International Journal of Forest, Animal and Fisheries Research (IJFAF)
ISSN: 2456-8791
[Vol-6, Issue-5, Sep-Oct, 2022]
Issue DOI: https://dx.doi.org/10.22161/ijfaf.6.5
Article DOI: https://dx.doi.org/10.22161/ijfaf.6.5.3

Distribution Patterns and Consumer Preferences on Demersal Fish in North Minahasa District

Florence Verra Longdong*, Edwin L.A Ngangi, Djuwita R.R. Aling

Faculty of Fisheries and Marine Sciences, Sam Ratulang University
*Corresponding Author

Received: 13 Sep 2022; Received in revised form: 01 Oct 2022; Accepted: 05 Oct 2022; Available online: 17 Oct 2022

Abstract— *North Minahasa Regency is an area of North Sulawesi Province, which has the potential for capture fisheries that is growing significantly with the demand for raw materials for marine products, both for the consumption needs of the people of North Sulawesi in general and specifically in North Minahasa Regency itself, one of the sub-districts in North Minahasa Regency. which is the center of demersal fish capture fisheries production is Kema District. The success of marketing fish catch production is based on a well-targeted and efficient distribution pattern. This is strongly supported by interests and preferences, giving rise to a choice (preference) which one is desired. Culinary tourism in this area began to develop by showing an increasing trend. The number of restaurants or restaurants that offer grilled fish or seafood products has shown people's interest in fish consumption. The current high level of public interest in consuming fish automatically brightens the fisheries sector from upstream to downstream. The purpose of this study was to identify the marketing distribution pattern of demersal fish in North Minahasa Regency and analyze the attitudes of end consumers towards their preferences for demersal fish in North Minahasa Regency. The basic method in this research is a case study and the primary data source comes from fishermen and collectors as fish marketers, who are involved in marketing channels as well as final consumers who use the product. Respondents who are determined are producers, namely fishermen who catch Demersal fish, collectors or suppliers and final consumers in culinary centers who choose processed demersal fish products. Methods Data collection was carried out by sampling, namely: Purposive sampling for the types of producer and collector respondents, Accidental sampling for final consumers who apply their preferences to processed Demersal fish products in culinary centers located in North Minahasa district. Collecting data through interviews and direct observation as well as filling out a list of questions guided by the researcher. Primary and secondary data types, for primary data were analyzed descriptively qualitatively and descriptively quantitatively using data analysis techniques according to consumer attitude preferences. to the final consumer. The validity test was carried out on the snapper, chair, bobara, grouper, and escape variables, it was found that all the calculated r values were greater than r table, which means that all indicators in the questionnaire were declared valid with a moderately correlated to high category. The reliability test on snapper was 0.626, which means high reliability value, as well as for chariot fish the value was 0.669 , 0.721 passed and Goropa 0.600 which was categorized as sufficient for 5% and 1% error levels.*

Keywords— ***Distribution Pattern, Consumer Preference, Demersal Fish***

I. INTRODUCTION

North Minahasa Regency is an area of North Sulawesi Province, which has the potential for capture fisheries that is growing significantly with the demand for raw materials for marine products, both for the consumption needs of the people of North Sulawesi in general and specifically in North Minahasa Regency. Directly adjacent to Bitung City, as one of the centers for the development of the

fishing industry in Eastern Indonesia. (BPS, MINUT 2020).

It has an area of 955.32 km2, North Minahasa Regency has its capital city in Airmadidi. Known as a district that has a range of large and small islands scattered in the waters of North Sulawesi. A total of 47 islands have been recorded and have been named (Kemendagri, 2020). As an archipelagic region, this area is certainly inseparable from the development of the fisheries sector, especially capture fisheries. One of the sub-districts that is the center of Demersal fish capture fisheries production is Kema District. Marketing distribution of capture production from fishing fleets in Kema District has spread to several areas outside North Minahasa Regency.

