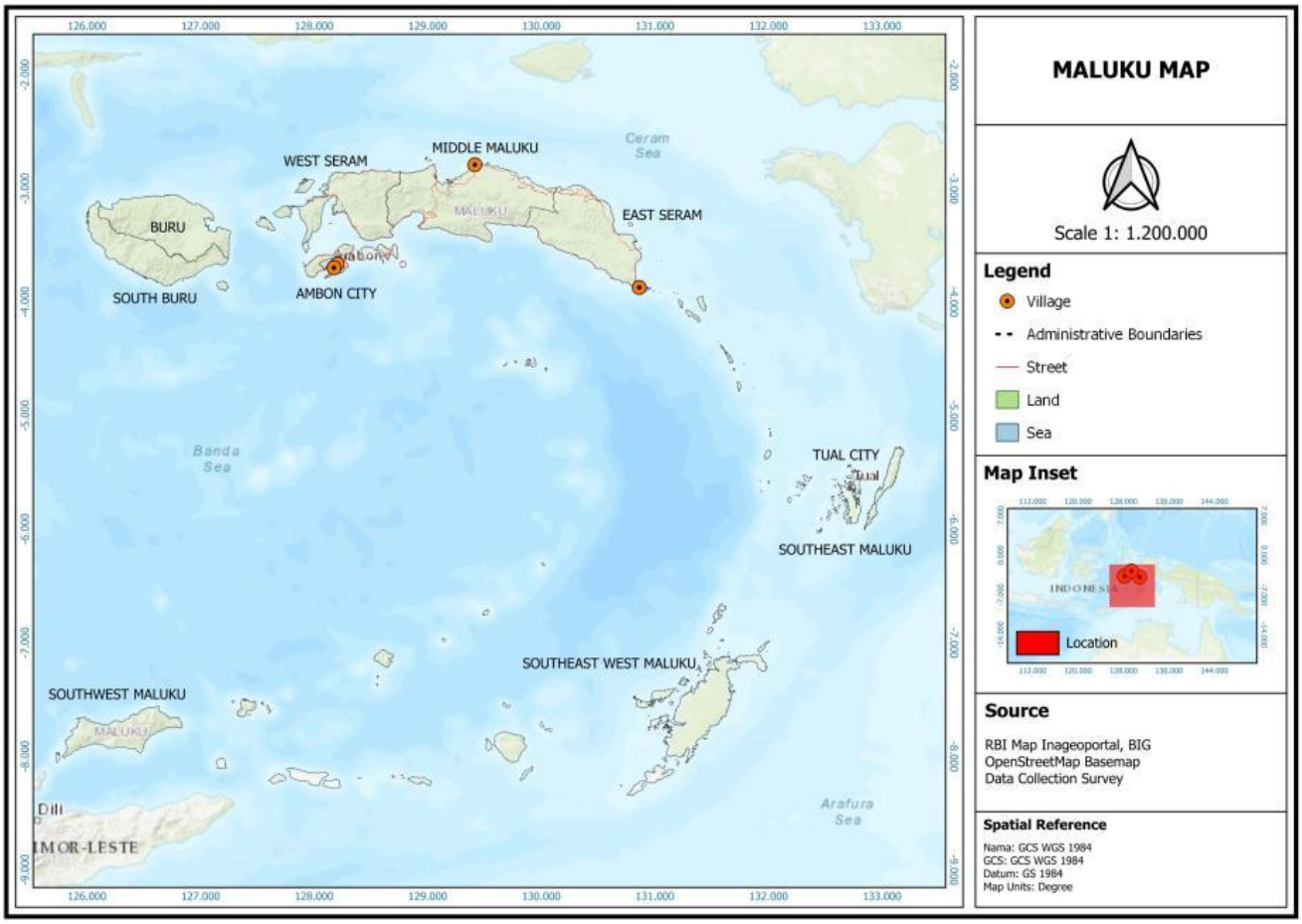

Figure 1. Research Location

Sampling Method

The population in this study consists of traditional fish processing households that actively process fish throughout the season. The fish processors in question produce smoked fish, dried fish, and salted fish. The population of fish processors in each village is different (Table 1), so the number of samples drawn using simple random sampling with propotional allocation was 30% of the total village to ensure balanced representation from each village. The initial proportional target was 19 units. However, the final actual sample size was expanded to 24 units based on the number of processing units that were actively operating and willing to participate, as identified during field research, thereby achieving stronger overall population representation.

