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ANALYSIS OF POTENTIAL DIVERSITY OF STAPLE FOOD FOR LOCAL BUSINESS AND FOOD SECURITY IN KAIRATU BARAT SUB-DISTRICT MALUKU

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ABSTRACT

Kairatu Barat is one of the sub-districts in Maluku that produce diversity of local staple foods. In this area, the local food has multiple functions as both staple food and potential business development. This study aims to analyze the potential of food development, food consumption patterns related to the food security, and the factors that influence food security in the Kairatu Barat. The methods that the writer uses in this analysis are Location Quotient (LQ), energy contribution on Desirable Dietary Pattern (DDP), and multiple regression analysis method. The results of this study indicate that sago and sweet potato are the most superior commodities. The LQ value shows that sago is equal to 1,13. Meanwhile the value of sweet potato is 2,04. Moreover, the basic commodities in Kairatu Barat are also become a great business opportunities. The average energy contribution of the respondent households in the grain food group is 1,145 kcal whereas the tuber group is 146 kcal. The energy contribution of staple food in Kairatu Barat is higher than the ideal contribution. In addition, the culture of eating, the division of feeding in the family, nutrition and work knowledge is the factors that have a significant effect on food security.

KEY WORDS

Business, food diversity, food security, production.

Agriculture cannot be separated from food problems because the main task of agriculture is to provide food for its population. Every country must fulfill their food requirements properly. In Indonesia, Law No.18 of 2012 on Food Security shows that the country must fulfill the food consumption for both country and individual. The fulfilment is not only reflecting the availability of both quantity and quality for food, but also secure, diverse, nutritious, equitable, and affordable. Besides of that it is also require not contrary to religion, and community culture.

The total population of Indonesia in 2015 is 247.57 million. If this number is multiplied with the average requirement of the Indonesian people for rice, which is 124.89 kg / capita / year or about 0.34 kg / person / day, then the consumption of rice reaches tens of thousands of tons per day. Nevertheless, the domestic rice production is only 79 million tons per year (Pusdatin, 2016). It means that domestic rice production is unable to fulfill the needs of its people. That is why the rice import must be done for the sake of food sufficiency.

The food consumption pattern in Indonesia needs to be increased of its diversity, including both staple food and other food types. Furthermore, food diversification is also one of the main pillars to establish food security (Ariani, 2010). The solution for the food security problems is switching the rice consumption with local food. According to Nainggolan (2004), one of the most appropriate policies for the implementation of food security is utilizing the local food as much as possible. It is because the local food is available in sufficient quantities throughout the region and easy developed as it is in accordance with local agro-climates. For instance, the agroecosystem condition in Papua supports the development of local food commodities as an alternative and staple food for the people who live in either urban or

suburb areas. The potential use of local food such as sago, tubers and barley as the main food for the people of Papua is still common. It is because the participation in local food consumption, especially tubers is quite high (Rauf and Martina, 2009).

Besides of that, the people of Semin Kudung Kidul sub-district also make the similar efforts to establish the food security and reduce the dependence of rice, they utilize the local resources by exploring the non-rice based local potential to fulfill the food requirements of the community. This is indicated by the variation of the food staple consumption based on the local potency (Suyatiri, 2008).

Maluku is one of the provinces in Indonesia that known for its local food diversity, such as Sago, Cassava, Sweet Potato, Banana, and Maize. However, the role of sago and tubers in the urban and suburb areas is different. As urban income increases, the consumption of staple food tends to change to rice. Even though the role of rice in suburb area is also increase, the consumption of staple food is still varies until the highest income level (Martianto, 1993). The role of sago and tubers in suburb area of Maluku is still real. It can be seen on the consumption percentage of staple foods in Maluku which are sago (15%), rice (15%), sago, tubers and bananas (50%) and rice, tubers, banana and sago (20%) (Louhenapessy, 2012).

West Seram regency is one of the regency that produce various staple food for its society. According to data from BPS (2016), the production number of rice is 6,423 tons, sago 101 tons, and cassava 176,916 tons. Moreover, the production of sweet potato is 5,136 tons while banana is 39,103 tons. Nevertheless, the production numbers in Kairatu Barat are 37.6 tons of staple food, 6 tons of sago, 9.068 tons of cassava, 550 tons of sweet potato and 3,167 tons of banana. Production of tubers in this region indicates that Kairatu Barat is able to provide tubers as staple food for its inhabitants. The abundant production of tubers is also utilized by the community as a source of income in the household. According to Rachman and Ariani (2008), the development of the household's staple food diversity is meant to increase producer's income, especially farmers.