Based on the statistics-KKP 2020, it is recorded that fish consumption in North Sulawesi Province from 2017 to 2019 has increased, where fish consumption in 2017 was 60.24, in 2018 it rose to 62.63 and in 2019 it became 66.75 kg/capita/year. The development of culinary centers in one area is closely related to the increase in tourism in that area, culinary centers cannot be separated from the variety of food menus that are sold. Fishery products are known to be very complete so that they give their own color as an attraction for tourists, whether they come from fishing production or aquaculture production, both from freshwater fish and seawater fish.

Groups of demersal fish (including corals) are fish species that most of their lives are on the bottom or near the bottom of the waters. The most common demersal fish known to the public include; red snapper, white pomfret, manyung, kuniran, kurisi, gulamah, layur, beloso and peperek. Due to its position as a very important fishery export commodity and the different biological characteristics of fish in general, the stock assessment is carried out separately. (BPPL, KKP 2019)

Based on Capture Fisheries Statistics (2012) several types of demersal fish that were dominantly landed from WPP 715 were lencam: 7,531 tons (26.34%), kuwe: 3,646 tons (12.75 %), white snapper: 3,537 tons (12.37%) and red snapper 3,282 tons (11,48%). Meanwhile, the composition of reef fish species consisted of yellowtail: 4,566 tons (42.11%), coral grouper: 2,915 tons (26.89%), and sunu grouper: 1,587 tons (14.64%). The distribution of demersal fish resources is relatively narrow covering the coastal areas of Tarakan Belinyu and Nunukan in East Kalimantan and Likupang Bay and around the Sangir Talaud islands in North Sulawesi. (BPPL, KKP 2019)

Considering that fishery commodities have distinctive characteristics, namely easily damaged, non-uniform, seasonal, producing areas are generally on the coast and have a wider and refrigerated space for storage, marketing of fishery products in general has the potential to be inefficient (Abidin, 2015). to pay attention to the exact distribution pattern, which according to Kotler, P. & Keller, K.L. (2012), distribution is a process of delivering finished goods from producers to consumers when needed.

Distribution channel according to Kotler and Armstrong (2001), is a set of interdependent organizations involved in the process of providing a product or service, for use or consumption by consumers or business users. Likewise, Assauri (2013) also states that distribution channels are institutions whose activities are to market products, in the form of goods and services from producers to consumers. Research conducted by Triyana A (2010) explains that the preferences formed by consumers based on the attributes of price, size and freshness are very dependent on the efficiency of a distribution channel that is caught. According to Gazali (2016) who examined consumer preferences for marine products, the attributes that have a real influence on consumer attitudes in choosing fish products are product quality and diversity.

II. RESEARCH METHODS

1. Basic Method

The basis of the method is a case study and the primary data source comes from fishermen and collector traders as fish marketers. which. Bungin, (2010) stated that the qualitative descriptive format is generally carried out in research in the form of case studies. This research focuses intensively on one particular object obtained from all related parties. Case study research will lack depth if it is only focused on a certain phase or one particular aspect before obtaining a general description of the case (Nawawi, 2003).

2 Types and sources of data

The types of data are primary data and secondary data. Primary data obtained directly from data sources, namely; fishermen, collectors, restaurant owners and consumers as the final users of the products produced. Secondary data was obtained through the Central Statistics Agency (BPS, Department of Fisheries and Marine Affairs, Ministry of Maritime Affairs and Fisheries and other supporting data obtained through the website of the relevant government office.

3 Data Retrieval Methods

The data collection method uses a sampling technique based on purphosive sampling for fishermen respondents and collectors traders, each of which will be taken 5 respondents with the researcher's assumption that the information to be obtained is the same for the completeness of qualitative and quantitative data.

Meanwhile, for consumers using the accidental sampling method, or sampling by chance, where data is taken by chance when consumers are met while buying products without prior planning (Sugiyono, 2009).

4. Data collection technique

Data collection techniques in this study were structured interviews, observation and filling out a list of questions directed by the data collection team. The interviews were conducted by asking several questions systematically and the questions asked had been compiled.