Data Analysis Method

The data was analyzed using a descriptive quantitative approach. The main analysis involved calculating percentages and frequency distributions to measure the level of involvement of men and women at each stage of processing.

Villages	City/ Regency	Population (unit)	Sample (unit)
Smoked Fish Business			
Hatiwe Kecil	Ambon	8	3
Gunung Malintang		6	2
Seilale		6	2
Total		22	8
Dried Smoked Fish Business			
Keffing	East Seram	40	12
Total		40	12
Salted Fish Business			
Parigi	Central Maluku	10	4
Total		10	4
Total		62	24

Table 1. Population and Sample

RESULT AND DISCUSSION

Processed fishery products commonly found in Maluku are dried fish, salted fish, smoked fish, and a number of other processed fish, which are produced seasonally in several different places. These products are still processed traditionally without prioritizing sanitation and hygiene; the whole family does them together, and the production quantity is uncertain based on the season. That means processed fish production during the fishing season tends to be greater quantity than during the non-fishing season. During the non-fishing season, when fishermen only get a small catch, or none, processed fish production is not carried out.The characteristics of traditional processing business in Maluku are detailed in Table 2

Respondents Characteristics

The majority of respondents are of productive age (Table 2). According to BPS (2022), the productive age includes those aged 15 to 64 and is the main contributor to economic activity. The role of the productive-age population in the economy is directly proportional to the added value of economic activities created.

Table 2 shows that most women are aged 31-40 years (33.33%) while men are aged 41-50 years (41.67%), and the smallest age group is 15-20 years; for women, 8.33% and men 4.17%. The low number of processors aged 15-20 years is because this age is still included in the school-age group, and BPS (2024) recorded an increase in the percentage of the population aged 7-24 years who are still in school and a decrease in the percentage of the population in this age group who are not in school.

The education of traditional processed fish processors in Maluku is generally at the Primary and Secondary levels. As many as 45.83% of women only have elementary school (SD) education, and 50% of men have junior high school (SMP) education. Low levels of education are most likely the result of socioeconomic constraints in the region. Economic limitations are the main reason for these processors' low education. Processors with high school education are generally in Ambon, while those in villages generally still have elementary and middle school education.

Women		Men	
Characteristics	Percentage (%)	Characteristics	Percentage (%)
Age (Years)		Age (Years)	
15-20	8.33	15-20	4.17
21-30	25.00	21-30	16.67
31-40	33.33	31-40	25.00
41-50	20.83	41-50	41.67
≥51	12.50	≥51	12.50
Education		Education	
SD	45.83	SD	37.50
SMP	41.67	SMP	50.00
SMA	12.50	SMA	12.50
Length of business (Years)			
≤3		0.00	
4-6		25.00	
7-9		20.83	
≥10		54.17	
Sources of Business Capital			
Personal		41.67	
Family		45.83	
Loan		12.50	
Business Capital (IDR)		100	
≤ 5 million		0.00	
> 5 million			

Table 2. Respondents Characteristics

The traditional fish processing businesses in this study are classified as micro-enterprises, with characteristics such as a lack of formal financial administration and dependence on non-formal capital. Long business age (54.17% operating for ≥ 10 years) strongly indicates its nature as a family business that has been passed down, where processing skills are usually inherited from parents. The capital required to start a business is ≤Rp. 5,000,000,- obtained from family (45.83%) and individuals (41.67%). Businesses that are hereditary mean that the costs required are not too significant and can be managed by processors. Dependence on informal capital (family/personal funds) and a lack of formal financial administration—a characteristic of these micro-enterprises—make it difficult for entrepreneurs to obtain loans from formal financial institutions for business expansion.

Gender Roles in Traditional Fish Processed

Data from the Ministry of Maritime Affairs and Fisheries in satudata.kkp.go.id shows that the number of women who work as fisheries business actors, including fishermen, inter-port marketers, fish marketers, fish cultivators, fish processors and salt farmers, is 148,221 out of the total business actors. Fisheries recorded were 1,449,681 people. From this data, women only account for approximately 10% of fisheries' business actors. This data illustrates that marine and

fisheries business actors are still dominated by men, except for fish processing and marketing activities, where women play a higher role.

In traditional fish processing businesses in Maluku, generally, men and women work together to produce products that can be sold to consumers. Tables 3, 4 and 5 explain gender activities in smoked, dried, and salted fish businesses. The activities carried out consist of pre-production, production, and post-production activities. Both men and women can carry out pre-production and production activities to produce products, but generally, they are carried out as described in each table. Post-production activities, especially marketing, are often carried out by women, although the dominant gender roles at this stage vary significantly depending on the type of product and market coverage, as will be explained further below.

