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Household Food Security Strategy In West Kotawaringin Regency, Central Kalimantan Province

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Abstract
Kotawaringin Barat Regency is one of the regencies in Central Kalimantan Province, with a rice production that meets approximately 3 percent of the needs of its population of around 280,000 people in 2025. This study aims to identify factors that influence food security and formulate a family food security strategy in Kotawaringin Barat Regency, Central Kalimantan Province. The grand theory is inspired by the philosophy of welfare state benefits where the state is responsible for the welfare of citizens, especially the adequacy of quality food. This study uses a mixed-methods approach, namely quantitative and qualitative. Based on the results of the quantitative analysis, it shows that the dominant factors are financial asset and food distribution with a strategy of cooperation with universities, cooperation with the private sector, strengthening agricultural infrastructure, cooperation between the government and the private sector to ensure food availability, coordination government to government to increase food availability, improve the quality of food consumption and population nutrition, cooperation Government to Government to ensure the supply of food trade, increasing economic access to ensure food affordability, developing urban agriculture to increase the availability and diversity of food, increasing economic access to increase people's purchasing power, strengthening food institutions to ensure food stability, cooperation Government to Government to increase food availability and supply.
Keywords: *Family Food Security, Family Food, Food Security*

1. INTRODUCTION

For approximately 100 years, from 1950 to 2050, the world's population is expected to increase fourfold from 2.5 billion people to 9.7 billion in 2050 (Saliem & Ariani, 2002a). Some estimate it will reach 10 billion. That way, food needs will increase to 70 percent from now. Meanwhile, limited food sources are increasingly limited. Although there have been efforts to find natural resources outside the planet Earth, they have not produced significant results. To meet the increasing food needs, superior human resources are needed, the application of technology and innovation in the agricultural sector to increase food productivity (Tuesday, 2021). The criteria for superior agricultural human resources at least have good competence, are adaptive and innovative, hard working, tenacious and persistent and always think positively and optimistically (https://ugm.ac.id/2023).

The Agricultural Market Information System (AMIS) June 2023 Market Monitor highlights that, although agricultural commodity prices have declined over the past 12 months, domestic food price inflation remains high in many countries (Saliem & Ariani, 2002b). Despite a 20% year-on-year decline in the Food and Agriculture Organization (FAO) food price index, a measure of the monthly change in international prices of a basket of food commodities, many countries continue to experience double-digit inflation (Fitriyah et al., 2023). The strong US dollar, which keeps commodity prices high in local currencies, is one of the reasons for high inflation in these countries; in addition, post-farm costs such as energy, transportation, and food production, which account for a large share of retail prices, remain high due to core inflationary pressures. In addition, the uncertainty of weather forecasts is one of the inhibiting factors (https://www.amis-outlook.org/2023).

2. METHOD

The research method used is a hybrid quantitative qualitative. Quantitative methods use statistical data toto find out how likely the proposed hypothesis is by the research results, while the qualitative method

uses SWOT analysis to evaluate the factors that influence household food security. The population of West Kotawaringin Regency is 246,214 people; the sample used in this study was 400 people.

Sekaran and Bougie (2016), states the variable is anything that can differentiate or bring variation to value. Values can be different at different times for the same object or person, or at the same time for different objects or people. Variables *exogenous* is a variable that influences the variable *endogen*, either positively or negatively. Variables *endogen* is a variable that is the main focus of researchers. While the variable *intervening* is a variable that appears between when the variable *exogenous* start to influence variables *endogen*, and when the influence of the variable *exogenous* felt on the variables *endogen* (Sekaran and Bougie 2016). This study uses one variable *exogenous* namely regional food security and one variable *endogen* namely community welfare and one variable *intervening* as moderation, namely multidimensional leadership (Yudiatmaja, 2021).