5. Data analysis

Quantitative descriptive data analysis to analyze consumer attitude preferences towards types of demersal fish that have been processed in their choice for consumption. The sample here is the consumer and the variables used are: taste, price, type of cuisine as the independent variable and purchasing decisions which are the dependent variable. Because in this study, multivariate analysis was carried out, in sampling, the number of samples was at least 10 times the number of variables studied. So the number of samples taken is 40 samples. This study uses a scale with a Likert Scale, which uses scores and indexes from very low to very high (Sekaran, 2006). The analytical tool is multiple linear regression analysis. Sugiyono (2008), states that to test the associative/relationship hypothesis using product moment correlation, multiple correlation, partial correlation, and regression analysis using interval data

III. RESEARCH RESULT

1 General Condition

North Minahasa Regency, which was divided from Minahasa Regency in 1995, continues to develop with natural resources that support the development of this Regency. As a district directly adjacent to Bitung city as a fishing industry city, North Minahasa Regency also has fish unloading centers including in Likupang sub-district and Kema sub-district.

Kema is a sub-district in the northern Minahasa Regency of North Sulawesi Province which is bordered by Bitung City to the north and the Maluku Sea to the east and Kombi District to the south. Kema Village which is located in Kema District is currently divided into 3 villages, namely Kema 1, Kema 2 and Kema 3 villages. The capital of the sub-district and the fishing port are located in the village of Kema 3. This fishing port is a local port that supplies caught marine fish, both pelagic fish species and demersal fish or reef fish. This fishing port is designated as a fish landing base (PPI) which is the only fish landing base in North Minahasa district where Demersal fish are unloaded. Most of these fishery actors live in 3 villages, namely Kema 1, Kema 2 and Kema 3, so the special distribution pattern for Demersal fish catches starts from these three Kema villages. There are approximately 25 active fleets with various sizes ranging from 20-30GT which on average will provide approximately 30 tons of catch in one trip.

Table 1. Table of production of Demersal Fish in Minut 2021.

NO	NAMA IKAN		BULAN												TOTAL
		TARGET	JAN	FEB	MAR	APR	MEI	JUNI	JULI	AGUST	SEPT	OKT	NOV	DES	
1	Ekor Kuning	368.02	33.34	54.15	28.69	39.29	35.47	27.38	31.58	33.21	35.11	33.95	20.03	20.13	392.34
2	Lolosi Biru	441.66	38.77	34.94	33.47	41.74	37.36	40.05	30.51	40.61	38.94	33.17	40.41	41.81	451.78
3	Bawal Hitam	339.27	31.88	24.09	26.73	24.87	23.84	29.88	32.85	23.38	24.43	27.11	22.56	21.49	313.13
4	Bawal Putih	77.10	7.01	5.03	7.10	7.31	5.96	8.20	8.68	7.54	5.24	4.97	3.93	4.31	75.27
5	Kakap Putih	293.11	22.06	20.02	28.01	26.55	33.50	27.79	23.19	20.02	25.10	23.44	23.62	20.48	293.79
6	Bambangan/Kakap Merah	933.68	51.78	47.89	72.83	88.43	76.15	62.51	96.81	96.75	102.16	88.74	75.76	91.58	951.37
7	Lencam	833.87	73.72	75.32	54.61	76.46	65.21	71.53	74.64	73.71	63.52	72.91	61.66	78.35	841.62
8	Pinjalo	754.36	58.24	59.92	54.63	70.97	63.34	72.20	77.77	71.27	53.00	53.83	62.32	62.81	760.31
9	Biji Nangka	177.89	20.12	12.79	19.64	19.69	23.40	12.14	20.51	13.05	15.02	14.13	24.72	10.14	205.34
10	Kerapu	128.34	11.06	8.35	9.39	12.84	13.35	11.22	12.84	12.12	9.95	12.84	15.15	12.12	141.23
11	Beronang	128.52	9.44	7.05	10.21	12.92	11.68	10.98	9.94	8.10	9.07	11.29	14.15	9.70	124.54
	Total Ton	4,475.82	357.41	349.55	345.32	421.08	389.27	373.88	419.33	399.75	381.54	376.38	364.31	372.88	4,550.71

