



## The Influence of Socio-Economic Conditions on Family Food Consumption (Study: Fishermen's Households of Beneficiary Families (KPM) in East Wara District, Palopo City)

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### ABSTRAK

Ketahanan pangan keluarga merupakan isu strategis terutama bagi keluarga nelayan penerima bantuan pangan pemerintah (KPM). Kondisi sosial-ekonomi seperti gender, usia, pendidikan, pendapatan, serta akses pangan sangat menentukan pola konsumsi dan diversifikasi pangan. Penelitian ini menggunakan pendekatan deskriptif kualitatif dengan total sampling terhadap 52 keluarga nelayan penerima KPM di Kecamatan Wara Timur, Kota Palopo. Data primer diperoleh melalui survei dan wawancara menggunakan kuesioner yang mencakup demografi, pola konsumsi, pendapatan, dan pengeluaran. Analisis dilakukan secara deskriptif dengan mengaitkan faktor sosial-ekonomi terhadap konsumsi pangan. Results: Hasil penelitian menunjukkan bahwa mayoritas responden adalah perempuan (96%) dengan usia dominan di atas 41 tahun (68%). Tingkat pendidikan relatif rendah, di mana 37% berpendidikan SMP dan 35% SMA, tanpa lulusan perguruan tinggi. Pola konsumsi pangan masih sangat bergantung pada ikan laut sebagai sumber protein utama. Namun, diversifikasi pangan masih terbatas karena daya beli rendah dan keterbatasan pengetahuan gizi. Bantuan beras dari cadangan pangan pemerintah terbukti meringankan beban pengeluaran rumah tangga untuk sumber karbohidrat, sehingga berpotensi membuka ruang bagi alokasi anggaran ke pangan lain. Temuan ini menegaskan bahwa faktor sosial-ekonomi dan demografi sangat berpengaruh terhadap pola konsumsi keluarga nelayan. Rendahnya pendidikan dan daya beli menjadi kendala utama diversifikasi pangan, sementara dominasi peran perempuan memberi peluang intervensi gizi yang lebih efektif.

### ABSTRACT

Family food security is a strategic issue, especially for fishing

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*families who receive government food assistance (KPM). Socio-economic conditions such as gender, age, education, income, and access to food greatly determine food consumption patterns and diversification. This study uses a qualitative descriptive approach with a total sampling of 52 fishing families who received KPM in East Wara District, Palopo City. Primary data were obtained through surveys and interviews using questionnaires that included demographics, consumption patterns, income, and spending. The analysis was carried out descriptively by relating socio-economic factors to food consumption. The results showed that the majority of respondents were women (96%) with a dominant age over 41 years old (68%). The level of education is relatively low, where 37% have a junior high school education and 35% high school, with no college graduates. Food consumption patterns still rely heavily on marine fish as the main source of protein. However, food diversification is still limited due to low purchasing power and limited nutritional knowledge. Rice assistance from the government's food reserves has been proven to ease the burden of household expenditure on carbohydrate sources, thus potentially opening up space for budget allocation to other foods. Conclusion: These findings confirm that socio-economic and demographic factors greatly affect the consumption patterns of fishing families. Low education and purchasing power are the main obstacles to food diversification, while the dominance of women's roles provides opportunities for more effective nutrition interventions.*

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## INTRODUCTION

The government has designated seven food commodities as staple and strategic foods that receive the top priority in achieving food self-sufficiency (Ariani et al., 2021). The seven food commodities are rice, corn, soybeans, sugar, beef, onions and red chilies. Shallots and red chili peppers are not staple foods, but food commodities that are maintained price stability, especially at the consumer level because price volatility of these two food commodities can have an impact on the inflation rate (Matondang et al., 2024). The government strives to maintain the stability of the supply and prices of basic commodities, besides carrying out the mandate of Law Number 18 of 2012 concerning food, but also to maintain the physical and economic access of the community to staple foods as a source of carbohydrates and proteins for most Indonesian people (Rozi et al., 2023).

Food security has three main pillars, namely food availability, food accessibility and food utilization (Badan Pangan Nasional, 2024). These three aspects are interrelated and inseparable from the available resources, but over time these three aspects, especially food availability, can become a serious problem for a country. According to Malthus' theory, population growth follows a series of measures while growth in food availability follows a series of calculations, meaning that rapid population growth if not balanced with sufficient food supply or supply, will cause problems. Until now, data shows that in Indonesia there are still 76 regions that have a low level of food security in general (Amalia et al., 2024). The Eastern Region of Indonesia (KTI) is the highest food insecurity vulnerable area (Sadiyah et al., 2020).