3. RESULT AND DISCUSSION

Hypothesis Testing Results

After analyzing the influence coefficient between variables, the next step is to test the hypothesis using the values *t-statistics* (Harvian & Yuhan, 2021). The parameter of whether or not there is a partial influence can be known based on the value *t-statistics* must be greater than 1.96 then there is an influence of the exogenous variable on the endogenous variable or the endogenous variable on the endogenous variable. Conversely, if the value *t-statistics* is less than 1.96 then there is no influence of the exogenous variable on the endogenous variable or the endogenous variable on the endogenous variable. If *P values*< 0.05 means significant and if *P values*> 0.05 means not significant. The following are the results of hypothesis testing in table 1.

Table 1. Hypothesis Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Human Asset-> Food Security	0.866	0.855	0.482	2.325	0.001
Natural Asset-> Food Security	0.758	0.750	0.181	2.328	0.017
Financial Asset-> Food Security	0.874	0.870	0.435	2.135	0.014
Social Asset-> Food Security	0.699	0.670	0.451	2.012	0.010
Physical Asset-> Food Security	0.740	0.380	0.256	2.567	0.018
Food Distribution -> Food Security	0.689	0.601	0.301	2.123	0.012
Government Support -> Food Security	0.684	0.680	0.404	2.132	0.013
Moderating Effect 1 -> Food Security	0.644	0.640	0.623	2.325	0.055
Moderating Effect 2 -> Food Security	0.751	0.749	0.181	2.333	0.011
Moderating Effect 3 -> Food Security	0.746	0.740	0.670	2.325	0.015
Moderating Effect 4 -> Food Security	0.816	0.810	0.322	2.358	0.001

Moderating Effect 5 -> Food Security	0.791	0.710	0.333	2.398	0.013
Moderating Effect 6 -> Food Security	0.691	0.680	0.405	2.326	0.017

Table 1. shows the results of hypothesis testing which can be explained as follows:

1. Hypothesis testing 1
   The magnitude of the influence of the variable *human asset* on household food security is 0.866 with a value of *P Value*<0.05 so it can be concluded that the variable *human asset* has a positive and significant effect on household food security variables in West Kotawaringin Regency (H1 is accepted).
2. Hypothesis testing 2
   The magnitude of the influence of the variable *natural asset* on the household food security variable is 0.758 with a value of *P Value*<0.05 so it can be concluded that the variable *natural asset* has a positive and significant effect on the food security variable in West Kotawaringin (H2 is accepted).
3. Hypothesis testing 3
   The magnitude of the influence of the variables *financial asset* towards food security is 0.871 with a value of *P Value*<0.05 so it can be concluded that the variable *financial asset* has a positive and significant effect on household food security variables in West Kotawaringin Regency (H3 is accepted).
4. Hypothesis testing 4
   The magnitude of the influence of the variable *social asset* on household food security is 0.699 with a value of *P Value*<0.05 so it can be concluded that the variable *social asset* has a positive and significant effect on the household food security variable in West Kotawaringin Regency (H4 is accepted).
5. Hypothesis testing 5
   The magnitude of the influence of the variable's *physical asset* towards food security is 0.740 with a value of *P Value*<0.05 so it can be concluded that the variable's *physical asset* has a positive and significant effect on household food security variables in West Kotawaringin Regency (H5 is accepted).
6. Hypothesis testing 6
   The magnitude of the influence of the food distribution variable on household food security is 0.689 with a value of *P Value*<0.05 so it can be concluded that the food distribution variable has a positive and significant effect on the household food security variable in West Kotawaringin Regency (H6 is accepted).
7. Hypothesis testing 7
   The magnitude of the influence of government support interactions and *human asset* on household food security is 0.644 with a value of *P-Value*<0.05 so it can be concluded that government support moderates the influence *human asset* on household food security in West Kotawaringin Regency (H7 is accepted). The results of the hypothesis test state that the direct influence *human asset* on household food security is significant and the interaction of the moderating variables is also significant, so it can be classified as a quasi-moderating variable.
8. Hypothesis testing 8
   The magnitude of the influence of government support interaction and *natural asset* on household food security is 0.751 with a value of *P-Value*<0.05 so it can be concluded that government support moderates the influence *natural asset* on household food security in West Kotawaringin Regency (H8 is accepted). The results of the hypothesis test state that the direct influence *natural asset* on household food security is significant and the interaction of the moderating variables is also significant, so it can be classified as a quasi-moderation variable (Muttaqin et al., 2023).