Table 1 shows the production of demersal fish catching except for Kuwe batu (Seriola dumeril) and white Kuwe (Caranx ignobilis) which is better known as Bobara fish, by the people of North Minahasa Regency and even for the entire province of North Sulawesi. This is because the 2 types of fish have been cultivated around Likupang waters. Based on data on the development of aquaculture production in 2021, aquaculture production for grouper is 60.40 tons from the production target of 120.30 tons and Kuwe batu fish is 269.57 tons from the production target of 3,456.92 tons (DKP Minut, 2021).

2 Distribution Process

Based on the research objectives, the distribution agencies that apply to the Demersal fishing business in Kema are: Fishermen Entrepreneurs who own fishing fleets, large and small collectors traders, retailers and consumers. Before the final consumers who enjoy the final product of this Demersal fish, which are also classified as consumer traders have existed for a long time to create economic value. institutions consist of processing factories, markets, restaurants and catering entrepreneurs. This distribution agency is categorized as a consumer institution because it has carried out the processing first and then reaches the final consumer level. For complete patterned as picture 1 below:

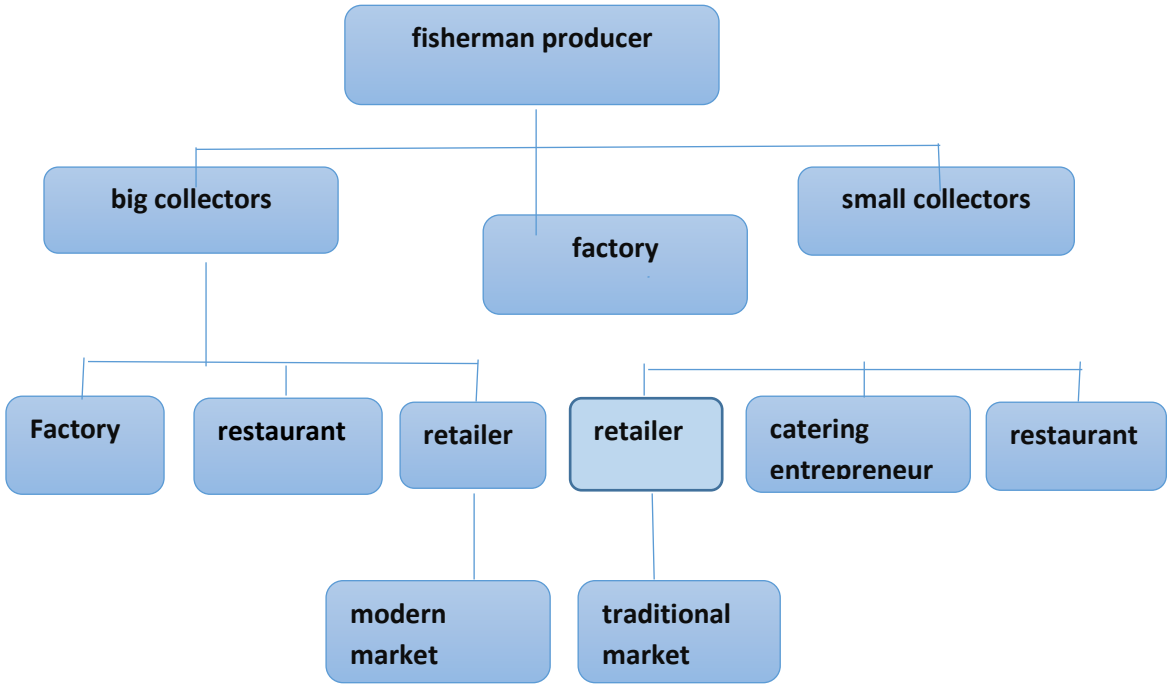

Fig.1. Distribution pattern of demersal fish at the port of unloading fishery kema

The distribution pattern above illustrates that there are three levels of distribution channels that are formed to the final consumer. The distribution channels include: fishermen producers directly to processing factories for export orientation. Furthermore, from fishing producers to wholesale traders to be distributed to factories, restaurants and retailers who then enter the modern market. In the next section, the distribution process begins with small traders distributing products to retailers, catering entrepreneurs and restaurants and then entering the traditional markets.

