ANALYSIS OF FOOD AVAILABILITY AND FOOD PATTERN HOPE IN MEDAN CITY IN 2022

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Abstract

Food availability can be defined as a condition where the available food comes from domestic production, food supply, and food income, including imports and food aid, when some important food sources cannot meet their needs. One of the basic human needs is food that must be available and consumed every day to meet needs and sustain life. Food can be more easily accessed if the food is available in quantity and quality that meets the needs of the community. This study aims to determine the condition of food availability and food expectancy patterns in Medan City. The methods used in this study are qualitative methods and description approaches. The result obtained is that food production in the city of Medan has changed from year to year. The availability of most widely available food for consumption is rice amounting to 334.52 grams/capita/day. While the type of food consumed the least is garlic amounting to 1.91 grams/capita/day. The existing community's PPH score value is still below the maximum PPH score, however, it has improved in quality and quantity, which is 92.9. Efforts that can be made to increase food availability are by directing OPD related to community consumption which focuses on B2SA-based household consumption practices.

Keywords: Nutritional Adequacy Rate, Food Availability, Food Pattern Hope

INTRODUCTION

The Indonesian state is currently experiencing major problems in the form of health and economic problems caused by high population growth that is not accompanied by increased food production, allowing the Indonesian population to experience problems meeting food needs (Pane & M, 2022). Food is a basic human right that is needed by all humans in the world regardless of gender (Sihite &; Tanziha, 2021). To build the fulfillment of food needs, sufficient and equitable food availability is needed by utilizing the potential of diverse local food resources, good food distribution, and balanced and sufficient food consumption of each individual related to the nutritional status of each individual.

According to the Food Security Office, food availability can be interpreted as a condition where the available food comes from domestic production, food reserves, and food income including imports and food aid if various main food sources cannot be met. Food availability

not only includes the availability of adequate and safe food, but also guarantees for food obtained in the form of food that is acceptable to the population by not consuming leftover food, stealing, or obtaining food in other inappropriate ways (Sitindaon et al., 2021).

Food availability means that the available food comes from natural sources that are also related to land that is sufficient enough to grow food crops, population labor, and experts in managing and increasing food production or distribution equally. Food availability, the way we access food, and food consumption patterns are indicators that can be used to measure the level of food security in households. Food availability in the city of Medan is still dominated by imported food ingredients originating from outside the city of Medan (Sari, 2022).

To measure food consumption patterns, you can look at the parameters of the Food Pattern of Hope (PPH) with a maximum value of 100. The high value of the Hope Food Pattern shows the condition of food of various types so that the value of the composition of good nutritional value (Siallagan et al., 2021). The Hope Food Pattern is calculated by multiplying the energy adequacy rate of the intake level by the weight of each predetermined food source (Sirait et al., 2021). The value of Hope Food Pattern (PPH) is a measure of nutritional quality and diversity of food consumption until it is used to compile food consumption needs for years to come. The Hope Food Pattern can also be used as evaluation material in the design of food availability, manufacture, and consumption of the community, both in quality, quantity, and diversity of food that takes into account all aspects, in the form of economic, social, cultural, religious, and taste aspects (*Medan City Food Security Office 2022*, 2022).

Pola Pangan Harapan (PPH) can be used as a medium of information to find out the supply of food in each region, including the city of Medan. The diversity of food consumption in Medan is said to be still inadequate because the Hope Food Pattern (PPH) score in Medan has not reached the maximum score. With the food problem in the city of Medan, this study was conducted which aimed to analyze the availability, and Pattern of Food Hope (PPH) in the city of Medan.

Identify the purpose of the study and provide adequate brief information, avoiding detailed literature reviews or summaries of results. Explain how you see the problem or clearly state the purpose of your research.

METHOD

The research method used in this study is qualitative methods and descriptive approaches that use secondary data obtained through the Department of Food Security, Agriculture, and Fisheries of Medan City. According to Nana Syaodih (2011: 73), descriptive qualitative methods are used to describe and describe existing phenomena, both natural and man-made. The research subjects were obtained through several heads of existing fields with data collection techniques carried out were conservation and in-depth interviews. This study aims to determine the condition of food availability and food expectancy patterns in Medan City.

RESULTS AND DISTRIBUTION
Medan City Food Production Projections

Medan City is located in North Sumatra with an area of 26,510 hectares (265.10k2) which means Medan City tends to have a smaller area compared to other cities/regencies, but the population tends to be large. The city of Medan has a topography that tends to enlarge in the north and south, with the northern part being industrial areas and ports and settlements, which are connected to the south by a slender central part. While the southern part is the center of urban activities, the central business district. However, Medan City can still produce some food products. Such as the projection of food production in tons per year presented in Table 1.