Gender Roles in Smoked Fish Business

Smoking is the oldest and most common preservation method in many developing countries (Assogba *et al*., 2019; Alosias, 2020). Traditional and straightforward smoking is easy for people to implement. Generally, traditional fish processing, including the smoking process, is carried out by coastal communities on a small scale due to the fishing season (Swastawati, 2020). The combination of drying and decomposition of chemicals produced naturally due to thermal damage to wood can extend the shelf life of smoked fish products, improve the taste, provide color and taste, and have bacteriostatic and antioxidant properties (Mailoa *et al*., 2019; Rieuwpassa *et al*., 2023).

Smoked fish (in the local language, known as *ikan asar*) is a processed fish business product found in almost all corners of Maluku Province. The smoking process is easy to carry out, and the raw materials are easy to obtain, resulting in this product being found in almost all corners of Maluku Province. The types of fish that are generally used as smoked fish products are skipjack (*Katsuwonus pelamis*), tuna (*Thunnus* sp), tuna (*Euthynus* sp), and other types of demersal fish. The analysis of the traditionally-managed smoked fish business in Maluku reveals a clear specialization of labor by gender (Table 3).

Table 3. Gender Roles in Smoked Fish Business

Roles	Gender			
	Men (people)	%	Women (people)	%
Pre - Production				
Buy fresh fish at the market	5	62.5	3	37.5
Clean and weed the fish for smoking	4	50.0	4	50.0
Prepare a fire to smoke the fish	6	75.0	2	25.0
Production				
Smoke the fish	5	62.5	3	37.5
Arrange smoked fish to sell in the market	6	75.0	2	25.0
Post Production				
Sell the smoked fish in the market	0	0	8	100.0

Table 3 shows that although collaboration between family members often occurs, our findings show clear gender role specialization in the smoked fish business. While post-production activities (selling) are carried out entirely by women (100%), pre-production and production stages demonstrate significant collaboration between genders. Men show a higher involvement in tasks like preparing the fire (75.0%), while the critical task of cleaning and preparing the fish is equally shared (50.0% by men and 50.0% by women). Pre-production and production activities are usually carried out from morning to afternoon, and the smoked fish produced will be sold in the afternoon. From morning to afternoon, women usually prepare the children for school, take care of the household, and cook for the family. Consequently, men shoulder the primary burden of the physically intensive and time-bound production process during the morning, allowing women to focus on domestic duties before transitioning to market sales in the afternoon Once production is complete, the smoked fish will be arranged in a baking dish and then taken to the market to be sold by women. Women's better negotiation skills than men result in women carrying out marketing activities more often.

Gender Roles in Dried Julung (*Hemirhamphus* sp) Fish Business

In the process of processing fish with smoke, there are known hot smoking and cold smoking. If smoked fish is a product of the hot smoking process, then dried julung (*Hemirhamphus* sp) fish is a product of a combination of hot and cold smoking processes (Tapotubun *et al*., 2017). In one production, a processor can usually produce 50 pinches (*waya* in the local language), with each pinch consisting of 20 dried julung fish.

Dried julung fish production in Maluku is only found in Keffing Village, Eastern Seram Regency. Siahaya (2020) states that fresh julung fish is obtained from catches from local village fishermen or surrounding villages.

Table 4 explains gender roles in the dried julung fish business in Keffing Village, East Seram Regency, Maluku. In pre-production and production activities, women are more active than men. It is because most men in Keffing Village earn their living as fishermen and go to sea from morning to evening. If they are not fishermen, they usually leave their families to work as housebuilders on Seram Island or other surrounding islands.

Table 4. Gender Roles in Dried Smoked Julung (*Hemirhamphus* sp) Fish Business

Roles	Gender			
	Men (people)	%	Women (people)	%
Pre Production				
Clean and prepare the fish for smoking	5	41.7	7	58.3
Prepare a smoking area	4	33.3	8	66.7
Production				
Smoking the fish	2	16.7	10	83.3
Organize and package the smoked fish and send them to the collecting traders	5	41.7	7	58.3
Post Production				
Bringing the fish to collecting traders	7	58.3	5	41.7

Once production is complete, the dried julung fish will be tied, packaged, and sent to areas such as Ambon City, North Sulawesi, Central Sulawesi, and Papua. Some processors package and store fish in large boxes, but some only tie them and do not use Papua. Some processors package and store fish in large boxes, but some only tie them and do not use other primary packaging materials. Packaging and binding of dried julung fish products are usually in the form where one large bundle consists of 10 clips/ waya and one clip contains 20 dried julung fish so that in total, in 1 bundle, there are 200 dried julung fish.