As the time goes by, the society still consumes their main staple food. It is related to the adequacy of food that will affect the food security community. This study aims to analyze the diversity of staple foods in relation to the food development, food consumption patterns and the impact of social culture and economic factor on food security in Kairatu Barat sub district, West Seram Regency, Maluku.

METHODS OF RESEARCH

This research was conducted in the sub-districts of Kairatu Barat, West Seram Regency, Maluku. This location was chosen purposively due to the reason that the Kairatu Barat produces a great deal of local staple foods. The primary data was obtained from the household in Kairatu Barat. However, this study will only focus on three potential villages which are Waisamu Village, Nurue Village and Kamal Village. Sugiyono (2007) claim that the most appropriate number of research sample was between 30 and 500. The minimum sample size for survey research is 100. In this study, each village consisted of 35 samples. The technique of data collection was done by observing and interviewing the samples. This study employed two testing instrument approaches, which are validity and reliability approaches. The testing of research data was a classic assumption test in the form of normality, autocorrelation, multicollinearity and linearity test. In analyzing the data, there were several methods that the writer applied. The first method was LQ method. It functioned to measure the level of the potential staple food production. Operationally, the LQ formulation can be formulated as follows (Hendayana, 2003):

$$LQ = \frac{p_i/p_t}{P_i/P_t} (1)$$

Where:

LQ: Location Quotient;

P_i: production value of the i-agricultural commodities produced in the sub-district;

P_t: total production value of all agricultural commodities produced in the district;

P_i: production value of the i-agricultural commodities produced in the district;

P_t: total production value of all agricultural commodities produced in the district.

The second was food recall method in which it used energy contribution on Desirable Dietary Pattern (DDP) or percentage of actual energy of staple food. The percentage of the actual energy of each group was obtained by comparing the energy of each food group with the total energy consumption of all food groups and then multiplied it with 100. Moreover, the percentage of AKE was obtained by comparing the actual energy consumption of each food group with the average number of AKE, which is 2150, then multiplied it with 100 (Badan Ketahanan Pangan, 2015).

The third method that used was multiple linear regression analysis with the following formula (Siregar, 2013):

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 \quad (2)$$

Where:

Y = Food Security (Percentage of Actual Energy);

X₁ = Culture of eating (Score);

X₂ = Division of feeding in the family (Score);

X₃ = Nutrition knowledge (Score);

X₄ = Preferences (Score);

X₅ = Income (Score);

X₆ = Number of family members (Person);

X₇ = Education (Score);

X₈ = Work (Score);

a = Constant;

b₁-b₈ = Regression Coefficients.

RESULTS AND DISCUSSION

The diversity of the local staple food is a traditional food which produced and consumed by the local community in accordance with the potential and local wisdom. It consists of a variety of processed staple foods both to improve quality, nutrition, and compete with modern food.

Kairatu Barat is the one of sub districts which is rich in food diversity. Its society does not only rely on one staple food that is rice. The staple foods still consumed by the people are Sago, Cassava, Sweet Potato, and Banana. The diversity of local staple foods consumed by people in Kairatu Barat can be seen in Table 1 below.

Table 1 – Diversity of Respondents' Local Staple Food Consumption

No	Local Staple Food Type	Number of Household (n)	Percentage (%)
1.	Sago	98	98%
2.	Cassava	93	93%
3	Sweet Potato	85	85%
4.	Banana	59	59%

Source: Primary Data (2018).

Based on the table of local staple food diversity by respondents, it is seen that almost 98% of household respondents still consume sago, 93% consume cassava, 85% consume sweet potato, and 59% consume banana. The diversity of local staple food that is owned is reinforced by the opinions of some respondents encountered for the interview. According to respondents, the local staple food in Moluccas is various, such as sago, cassava, patatas, taro, etc. The Moluccas themselves still continue to consume sago that has been known since the first as a staple food. Indeed, the existence of sago has started a little.

Nevertheless, for those who live in rural area, sago and tubers are still consumed. Local staple foods which are processed including sago into papeda, whereas tubers are boiled to be eaten with any side dishes desired.