Table 1. Projected Production in Tons per Year

Commodities	Consumption Production The year 2022	Production Projections (Ton/Year)				
		Year 2023	Year 2024	Year 2025	Year 2026	Year 2027
1. Rice	308,174.3	304,209.4	300,162.6	296,032.9	291,819.2	287,520.4
2. Corn	2,541.9	2,509.2	2,475.8	2,441.7	2,407.0	2,371.5
3. Fruit	284,445.3	292,699.9	301,067.2	309,548.4	318,144.8	326,857.8
4. Vegetables	0,0	0,0	0,0	0,0	0,0	0,0
5. Ruminant meat	6,509.0	6,407.4	6,303.8	6,198.1	6,090.4	5,980.5
6. Poultry Meat	56,679.2	55,794.3	54,891.9	53,971.7	53,033.6	52,077.4
7. Egg	50,486.1	49,697.9	48,894.1	48,074.5	47,238.9	46,387.1
8. Milk	4,706.3	4,632.8	4,557.9	4,461.5	4,403.6	4,324.2

Source: Medan City Food Security Office 2022

The projection of food production in Medan City from year to year has changed. There was an increase in production in some commodities, but in some commodities, there was also a decrease. In rice commodities, from 2022 to 2023 there is a decrease in production projections, where in 2022 it will be around 308,174.3 tons while in 2023 it will be around 304,209.4 tons. Furthermore, the projected production figure from 2024 to 2027 has decreased to 287,520.4 tons. Corn commodity production in 2022 is around 2,541 tons, and the projected corn production from 2023 to 2027 tends to decrease by 2,371.5 tons.

Projected fruit production has increased every year. In 2022, fruit production is 284,445.3 tons, and projected fruit production from 2023 to 2027 will increase to 326,857.8 tons. While in vegetable commodities every year does not produce vegetables or amounts to 0.0 tons.

Production projections on ruminant meat commodities in Medan City include mutton and lamb. Where in 2022 ruminant meat production in Medan City is 6,509.0 tons. Ruminant meat production is projected to decrease from 2023 to 2027 by 5,980.5 tons. Furthermore, the production of poultry meat in 2022 in Medan City is 56,679.2 tons. And in the following years, there is no increase, where the projected amount of production in 2027 is 52,077.4 tons/year.

Medan City is included in the milk-producing center where Medan City produces milk production in 2022 of 4,706.3 tons/year, but it is projected that from 2023 to 2027 the number has decreased to 4,324.2 tons/year.

Availability of Household Food in Medan City

Household food availability is the provision of food items consisting of rice, wet corn, soybeans, onions, garlic, chilies, beef, purebred chicken meat, purebred chicken eggs, granulated sugar, and cooking oil (Sitindaon et al., 2021). Food before reaching households to be produced or imported from outside the region must first enter the market. Thus, the existence of economic facilities and infrastructure such as markets, apart from food production capacity will be closely related to the availability of food in a region.

Table 2. Food Availability in Households

No.	Types of Foodstuffs	Availability for per capita consumption				
		Kg Per year	Grams Per day	Energy Cal/day	Protein Grams	Fat Grams
1	Rice	122.10	334.52	1,214.31	29.77	4.68
2	Wet corn	1.03	2.83	1.02	0.03	0.01
3	Soybean	10.26	28.11	107.09	11.36	4.69
4	Shallot	0.82	2.25	0.79	0.03	0.01
5	Garlic	0.70	1.91	1.60	0.08	0.00
6	Chili	1.76	4.81	4.2	0.19	0.10
7	Beef	2.60	7.12	14.73	1.34	1.00
8	Meat breeds of chickens	21.88	59.95	181.04	10.91	14.99
9	Egg breeds of chickens	15.39	42.16	57.78	4.65	4.05
10	Sugar	5.89	16.13	58.71	-	-
11	Cooking oil	12.99	35.58	320.90	-	35.58

Source: Medan City Food Security Office 2022

Based on the table above, shows the availability of household food per day in the city of Medan. Household food in the city of Medan per day is the most available for consumption, namely with the type of rice food of 334.52 grams/capita/day. Furthermore, the type of food that is least available for consumption per day, namely garlic by 1.91 grams/capita/day. The largest source of calories comes from the types of rice and cooking oil, which are 1,214.31 kcal / capita/day and 181.04 kcal / capita/day. Similarly to the protein produced, beef gives 1.34 grams of protein per capita and purebred chicken meat gives 10.91 grams and purebred chicken eggs give 4.65 grams per capita.