9. Hypothesis testing 9
   The magnitude of the influence of government support interaction and *financial asset* on household food security is 0.746 with a value of *P-Value*<0.05 so it can be concluded that government support moderates the influence *financial asset* on household food security in West Kotawaringin Regency (H9 is accepted). The results of the hypothesis test state that the direct influence *financial asset* on household food security is significant and the interaction of the moderating variables is also significant, so it can be classified as a quasi-moderation variable (Prasada & Rosa, 2018).
10. Hypothesis testing 10
    The magnitude of the influence of government support interaction and *social asset* on household food security is 0.816 with a value of *P-Value*<0.05 so it can be concluded that government support moderates the influence *social asset* on household food security in West Kotawaringin Regency (H10 is accepted). The results of the hypothesis test state that the direct influence *social asset* on household food security is significant and the interaction of the moderating variables is also significant, so it can be classified as a quasi-moderation variable (Chaireni et al., 2020).
11. Hypothesis testing 11
    The magnitude of the influence of government support interaction and *physical asset* on household food security is 0.791 with a value of *P-Value*<0.05 so it can be concluded that government support moderates the influence *physical asset* on household food security in West Kotawaringin Regency (H11 is accepted). The results of the hypothesis test state that the direct influence *physical asset* on household food security is significant and the interaction of the moderating variables is also significant, so it can be classified as a quasi-moderating variable (Ariani, 2004).
12. Hypothesis testing 12
    The magnitude of the influence of the interaction between government support and food distribution on household food security is 0.691 with a value of *P-Value*<0.05 so it can be concluded that government support moderates the effect of food distribution on household food security in West Kotawaringin Regency (H12 is accepted). The results of the hypothesis test state that the direct effect of food distribution on household food security is significant and the interaction of the moderating variables is also significant, so it can be classified as a quasi-moderation variable (Dedy Sutrisno, 2022).

Pentagon *Asset*

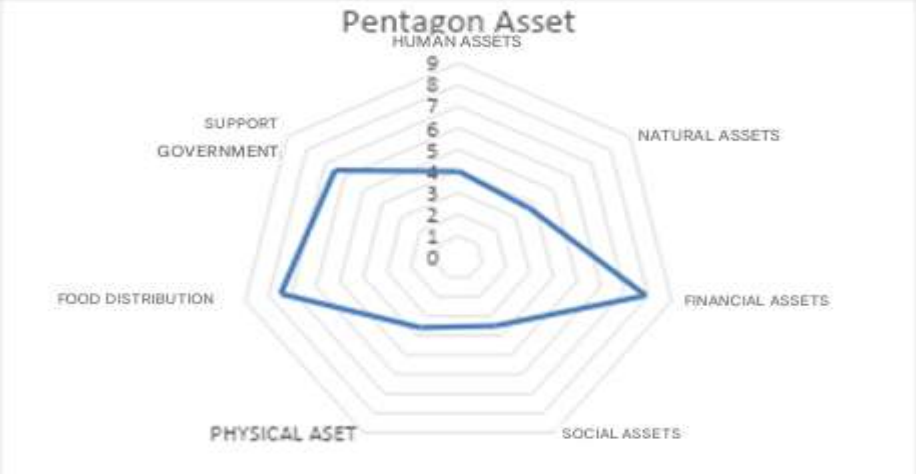

Figure 1. Pentagon Asset
Source: Appendix 11 Page 626

Figure 1 shows that on average respondents stated that *financial asset* is the main factor that influences household food security, number 2 is food distribution.