3 Consumers' Attitudes Towards Their Preferences on Demersal Fish

This study also aims to analyze consumer attitudes towards their preferences in choosing to consume Demersal fish. To limit data collection, this study only took 5 types of demersal fish which were mostly found in restaurants around culinary centers in North Minahasa district. Respondent sample data taken were 15 respondents, namely consumers who were found while ordering dishes in the form of fish products from the 5 types of fish. 4 categories of questions regarding taste, nutrition, price and habits that determine consumers to choose between these 5 types of fish, namely fish: Snapper Lutjanidae), Goropa Epinephelidae , Seahorse Nemipterus nematophorus, Bobara Caranx ignobilis) and Lolosi (Caesio chrysozona).

3.1 Consumer Attitude Test

a. Snapper (Lutjanidae)

Table 2. Data Validation Test for Snapper data

Variable	r-count	r-table	decision	
Flavor	0.748	0.514	Valid	Enaough
Nutrition	0.764	0.514	Valid	Enough
Price	0.815	0.514	Valid	High
Habit	0.782	0.514	Valid	Enough

The test results show that the instrument as outlined in the questionnaire has a corrected item value greater than the r table value of 0.514 (alpha value > r table). In the validity

test carried out on the snapper variable, it was found that all the calculated r values were greater than r table, which means that all indicators on the questionnaire were declared valid with a moderately correlated to high category. Likewise with the reliability test. The reliability of snapper is 0.626, which means a high reliability value, for an error rate of 5% or 1%.

Table 3. Reliability Test (Snapper)

Groups	***Count***	***Sum***	***Average***	***Variance***
X1	15	72	4.800	0.171
X2	15	68	4.533	0.267
X3	15		4.400	0.257
X4	15	67	4.467	0.267

Table 4. Anova: Single Factor (Snapper)

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.38	3	0.46	1.92	0.12	2.77
Within Groups	13.467	56	0.240			
Total	14.850	59				

The F value of 1,92 is smaller than the F table of 2,77. This shows that the average of the four treatments X1-X4, does not affect the decision to consume snapper, or taste, price, nutrition and habits are not reasons for consumers to decide to consume this type of snapper.

b. Goropa fish (Epinephelidae)

Table 5. Data Validation Test for Goropa data

Variable	r-count	r-table	decision	
Flavor	0.694	0.514	Valid	Enough
Nutrition	0.834	0.514	Valid	High
Price	0.867	0.514	Valid	High
Habit	0.626	0.514	Valid	Enough

Goropa's reliability is 0.600, which means the reliability value is quite good.

Table 6. Reliability Test (Goropa)

Groups	*Count*	*Sum*	*Average*	*Variance*
X1	15	73	4.867	0.124
X2	15	70	4.667	0.238
X3	15	68	4.533	0.267
X4	15	65	4.333	0.238

Table 7. Anova: Single Factor (Goropa)

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2.27	3	0.76	3.49	0.02	2.77
Within Groups	12.133	56	0.217			
Total	14.400	59				

The F value of 3,49 is greater than the F table of 2,77.

c. Chariot Fish (Nemipterus nematophorus)

Table 8. Data Validation Test for Chair data

Variable	r-count	r-table	decision	
Flavor	0.828	0.514	Valid	High
Nutrition	0.828	0.514	Valid	High
Price	0.852	0.514	Valid	High
Habit	0.852	0.514	Valid	High

The reliability of the chair is 0.669, which means a high reliability value.