Food availability and consumption become a major problem when sufficient food needs are not met, this will be related to nutritional standards for the people of Medan. Food availability in Medan City is dominated by imported food from outside Medan consisting of rice, corn, red chili, sugar, shallots, chicken meat, beef, and chicken eggs (S et al., 2013). This availability ratio is very important to know, because so that the government can formulate

policies in maintaining food security.

Hope the Food Pattern Score

The pattern of food hope (PPH) is used as a reference to determine the quality of food availability in Medan City which is illustrated by the PPH score and the composition of food groups (Fahriyah et al., 2015). FAO-RAPA (1989) defines PPH as "the composition of the main food groups that when consumed can meet the needs of energy and other nutrients" (*Ministry of Agriculture Security Agency*, 2015). PPH is the composition of different foods based on the contribution of energy balance from different food groups to meet the needs of energy and other nutrients. This PPH aims to meet the nutritional needs of the population by paying attention to nutritional balance. This PPH score is used as a parameter to assess food diversity and balance based on the composition of the main food groups which, if consumed, can meet the needs of energy and other nutrients.

Table 3. Medan City Hope Food Pattern Score

No	Food Group	Calculation of Hope Food Pattern Score								
		Calorie	%	% AKE*)	Weight	Score Current	AKE Score	Max Score	AKE Score Gap and Max Score	PPH Score
1.	Grains	1114.8	54.4	53.1	0.5	27.2	26.5	25.0	1.5	25.0
2.	Tubers	52.7	2.6	2.5	0.5	1.3	1.3	2.5	-1.2	1.3
3.	Animal food	271.7	13.3	12.9	2.0	26.5	25.9	24.0	1.9	24.0
4.	Oils and fats	311.5	15.2	14.8	0.5	7.6	7.4	5.0	2.4	5.0
5.	Oily fruits/seeds	27.9	1.4	1.3	0.5	0.7	0.7	1.0	-0.3	0.7
6.	Legumes	103.5	5.1	4.9	2.0	10.1	9.9	10.0	-0.1	9.9
7.	Sugar	54.6	2.7	2.6	0.5	1.3	1.3	2.5	-1.2	1.3
8.	Vegetables and Fruits	108.6	5.3	5.2	5.0	26.5	25.9	30.0	-4.1	25.9
9.	Miscellaneous	3.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
	Total	**2048.6**	**100.0**	**97.6**	**11.5**	**101.3**	**98.8**	**100.0**		**92.9**

Source: Medan City Food Security Office 2022

In the distribution of energy contributions from nine food groups in Table 3 above, the Hope Food Pattern (PPH) score in Medan City was obtained at 92.9. In general, the Hope Food Pattern (PPH) score for Medan City is still below the maximum PPH score of 100. This shows that there is still a lack of diversity in food consumption in Medan City. However, this score has increased from the previous year's PPH score of 92.29 in 2020.

The root food group has a score below the maximum PPH value of 1.3 which is far below the ideal score of 2.5. The oily fruit/seed food group also has a score below the maximum value of PPH. This food group has a PPH score of 0.7 with an ideal score of 1.0. Furthermore, the legume food group has a PPH score of 9.9, and is below the ideal score of 10.0. followed by the sugar food group, also below the ideal score of 2.5 with a PPH score of 1.3. Finally, in the vegetable and fruit food group, the PPH score is 25.9. This value is a score below the standard value for the vegetable and fruit food group, which is 30.0.

The grain food group has the highest AKE score when compared to other food groups. The AKE score for this food group of 26.5 is above the ideal PPH score for the grain food

group. Followed by the vegetable and fruit food group with a score of 25.9 however, it is still below the PPH standard value of 30.0.

CONCLUSION

The results of data obtained through the Department of Food Security, Agriculture, and Fisheries of Medan City that the availability of the largest energy source consumed in the types of rice and cooking oil is 1,214.31 kcal / capita/day and 181.04 kcal / capita/day. Furthermore, the protein produced in beef is 1.34 grams of protein per capita, purebred chicken meat is 10.91 grams and purebred chicken eggs are 4.65 grams per capita.

The existing community's PPH score value is still below the maximum PPH score but has improved in quality and quantity, which is 92.9. Fats/oils, animal proteins, and rice are food groups that are widely consumed by the public. This found a proportion of 10.3% of households have not fulfilled it when compared to SPM for PPH ≥ 90.

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