People's interest to consume local food has been exist since the past and until present days still remains a priority for the community. This is also related to the work occupied by some people, namely farmers, and one of the commodities grown are cassava and sweet potato. Cassava and sweet potato can be found anywhere and can grow at the house yard. Thus, the accessibility of the community on local food is very convenient; in the sense that to consume it they do not have to spend money.

Local food of Kairatu Barat community describes the social value of local communities. If there are neighbors who have more local food, the other neighbors do not hesitate to ask those neighbors who have excessive local food if they want to consume it. Moreover, they often process it together, after that they eat it together without any tradition or event celebrated. For non-farm families, the local staple food which is consumed must be purchased. This is the advantage of community in this village because local staple food is still preserved in order to survive.

The observations have shown that the people have made efforts to conserve biodiversity, especially local food. Kairatu Barat community is the one of societies which is found. Perhaps, there are still many other villagers who have sought to preserve undiscovered local food. Hopefully, it can be a step that inspires many people in preserving and utilizing our biodiversity of local food.

Local staple food production in West Seram Regency is still very abundant. The contribution of production from 11 sub-districts that exist provides a good contribution for the agricultural conditions of SBB. The production of local staple food of West Seram community can be seen in the following table.

Table 2 – Harvest Area and Local Staple Food Production in West Seram Regency

No	District	Local Staple Food							
		Sago		Cassava		Sweet Potato		Banana	
		Harvest Area (Ha)	Production (Ton)	Harvest Area (Ha)	Production (Ton)	Harvest Area (Ha)	Production (Ton)	Harvest Area (Ha)	Production (Ton)
1	Huamual Belakang	12	3	1.594	28.692	100	1.100	194	1.940
2	Kepulauan Manipa	23	2	1.796	32.328	75	825	121	1.209
3	West Seram	230	42	1.364	25.916	68	748	395	3.947
4	Huamual	53	12	1.375	24.705	123	1.476	385	3.847
5	Kairatu	8	12	549	10.431	105	1.260	366	3.659
6	Kairatu Barat	10	6	427	7.686	100	1.200	317	3.167
7	Inamosol	12	8	560	10.080	97	1.067	312	3.119
8	Amalatu	5	3	425	7.225	100	1.100	421	4.208
9	Elpaputih	5	2	507	9.126	75	900	399	3.990
10	Taniwel	68	8	915	16.470	100	1.100	650	6.500
11	Taniwel Barat	65	3	697	12.564	100	1.100	352	3.517
	Total	491	101	10.209	185.250	1.652	11.876	3.912	39.103

Source: BPS (2016).

Based on the data of harvest area and production in West Seram Regency above, it can determine the potential base (LQ) of superior commodity in that area. A well-developed commodity will have a significant effect on economic growth which will ultimately increase the regional income optimally.

Table 3 – Classification of LQ Value of Local Staple Food Production in Kairatu Barat

No	Local Staple Food	LQ	Classification
1	Sago	1,31	Basis
2	Cassava	0,91	Non-Basis
3	Sweet Potato	2,25	Basis
4	Banana	1,00	Equal

Source: Secondary Data, Processed (2018).

Based on Table 3 above, the basis of local staple food commodity are Sago, Sweet Potato, and Banana, whereas for non-basis is Cassava. The number of commodities that are the basis in Kairatu Barat is very likely to be increased and created as a business opportunity. This is certainly a way to pioneer the local food business by utilizing those local food productions.

Local staple food, which is still consumed by the people, is very potential to be developed as a food business center, especially for tubers. If the production of these tubers developed and marketed, it will greatly prosper the community to increase their income. It can be seen in Table 4 below.

Table 4 – Revenue Projection Based on the Average of Local Staple Food Production of Kairatu Barat Community

No	Local Staple Food	Average Number of Production/Year		Price (Rp)	Average Revenue/Year (Rp)
		Kg	Ton		
1	Sago	1.270	1,270	1.000	200.526
2	Cassava	1.925	1,925	10.000	15.918.269
3	Sweet Potato	517	0,517	10.000	4.126.923
4	Banana	390	0,390	12.000	3.148.846

Source: Data Primary (2018).