Gender Roles in Salted Fish Business

Salted fish is one of the processed fishery products in Maluku. This research finds that 100% female dominance in salted fish production. Table 5 shows that activities in the salted fish business consist of seven activities, which are classified into three primary activities: pre-production, production, and post-production. The salted fish business in Parigi Hamlet, Central Maluku Regency, is generally run by women. Most of the men in this hamlet work as hand-line fishermen who go to sea from dawn to dusk, so they need more time to run this business.

Table 5. Gender Roles in Salted Fish Business

Roles	Gender			
	Men (people)	%	Women (people)	%
Pre Production				
Buy fresh fish from the fishermen	0	0	4	100.0
Transport the fish to processing places	0	0	4	100.0
Production				
Clean and weed the fish for salting	0	0	4	100.0
Salted and dried the fish	0	0	4	100.0
Arrange the fish to bring to the market	1	25.0	3	75.0
Post Production				
Sell the fish in local market	0	0	4	100.0
Send the salted fish to Ambon and outside the Province	2	50.0	2	50.0

(a) (b)

Figure 2. (a) Women are Selecting Fish to Sell Fresh and Processed; (b) Women are Preparing Fish to Process Into Salted Fish

Figure 3. Drying Salted Fish in Parigi Hamlet

Apart from catching tuna (*Thunnus* sp), hand-line fishermen in Parigi Hamlet also often catch skipjack (*Katsuwonus pelamis*) and sailfish (*Istiophorus* sp). The tuna will be sent to freezing companies in Ambon, while the

skipjack and sailfish will be sold fresh or as processed smoked fish at local markets or in surrounding villages. Meanwhile, skipjack tuna and sailfish processed into salted fish will be sent to Ambon to then be sold to other cities outside Maluku Province.

Table 5 shows that women play a vital role in pre-production activities. If their husbands do not get fish to process into salted fish, these women will look for other fishermen. The entire processing cycle, from fish sorting to salting and sun-drying (Figures 2 and 3), is performed exclusively by women, as their husbands are unavailable due to their deep-sea fishing schedule (Apituley & Schrader, 2024) If the sun is shining hot, it takes 4 - 5 days for the salted fish to dry and be ready to be marketed. If the day is cloudy, drying the fish can take 7 - 8 days.

After the salted fish has dried, the product will be packaged and put into plastic sacks or cardboard to be sent to traders in Ambon City. Small quantities of salted fish will be stored and sold at local markets or to needy people. Salted fish is sold in local markets with other processed products, such as smoked fish, and women carry out this activity (Apituley, *et al*., 2023).

Given the traditional and small-to-medium scale of the business, post-production activities culminate in distribution and sales, which involve distinct gender roles depending on the market's distance. In this business, financial records have yet to be recorded, so the business's financial condition is unknown.

CONCLUSION

Processed fish in Maluku are generally still processed in a simple, traditional way, and sanitation and hygiene are not considered. Even though the whole family works together to produce the product, from pre-production and production to post-production activities, several activities are generally carried out only by women. Men are generally carried out in pre-production and production activities in the smoked fish business, while women mostly carry out post-production activities. In the dried and salted fish business, pre-production and production activities are mainly carried out by women, while men carry out post-production activities. Most of the men in the village who produce dried and salted fish earn their living as fishermen, so pre-production and production activities are carried out by women during the day when their husbands are at sea. The dried fish and salted fish produced are sold outside the island by boat, car, and ferry, so good packaging is required so the fish does not get scattered. Men carry out this packing and packaging activity.

Suggestions regarding the results of this research include assistance from related parties such as the Regional Government, in this case, the Maritime Affairs and Fisheries Service, Universities, and Non-Governmental Organizations for processors to continue paying attention to the sanitation and hygienic aspects of the products produced so that product marketing reach can be more significant. Regional and Village Governments must also strive to expand the market for these processed fish products to increase community income and welfare

ACKNOWLEDGEMENT

The author's may thank the Government of the Republic of Indonesia through the Directorate General of Higher Education for the MP3EI funds for the implementation of this research.

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