Food consumption is one of the components in the food and nutrition system (Meiselman, 1996). Food consumption patterns are the composition of foods that include the type and average amount of food ingredients per person per day that are commonly consumed by the population over a certain period of time (Kachwaha et al., 2024). Factors that affect food consumption are nutritional knowledge, food production,

food availability and food expenditure (Alqurashi et al., 2025). The number of household members will affect food consumption patterns based on local potential. The more the number of household members, the more varied the food needs consumed because each household member has different tastes (Novita et al., 2025).

Food assistance in the form of rice is a government program that has been running since the beginning of 2023, in the form of rice distribution sourced from the CPP Government Food Reserve stock. This distribution is managed by Bulog and distributed by the Food Security Service as an extension of Bapanas. Based on the CPP rice distribution data in December 2024, it was recorded that 121,120 kg of rice had been distributed to 12,112 beneficiary families (KPM) Palopo City Food Security Office, 2024). With this rice food assistance, it is hoped that the beneficiaries can help reduce spending on carbohydrate sources and pay more attention to the needs of various other foods as basic needs.

From the data and information on poverty in districts/cities in Indonesia, the number of poor people in Palopo City was recorded at 14,430 people with a poverty line income of Rp 466,521 per capita per month (Palopo City Food Security Office, 2024). With a limited amount of rice assistance, the adequacy of the family's needs for carbohydrate sources if they only rely on rice certainly varies depending on the number of family members. However, with the free provision of rice, the beneficiaries can allocate expenses to meet other food needs (Dinas Ketahanan Pangan Kota Palopo, 2024). Based on the background presented, it is considered necessary to conduct research related to The Influence of Socio-Economic Conditions on Family Food Consumption (Study: Fishermen's Households of Beneficiary Families (KPM) in East Wara District, Palopo City).

## RESEARCH METHODS

This study uses a qualitative descriptive approach that aims to identify socio-economic living conditions that affect the food consumption of fishing families who receive rocks from the government or called beneficiary families (KPM) by collecting data from KPM fisher family respondents in East Wara District, Palopo City, all families receiving assistance as a sample for this study. The data collection technique used proporsional sampling. Stratified proportional sampling is a sampling technique in which the sample size drawn from each strata in the population is determined proportionally to the proportion of each strata to the total population. This approach aims to ensure balanced representation of all subgroups, thereby improving the accuracy of estimates and strengthening the validity of the representation of research results against heterogeneous populations (Etikan et al., 2015). In this study, socioeconomic conditions that affect family consumption were measured based on gender, education, number of family dependents, frequency of food consumption, food availability, food quality, amount of income, amount of expenditure and constraints on obtaining food.

This research was carried out from July to August 2025 in East Wara District, Palopo City, South Sulawesi province, Indonesia, using the slovin formula, the number of samples was 52 fishing families who received KPM. Samples were obtained proportionally in each Village using formula (1). In general, the proportional sample of each sub-district is presented in Table 1.

Table 1. Sample Proportion for Each Subdistrict

No	Village Name	Number of KPM Fishermen	Sample
1	Benteng	89	8
2	Malatunrung	15	2
3	Pontap	90	10
4	Ponjalae	93	9
5	Salekoe	50	5
6	Salutellue	86	8
7	Surutanga	80	10
Sum			52

Primary data consists of information collected directly from respondents through surveys and interviews (Harahap et al., 2024). The main instrument used in this study is a questionnaire designed to collect data from respondents which consists of three parts, namely:

1. Questions about respondents' demographics (name, gender, number of family members, age, last education, occupation and family income per month).
2. Questions about family consumption patterns that influence food consumption.
3. Questions about the amount of income and expenses and whether they have a side job or a supplement to other jobs.