Table 9. Reliability Test (Seat)

Groups	*Count*	*Sum*	*Average*	*Variance*
Flavor	15	63	4.200	0.171
Nutrition	15	63	4.200	0.171
Price	15	61	4.067	0.067
Habit	15	61	4.067	0.067

Table 10. Anova: Single Factor (Chair)

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.27	3	0.09	0.75	0.53	2.77
Within Groups	6.667	56	0.119			
Total	6.933	59				

The F value of 0.747 is smaller than the F table of 2.769.

d. Bobara Fish (Caranx ignobilis)

Table 11. Data Validation Test for Bobara data

Variable	r-count	r-table	decision	
Taste	0.791	0.514	Valid	Enough
Nutrition	0.531	0.514	Valid	Slightly Low
Price	0.736	0.514	Valid	Enough
Habit	0.792	0.514	Valid	Enough

Bobara's reliability is 0.541 which means the reliability value is low.

Table 12. Reliability Test (Bobara)

Groups	*Count*	*Sum*	*Average*	*Variance*
Flavor	15	72	4.800	0.171
Nutrition	15	71	4.733	0.210
Price	15	67	4.467	0.267
Habit	15	66	4.400	0.257

Table 13. Anova: Single Factor (Bobara)

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	1.733	3	0.578	2.554	0.064	2.769
Within Groups	12.667	56	0.226			
Total	14.400	59				

The F value of 2,554 is smaller than the F table of 2,769.

e. Lolosi Fish (Caesio chrysozona)

Table 14. Data Validation Test for Passage data

Variable	r-count	r-table	decision	
Flavor	0.795	0.514	Valid	Enough
Nutrition	0.956	0.514	Valid	High
Price	0.846	0.514	Valid	High
Habit	0.956	0.514	Valid	High

The pass reliability is 0.721 which means a high reliability value.

Table 15. Reliability Test (Pass)

Groups	*Count*	*Sum*	*Average*	*Variance*
Flavor	15	64	4.267	0.210
Nutrition	15	62	4.133	0.124
Price	15	63	4.200	0.171
Habit	15	62	4.133	0.124

Table 16. Anova: Single Factor (Pass)

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.18	3	0.06	0.39	0.76	2.77
Within Groups	8.800	56	0.157			
Total	8.983	59				

The F value of 0.39 is smaller than the F table of 2.77.

The test results show that the instruments contained in the questionnaire, for the 5 fish variables have a corrected item value greater than the r table value of 0.514 (alpha value > r table). In the validity test conducted on the snapper, chair, bobara, grouper, and escape variables, it was found that all the calculated r values were greater than r table, which means that all indicators in the questionnaire were declared valid with a moderate to high correlation category. Likewise with the reliability test. Reliability on snapper is 0.626 which means high reliability value, as well as for chariot fish the value is 0.669 , 0.721 escapes and Goropa 0.600 which is categorized as sufficient for an error level of 5% or 1%. Only bobara fish have a low reliability value of 0.541 which indicates that there is a more precise instrument that should be used to measure consumer decisions when buying this fish product.

3.2 Likert Index of 5 Types of Fish

Table 17. Likert scale on four attitude dimensions (Index) based on average.

INDEX	Taste	Nutrition	Price	Habit	Average
Kakap	14.40	13.60	13.20	13.40	13.65
Goropa	14.60	14.00	13.60	13.00	13.80
Kerusi	12.60	12.60	12.20	12.20	12.40
Bobara	14.40	14.20	13.40	13.20	13.80
Lolosi	12.80	12.40	12.60	12.40	12.55