Based on the data in Table 4 above, it is seen that the production and revenue of the local staple food of each respondents, the highest is Cassava as much as 1.925 kg or 1.9 tons with an annual average income of Rp 15.918.269,-. This revenue is a calculation between production and price. The staple food is not marketed through intermediaries, people market their production results directly to the market so that they will get more profits. The lowest food revenue is sago, because people have rarely produced it. Besides, the availability of water is also a problem in producing sago.

Food is a primary need for human life. Food is the one of primary needs that is needed every day by the body in a certain amount as a source of energy and nutrients (Saputri et al, 2016). Food is a source of energy in performing life activities. To support these activities must be supported by good patterns of consumption as well. A good pattern of consumption can be seen from the diversity of food consumed. The patterns of local staple food consumption of Kairatu Barat community can be seen in Table 5 below.

Table 5 – Household Distribution Based on the Pattern of Staple Food Consumption

No	Pattern of Staple Food Consumption	n=105 (Household)	F (%)
1.	Rice	6	5.7
2.	Rice and Sago	15	11.4
3.	Rice and Tubers	4	3.8
4.	Rice, Sago, and Tubers	33	34.3
5.	Rice, Sago, Tubers, and Banana	47	44.8
	Total	105	100

Source: Primary Data (2018).

The pattern of consumption of rice-sago-tubers-banana is more popular (44.8%), rice-sago-tubers (34,3%), rice and sago (11.4%), rice (5.7%) and the most unpopular were rice-tubers (3.8%).

The effort of realizing food security and reducing the dependence of the community on rice is also demonstrated by the people of West Insana Sub district. It is seen from the staple food consumption pattern of the community. According to the community, the pattern of consumption of rice-corn-cassava is more popular (52%), followed by the consumption pattern of corn-cassava (30%), corn-rice (14%) and rice pattern favored only by 4% (Satmalawati and Marsianus, 2016).

The diversity of food consumption is a combination of foods that are eaten by human as a source of energy that provides strengths. Kairatu Barat people do not only consume one type of food as the main food, but still use local food as the main food. Local food ingredients

have already been consumed by people now has even become part of a philosophy of living Maluku person i.e. sago and other local food like kasbi (cassava), patatas (sweet potato), and bananas. Although the current position of the local foodstuffs still regarded inferior.

There are some people who think that their life will be not completed if they do not eat *papeda*. This thinking applies for some parents. In case of children, there are also some children who are taught to eat *papeda*, yet, in other hand, there is also a habit of eating rice from the childhood. It is interesting to know what factors that becomes consideration of the respondents in choosing staple foodstuffs. The ease factor for obtaining staple food is the main thing that becomes the consideration of society. For example, in getting staple food i.e. rice is a very easy. People can buy this staple food at the nearest kiosks. In addition, there are government programs related to *raskin* that keep people from consuming rice as the main staple food. Meanwhile, there are some people that have rarely cultivate other foodstuffs i.e. sago, cassava, and sweet potatoes due to several factors. One of them is the availability of water. But this does not inhibit public in consuming sago. Sago can be bought in the market or from traders who sell in their area. For cassava and sweet potatoes, there are some people who consume them from cultivation, and also get it from buying. It means that in choosing staple food, people still won't forget the local food that will be used as their staple food.

The diversity of the basic food consumption pattern also arises because almost all rural households have an available land for gardening. This allows people to plant their land with the main source of food crops such as sweet potato, cassava, banana, corn. They can start from planting stage to harvest stage easily. Field observations found that people generally made gardens around their houses.

One of the parameters that can be used to assess the level of food diversity is the contribution of energy to the Desirable Dietary Pattern (DDP) or the percentage of the actual energy of the staple food. The contribution of the community's basic food energy can be seen in the table below:

Table 6 – Average Energy Contribution of Individuals per Household

No.	Staple Food Groups	Average Energy Individual/Household (kcal)	Contribution (%)
1.	Grains	1.145	57.25
2.	Tubers	94	4.70
3.	Sago	52	2.60
	Total	1.291	63.95

Source: Primary Data, Processed (2018).

The average energy contribution of individual households in the grain food group is 1,145 kcal, the tuber group of food is 146 kcal. The amount of contribution of staple food energy of Kairatu Barat is above ideal contribution. Based on *Harmonisasi Pola Pangan Harapan Badan Ketahanan Pangan* in 2015, recommended dietary allowances (RDA) in consumption level of grain group is 1075 kcal and tubers are 129 kcal. This shows that the consumption pattern of society is very good. It is seen from contribution of energy of each individual per household.