## RESULTS AND DISCUSSION

### Result

#### Overview of Research Locations

Palopo City consists of nine sub-districts. Based on the results of the complete enumeration of the agricultural census phase II of Individual Agricultural Enterprises (UTP) Food Crops by Central Statistics Agency (2023), Telluwanua District, West Wara District, and Mungkajang District are the top three regions for two categories at once, namely the category of most UTP distribution and the highest category of Agricultural Business Households (RTUP). Therefore, these three sub-districts represent agricultural areas in the data collection in this study. The following distribution map of the two categories is presented in Figure 1.



Source: BPS, 2023

Information:

- 7373040 - Telluwanua
- 7373041 - Wara Barat
- 7373011 - Sendana

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Figure 1. Map of UTP and RTUP Distribution in Palopo City

## Demografi Responden

This demographic data of respondents provides some information in simple terms about the circumstances of the respondents who are the object of the research. The data of respondents in this study are described through gender, age, and education.

Table 2. Respondent Characteristics

Characteristics	Options	Frequency	Percentage
Gender	Man	2	4%
	Woman	50	96%
Age	20-25 years old	1	2%
	26-40 years old	15	30%
	>41 years old	34	68%
Education	Higher Education (S1)	0	0%
	Senior High School (SMA)	18	35%
	Junior High School (SD)	19	37%
	Primary school	14	27%
	No School	1	2%

Source: Data processed 2025

In Table 2, it is known that the number of female respondents is 50 people (96%) and men is 2 people (4%). The average age between 21-25 years old is 1 person (2%), 26-40 years old 15 people (30%) and >40 years old is 34 people (68%). The overall education level of respondents was mostly 18 high school (SMA) graduates (35%), while S1 graduates were 0 people (0%), 19 school (SMP) graduates (37%), 14 school (SD) graduates (27%), and 1 No School (2%).

## Food consumption patterns

Based on the results of a survey with the families of fishermen who received PKM, food consumption patterns refer to the habits and preferences of people or individuals in consuming various types of food in their daily lives. This pattern is influenced by many factors as presented in Figure 2 as follows:

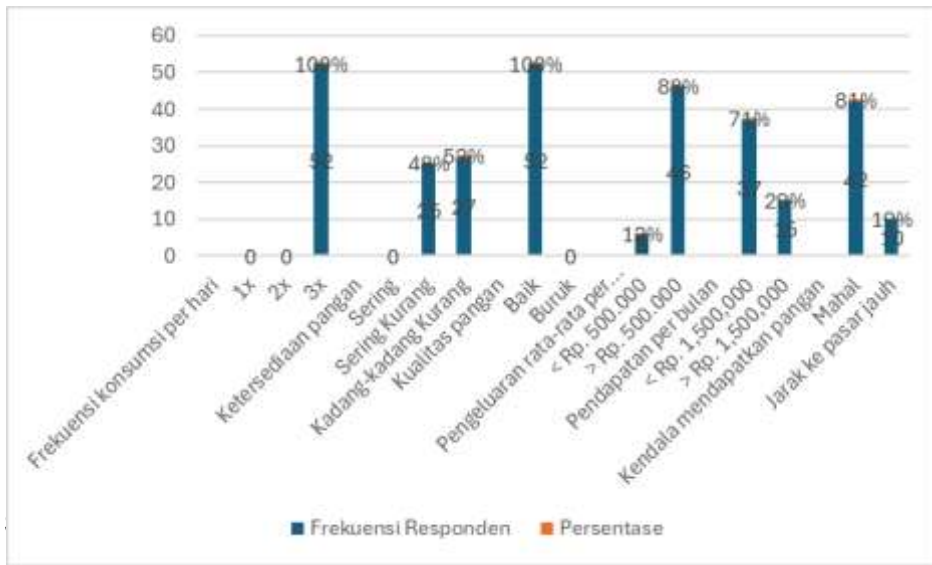
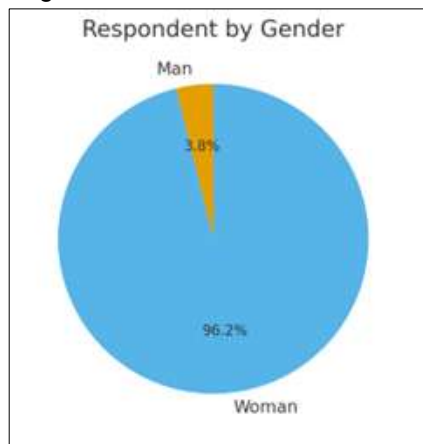