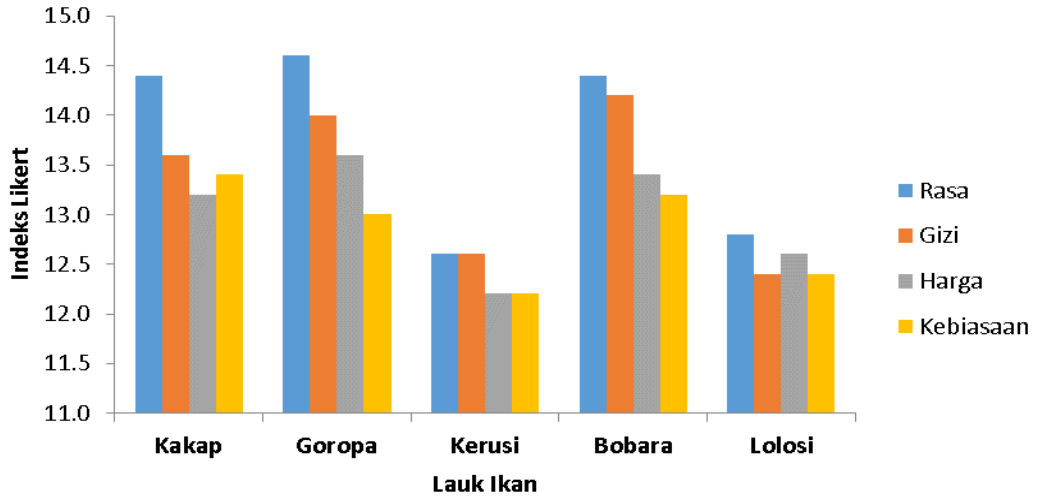

Fig.2. Likert diagram for fish species based on average

Table 18. Likert scale on four dimensions of attitude in Percentage

INDEX	Taste	Nutrition	Price	Habit	Average
Kakap	96.00	90.67	88.00	89.33	91.00
Goropa	97.33	93.33	90.67	86.67	92.00
Kerusi	84.00	84.00	81.33	81.33	82.67
Bobara	96.00	94.67	89.33	88.00	92.00
Lolosi	85.33	82.67	84.00	82.67	83.67

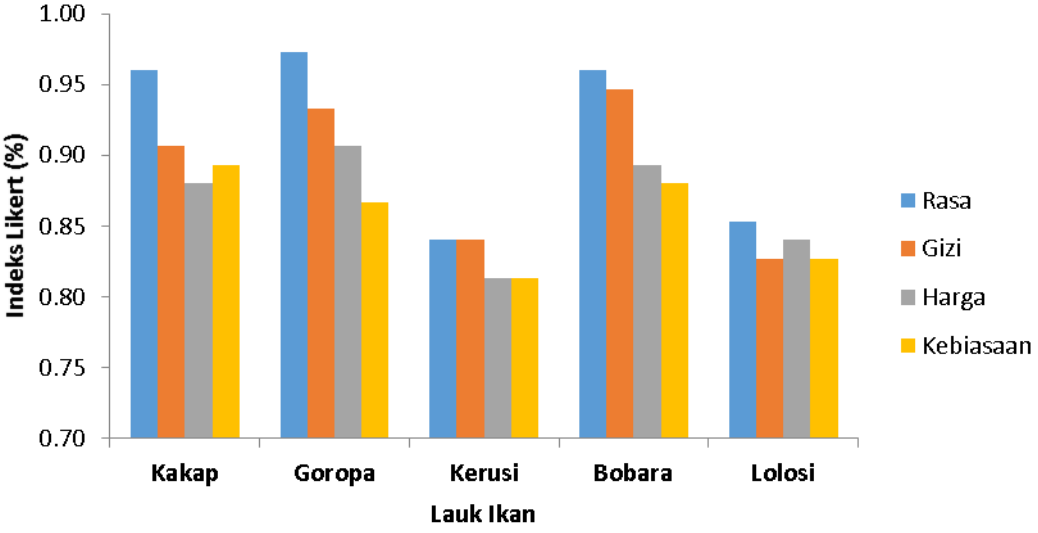

Fig.3. Likert diagram for fish species by percentage

The partial test of each attitude dimension showed that taste, nutrition, price and habit factors did not actually influence the purchase decision or the decision to consume demersal fish. There were several inputs that were found when conducting accidental interviews with restaurant owners, that the most important factor was the level of freshness of the fish. Adawyah (2007), fresh fish is fish that still has the same characteristics as live fish, in terms

of appearance, smell, taste, and texture. One of the parameters to determine the freshness of fish is organoleptic assessment. Thus, this shows that although the people's diet always likes to eat fish, the level of freshness is something that remains a consideration.