Qualitative Data Analysis

Data Validation

First data validation through source validation *significant others*. The results of the interviews with the subjects were checked with different sources. The checking was focused on the themes that the researcher had found based on the interview results. In this case, the researcher compared the results of the interviews conducted between one informant and another to see the suitability of the answers to the questions asked to the informants. In this case, to obtain data on strategies to improve food security. The following are the results of source triangulation.

Table 2. Source Triangulation

Research Questions	Informant	by
What factors influence household food security?	1-25	*Financial Asset*
	26-40	Food Distribution
	41-70	*Financial Asset*

Source: Appendix 4 Pages 541-618

The second data validation using method triangulation, was carried out by researchers by collecting similar data using different data collection techniques or methods. In this case, researchers used document recording and also through observation. The results of the method triangulation can be seen in the following table:

Table 3. Triangulation Methods

Research Questions	Method of collecting data		by
	Interview	Observation	
What factors influence household food security?	The causes of declining food security are *financial asset* & food distribution	The cause of the decline in food security is the lack of *financial asset* and uneven food distribution	● *Financial asset* ● Food distribution

Table 4. Statistical Data Calculation Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Human Asset-> Food Security	0.866	0.855	0.482	2.325	0.001
Natural Asset-> Food Security	0.758	0.750	0.181	2.328	0.017
Financial Asset-> Food Security	0.874	0.870	0.435	2.135	0.014
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Food Distribution -> Food Security	0.689	0.601	0.301	2.123	0.012
Government Support -> Food Security	0.684	0.680	0.404	2.132	0.013

If *P values*< 0.05 means significant and if *P values*> 0.05 means not significant. Based on the results of statistical calculations, all variables have *P values* < 0.05 so that it has a significant influence on household food security.

Table 5. SWOT Strategy Matrix (Herjito & Setiawan, 2021)

	Strength	**Weaknesses**
Opportunity	**SO Strategy:** 1. Cooperation with universities 2. Cooperation with the private sector 3. Infrastructure strengthening	**WO Strategy**: 1. Government and private sector cooperation for food availability 2. Coordination of vertical and horizontal government organizations to increase food availability 3. Improving the quality of food consumption and nutrition of the population through socialization of diverse, nutritious and balanced food.
Threat	**ST Strategy:** 1. Cooperation *government to government*to ensure food trade supplies 2. increasing economic access to ensure food affordability 3. Urban agriculture development to increase food availability and diversity	**WT Strategy:** 1. Increasing economic access to increase food purchasing power 2. strengthening food institutions to ensure food stability 3. cooperation *government to government*to increase food availability and supply

Based on Table 5, the results of qualitative and SWOT analysis, several strategies were obtained to increase household food security as follows (Wijaya, 2017):

1. Cooperation with Universities;
2. Cooperation with the private sector;
3. Strengthening agricultural infrastructure;
4. Government and private sector cooperation to ensure food availability;
5. Coordination *government to government* to increase food availability;
6. Improving the quality of food consumption and nutrition of the population;
7. Cooperation, *government to government* ensure the supply of food trade;
8. Increasing economic access to ensure food affordability;
9. Development of urban agriculture to increase food availability and diversity;
10. Increasing economic access to increase people's purchasing power;
11. Strengthening food institutions to ensure food stability;
12. Cooperation *Government to Government* to increase food availability and supply.

4. CONCLUSION

Food distribution affects household food security in West Kotawaringin Regency. Government support moderates the influence *human asset* on household food security in West Kotawaringin Regency. Government support moderates the influence *natural asset* on household food security in West Kotawaringin Regency. Government support moderates the influence *financial asset* on household food security in West Kotawaringin Regency. Government support moderates the influence *social asset* on household food security in West Kotawaringin Regency. Government support moderates the influence *physical asset* on household food security in West Kotawaringin Regency. Government support moderates the influence of food distribution on household food security in West Kotawaringin Regency.

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