Figure 2. Food Consumption Fishermen Recipients of PKM

**Discussion**

Demographic information of respondents is the initial foothold in socio-economic studies because it can provide a basic picture of the profile of the people being studied. In the context of this study, the respondents are fishermen's families who are recipients of the KPM program. Demographic variables such as gender, age, and education are important factors that affect food consumption patterns and household food security. This demographic analysis is crucial to understand the influence of social characteristics on food consumption preferences and diversification (BPS RI, 2024). Based on Figure 3, the gender distribution shows the dominance of female respondents (96%), while men are only 4%. This imbalance indicates that women have a central role in household management and food consumption decisions. Several studies confirm that women in coastal areas generally play a role in determining daily menus, regulating food spending, and ensuring that children's nutritional needs are met (Lusambili et al., 2020).

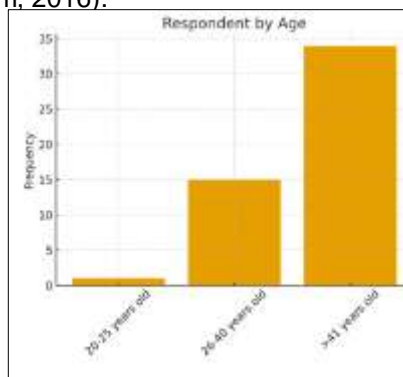


Source: Researcher analysis 2025  
Figure 3. Frekuensi Respoden by Gender

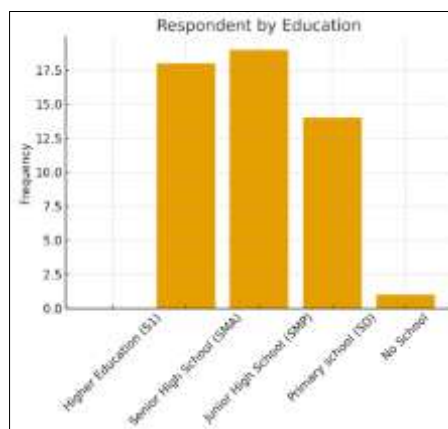
The dominance of female respondents is also consistent with various studies in developing countries that highlight the importance of women's empowerment in maintaining the quality of household consumption. Women function as the "main caregivers" in choosing food items while maintaining the continuity of family nutrition (Essilfie et al., 2024). Therefore, the high participation of women in this study strengthens the relevance of gender-based analysis.

In terms of age, most respondents were over 41 years old (68%). This can be seen in Figure 4 which shows the dominance of the older adult age group who are still productive. This age group usually has long experience in the fisheries sector as well as a relatively stable lifestyle. However, old age can also affect the ability to capture new information, for example related to nutrition counseling and food diversification efforts (Gibson et al., 2021).

Around 30% of respondents are in the age range of 26-40 years which is classified as a young productive group. This group is more open to innovation, both in food consumption patterns and the use of technology. In contrast, only 2% of respondents were aged 20–25. This small number can reflect the phenomenon of migration of coastal youth to other economic sectors that are considered more prospective (Malamassam, 2016).



Source: Researcher analysis 2025  
Figure 4. Frekuensi Responen by Age



Source: Researcher analysis 2025  
Figure 5. Frekuensi Responen by Age

The education level of the respondents shown in Figure 5 shows that the majority only completed junior high school (37%) and high school (35%), while none achieved higher education. This low educational attainment has an impact on limited access to knowledge about nutrition, health, and the importance of food diversification. (WHO, 2025) emphasized that education is closely related to nutritional literacy which affects household consumption patterns.

If it is linked between education and gender, most women with low educational backgrounds are the main determinants of household decisions. This situation risks limiting the variety of foods that are in accordance with the principles of balanced nutrition. However, women's practical experience in managing daily food can often replace the limitations of formal education (Martono et al., 2023).

This demographic profile has a direct impact on food consumption patterns. As reflected in Figure 1 and Table 3, gender, age, and education characteristics strongly influence variations in consumption. For example, older age groups with limited education tend to maintain local fish-based food consumption, while younger age groups are more open to food variations including processed products.

In general, the consumption patterns of fisher families are still highly dependent on marine catches. Research by Indrawasih (2016) also shows that the availability of fish is directly proportional to the consumption of animal protein in coastal communities. However, too much dependence on fish can lead to a lack of intake of complex carbohydrate sources, vegetables, and fruits.