IV. CONCLUSION

1. There are 3 levels of distribution patterns of demersal fish marketing in North Minahasa Regency which are described through distribution channels that are formed to the final consumer. The first channel is fishing producers to large collectors, factories and small collectors. At the second level, the distribution process originates from wholesalers who distribute products to processing factories, restaurants and retailers for both traditional and modern markets. At the third level from the fishermen producers directly to the factory.
2. The instruments contained in the questionnaire, for the 5 fish variables have a corrected item value greater than the r table value of 0.514 (alpha value > r table). In the validity test conducted on the snapper, chair, bobara, grouper, and escape variables, it was found that all the calculated r values were greater than r table, which means that all indicators in the questionnaire were declared valid with a moderate to high correlation category. Likewise with the reliability test. Reliability on snapper is 0.626 which means high reliability value, as well as for chariot fish the value is 0.669 , 0.721 escapes and Goropa 0.600 which is categorized as sufficient for an error level of 5% or 1%. Only bobara fish have a low reliability value of 0.541 which indicates that there is a more precise instrument that should be used to measure consumer decisions when buying this fish product.

REFERENCES

[1] Badan Pusat Statistik Kabupaten Minahasa Utara 2020.https://minutkab.bps.go.id/
[2] Statistik KKP, 2020. Jumlah Angka Konsumsi Ikan (AKI).https://statistik.kkp.go.id/home.php
[3] BPPL, KKP, 2019. Potensi Dan Tingkat Pemanfaatan Sumberdaya Ikan Di Wilayah Pengelolaan Perikanan Republik Indonesia (WPP RI). http://bppl.kkp.go.id/uploads/publikasi/karya_tulis_ilmiah/Potensi-ikan-ok.pdf
[4] Abidin, Z. 2015. Saluran Pemasaran Dan Efisiensi Biaya Serta Pendapatan Usahatani Tembakau Terhadap Kontribusi Pendapatan Keluarga Di Desa Brani Kulon Probolinggo. Skripsi. Fakultas Pertanian Universitas Jember. Jember.
[5] Kotler, P. & Keller, K.L. (2012). Manajemen Pemasaran Jilid I Edisi ke 12. Jakarta: Erlangga.
[6] Assauri dan Sofjan. 2013. Manajemen Pemasaran. Jakarta : Rajawali Pers.
[7] Triyana, A., 2010. Analisis Preferensi Konsumen terhadap Ikan Pelagis di Muara Angke Jakarta. FPIK-Bogor
[8] Ghozali, M. 2016. Preferensi Konsumen Terhadap Produk Hasil Laut (Studi Kasus Restoran Seafood Mjm Kota Palu, Sulawesi Tengah). Jurnal Perikanan Tropis Available online at: Volume 3, Nomor 1, 2016 http://utu.ac.id/index.php/jurnal.html ISSN: 2355-5564, E-ISSN: 2355-5572
[9] Bungin, B. 2010. Penelitian Kualitatif; Komunikasi , Ekonomi, Kebijakan public, dan Ilmu Sosial Lainnya. Jakarta Kencana. Cetakan ke-4.
[10] Nawawi, H 2003; Manajemen Sumber Daya Manusia Untuk Bisnis Yang Kompetitif, Cetakan ke-7, Gadjah Mada University Press, Yogyakarta
[11] Sugiyono, 2008. Metode Penelitian Bisnis (Pendekatan Kuantitatif, Kualitatif, dan R&D). Bandung;Alfabeta
[12] Sekaran, U. 2006. Metode Penelitian untuk Bisnis Edisi 4. Buku 2. Jakarta
[13] Sugiyono. 2003. Metode Penelitian Administratif. Alfabeta. Bandung
[14] Adawyah, R. (2007). Pengolahan dan Pengawetan Ikan. Bumi Aksara. Jakarta