Based on the table, it can be seen that the people of Kairatu Barat have achieved food security that is seen in staple food consumption or energy donation food. Food security is achieved if the basic staple of the community is sufficient in both quantity and quality, distributed at affordable prices, and safe for every citizen to support their daily activities. The community is not dependent on a single food commodity, but more on the food they have in their household such as sago, cassava, sweet potato. Environmental conditions that support the diversity of people's food are used to produce diverse commodities.

In line with UU No. 18 of 2012 on Food, the sub district of Kairatu Barat has reached a condition where the basic staple of society has been fulfilled. This is reflected in the availability of adequate basic foods both quantity and quality that are safe, diverse, nutritious, equitable, and affordable for the community, and not contrary to the religion and culture of local communities.

Factors that allegedly affect the food security (variable Y) is done by multiple regression test. In this study, the contribution of energy to the Food Pattern of Hope (FPH) is used as the dependent variable (Y). The independent factors (X) in the study used several variables that were suspected to be influential and included in multiple regression tests including eating culture, household food distribution, nutrition knowledge, preference, income, number of family members, education and employment.

The analysis is conducted on the factors that affect local food stability. These factors are socio-cultural factors and economic factors. The validity of multiple regression equations is used two ways that are using the F test (simultaneously) and Test t (partially). In the following table, we can see:

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Table 7 – Anova Table

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1678.329	9	209.791	27.733	0.000
Residual	726.204	96	7.565		
Total	2404.533	104			

Source: Primary Data, Processed (2018).

In the table above, we can see that the 95% confidence level up to 99% of all variables simultaneously have real effect. The estimation results show that the variables of eating culture, the division of family meal, nutritional knowledge, preference, income, the number of family members, education and occupation affect the local staple food security. This is shown by the result of F test obtained F count (27,733), bigger than F table (1, 98). Thus there is a significant influence simultaneously (together) between the eating culture, the division of family meal, nutritional knowledge, preference, food diversity, income, the number of family members, education and occupation on the pattern of food consumption.

Partially, these variables have a real effect and there is no significant effect. Based on the t test there are 4 out of 8 variables included in the estimation, assuming other variables, *ceteris paribus* shows the real effect of eating culture, division of family meal, nutritional knowledge, and occupation. While the preference, income, the number of family members and occupation did not significantly affect the level of error 10%. This can be seen in the following table:

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Table 8 – Regression Analysis Results Factors Affecting Patterns

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	30.477	2.290		13.311	.000
Eating Culture	.357	.112	.289	3.178	.002
Division of Family Meal	.582	.181	.297	3.214	.002
Nutritional Knowledge	.539	.103	.306	5.247	.000
Preference	.258	.167	.253	1.544	.126
Income	.081	.223	.021	.362	.718
The Number of Family Member	1.599	.851	.310	1.880	.063
Education	.105	.122	.049	.866	.389
Occupation	.539	.210	.154	2.567	.012

Dependent Variables: Food Consumption Pattern (FCP Score)

R²: 0.835

F_{count}: 27.733

F_{table} = 1.98

Significance to the degree of trust 5% ($\alpha = 5\%$)

Source: Primary Data, Processed (2018).

The results of regression indicate that the value of determination coefficient or R² is 0.835. This means that the estimation of the independent variable (X) contained in the regression model is able to explain the dependent variable (Y) of 83.5%, while the rest is explained by other independent variables which are not contained in the model.

The regression results value of $F_{\text{calculate}}$ (27,733) is obtained greater than the F_{table} (1.98) at the level of α 5%, then H_0 rejected and received H_1 . That is, all independent variables (X) together have a significant effect on the dependent variable (Y) so that the model can be accepted as a good and feasible estimator.

The model used in this research is as follows:

$$Y = 30.477 + 0.357X_1 + 0.582X_2 + 0.539X_3 + 0.258X_4 + 0.081X_5 + 1.599X_6 + 0.105X_7 + 0.539X_8$$

Where:

- Y: Contribution of DDP for Energy (%);
- X_1 : Culture of eating (Score);
- X_2 : Food Division in Household (Score);
- X_3 : Nutritional knowledge (Score);
- X_4 : Preferences (Score);
- X_5 : Income (Score);
- X_6 : Amount of family members (Person);
- X_7 : Education (Score);
- X_8 : Job (Score).