Figure 1 shows the factors that affect consumption patterns, namely individual preferences, purchasing power, food availability, and local culture. These factors are closely related to demographics: age shapes preferences, education determines nutritional knowledge, and gender influences decision-making. Therefore, demographic analysis is important to understand variations in food consumption. In addition, purchasing power is closely related to the socio-economic conditions of fishermen families and cannot be separated from the demographic aspect. The productive age group with higher education has additional income opportunities so that they can diversify food better (Li et al., 2025).

The low level of education remains the main obstacle in fulfilling balanced nutrition. Although fish is available in large quantities, knowledge of combining it with plant-based food sources is still minimal. Therefore, nutrition counseling based on the demographic characteristics of respondents is very necessary (Kementrian Pertanian, 2022). In terms of gender, the involvement of women who are dominant in food consumption decisions can be used as an opportunity. Empowering women fishermen to increase knowledge about food diversification has the potential to strengthen household food security. This is in line with the (FAO, 2011) which emphasizes that increasing women's capacity has a positive impact on the quality of family consumption.

Age demographics also influence consumption preferences. Older respondents prefer traditional seafood-based foods, while productive age groups are more flexible towards new foods, including processed products. This difference in preferences is an important consideration in developing a food diversification strategy for the fishing community. The relationship between education and consumption is seen in the selection of staple foods. Respondents with higher education were more likely to consume a variety of carbohydrates such as corn or tubers, while those with lower education tended to stick only to rice as the primary source of carbohydrates (Cembranel et al., 2020).

Table 3 regarding the food consumption patterns of fishermen who receive KPM can be attributed to demographic factors. Older respondents with low education tended to rely on fish as their main side dish, while productive age groups with better

education showed a variety of side dishes such as chicken and vegetables. These findings imply the need for different nutrition counseling strategies according to demographic groups. Elderly respondents need to be encouraged to increase their consumption of vegetables and fruits, while young respondents are directed to consume healthy processed foods. For the low-educated group, visual methods and hands-on practice are more effective than theoretical approaches (Risica et al., 2009).

In summary, the demographic profile of the respondents presents challenges as well as opportunities in strengthening the food security of fishery families. Gender, age, and education factors have been shown to play a major role in influencing food consumption patterns. Understanding these linkages is critical to designing targeted program interventions. Thus, demographic analysis and food consumption patterns provide a strong foundation for policy recommendations. Interventions that focus on women's empowerment, increasing nutritional literacy, and locally based food diversification are seen as effective in strengthening the food security of fishing families. These findings support the goals of the SDGs, especially the 2nd (Zero Hunger) and 5th (Gender Equality) goals (United Nations Development Programme (UNDP), 2024).

## **CONCLUSION AND SUGGESTIONS**

This study emphasizes the importance of demographic-based interventions, improving nutritional literacy, and food diversification to strengthen the food security of fisher families receiving KPM. The socio-economic condition of the families of KPM recipients in East Wara District, Palopo City, is still vulnerable, characterized by low education, limited purchasing power, and dominance of fish-based food consumption. Government rice assistance contributes to reducing the burden of spending on carbohydrate sources but has not fully encouraged consumption diversification. Demographic factors, especially gender, age, and education, have been shown to influence consumption patterns and need to be the basis for designing intervention programs.

Recommendations. Local governments and food extension workers need to integrate assistance programs with household-based nutrition education, especially targeting women as food decision-makers. Local food diversification needs to be promoted, for example through the processing of fishery products, the use of local tubers, corn, and vegetables to reduce dependence on rice and fish.

Demographics-based interventions: older age groups require different approaches to younger groups, while lower-educated respondents require more practical and visual methods in counseling. Collaboration between institutions (Bulog, the Food Security Office, and community organizations) is needed to ensure that food assistance not only reduces the economic burden but also improves the quality of family nutrition. Long-term policy strategies should focus on increasing fishermen's economic capacity, market access, and nutrition literacy to make food assistance programs more sustainable.

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### **Conflicting interests**

The authors of the research have stated that they do not have any conflicts of interest to disclose concerning the current investigation.

### **Contributions by the authors**

Each of the writers made an equal contribution to this article, and they were the primary contributors. Every author of the final paper reads it and gives their approval.

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