The Influence of Eating Culture on Food Security. According to Mapadin (2006), cultural factors play a major role in the consumption of staple food of various households. The result of regression analysis shows significant influence (Sig 0.002 <0.05) between eating culture and local food staple. The eating culture is a major factor in the pattern of local staple food consumption. Eating habit, which is a hereditary custom, is a habit that causes people to still consume local staple food.

The Influence of Food Division Household on Food Security. The result of regression analysis shows that there is a significant influence (Sig 0.002 <0.05) between the division of food in the family with the diversity of the local staple food of society.

The Influence of Nutritional Knowledge on Food Security. The result of regression analysis shows that there is significant influence (Sig 0.000 <0.05) between nutritional knowledge with the diversity of local food staple.

The Influence of Preferences on Food Security. The result of regression analysis shows that there is no significant effect (Sig 0.126 > 0.05) between preference with the diversity of local staple food of society.

The Influence of Income on Food Security. The result of regression analysis shows that there is no significant effect (Sig 0.718 > 0.05) between income with the diversity of local staple food. This is because the local staple food of the society is available every day in their gardens, thus the income earned from their work does not significantly affect the contribution of Desirable Dietary Pattern (DDP) to the food energy of the community.

The Influence of Amount of Family Members on Food Security. The result of regression analysis shows that there is no significant effect (Sig 0.063 > 0.05) between the amount family members and the diversity of local staple foods. This is because the local staple food consumption depends on the tastes and portions of each family member. So many or few members in the household have no significant effect on the contribution of DDP to energy.

The Influence of Education on Food Security. The result of regression analysis of household-head education variable shows the significance value is equal to 0.389 > 0.05. Thus, there is no influence of the education of the head of family to household food security level of the society in Kairatu Barat. It shows that the higher level of household-head is not followed by good food security condition. The result of this study same with the result of research conducted by (Tanzih and Eka, 2009) which states there is no significant relationship between the education of household heads with household food security.

The Influence of Job on Food Security. The result of regression analysis work variable is 0,012. The significance value of job variables is 0.018 < 0.05. This means that the work variable partially affect on food security. The most dominant occupation in Kairatu Barat is agriculture sector, which is farming, thus, it will affect the availability of abundant staple food.

The result of this study agrees with the result of research conducted by (Lahagu et al, 2018) which states that there is significant relationship between job variables with household food security.

Partially, the socio-cultural factors that influence food security are eating culture, division of family meal, nutrition knowledge, while the economic factor that affect local food staple food is only the job of household head. The result of multiple regression tests, as attached, is there are four variables that have significant effect on food security. Meanwhile, the other four variables did not significantly affect the local staple food security of the society.

CONCLUSION

As seen from the LQ value, local staple food commodity which can be categorized as base are Sago, Sweet Potato and Banana, while Cassava commodity is categorized as non-base. The number of commodities that are the base in Kairatu Barat is very likely to be increased and created more as a business opportunity. This is certainly a way to pioneer the local food business by utilizing the local food production. Local staple food, which is still consumed by the community, is very potential to be developed as a food business center, especially for tubers. If the production of these tubers is developed and marketed more, it will give a great benefit to the community for the increase in their income.

The contribution of the average energy of individual households in each group of grains, tubers and sago is 1,145 kcal, 94 kcal and 29 kcal. The amount of contribution of staple food energy in Kairatu Barat is above ideal contribution. This shows that the consumption pattern of society is very good, which can be seen from the contribution of energy of each individual per household. Based on the contribution of staple food energy of Kairatu Barat community, it can be said that people in Kairatu Barat have achieved food security. Food security is achieved if adequate community food in sufficient quantity and quality are distributed at affordable and safe prices for every citizen to support their daily activities. The community is not dependent on a single food commodity, but more on the food they have in their household such as sago, cassava, sweet potato. Environmental conditions that support the diversity of people's food are used to produce diverse commodities.

Partially, the socio-cultural factors that influence food security are eating culture, division of family meal, nutrition knowledge, while the economic factor that influences food security of staple food is only the job of household head.

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