Expanding Access: Opportunity to Strengthen Food Security during the Covid-19 Pandemic (A Study on the Poor in Tamansari District, Tasikmalaya City)

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Abstract	This study aims to estimate food security maps, measuring opportunities for physical access, economic access, and social access to food both partially and jointly in strengthening food security and to test the independence between food security and poverty during the Covid-19 pandemic in poor households in Tamansari District, Tasikmalaya City. The research method used is the explanatory method, while the data analysis method uses proportion estimation and regression analysis and the Chi-Square test. The results showed that during the Covid-19 pandemic, it was estimated that there were around 1.34% to 10.66% of poor people in Tamansari District, Tasikmalaya City who were classified as "severe food insecure", 15.63% to 32.37% classified as "prone to food" or "moderate level of food insecurity", 53.54% to 72.46% classified as "slightly food insecure" and 2.00% to 12.00% classified as "food safety". Another finding is that partially physical access and economic access have a very large opportunity, namely 97.1% and 99.2%, while social access is 46.7% in strengthening food security during the Covid-19 pandemic for poor communities in Tamansari District Tasikmalaya City. Together, the opportunities for physical access, economic access and social access in strengthening food security during the Covid-19 pandemic are even close to 100%. This study did not show any relationship between food security and poverty.
Keywords	*Physical access, economic access, social access, food security, poor society.*

INTRODUCTION
Research Background

Food is the most basic need for humans to survive. Without sufficient food, human growth, activity and productivity will be disrupted. This is in line with the hierarchy of needs theory that was put forward by a humanistic psychology figure Abraham Maslow in 1943 in his work A Theory of Human Motivation which stated that the most basic need for every person is a physiological need, namely the need to physically maintain his life, including the need for food and drink. which has the most basic and greatest potential for all the fulfillment of needs above it. Humans will ignore or suppress all other needs until their physiological needs are satisfied (Suradi, 2015).

Food security is a condition for the fulfillment of food for the state to individuals, which is reflected in the availability of sufficient food, both in quantity and quality, safe, diverse, nutritious, equitable and affordable and does not conflict with religion, belief, and culture of the community, in order to be able to healthy, active, and productive life in a sustainable manner (Government Regulation No. 17/2015). Disturbances in food security can lead to social and political turmoil that leads to the creation of economic instability. Critical food security can even endanger national stability (Logistics Affairs Agency, 2014). Therefore, it is no exaggeration to say what the minister of agriculture said in his lecture in front of the 61 years 2020 Regular Education Program (PPRA) participant, Syahrul Yasin Limpo, who stated that "Talk about food security is talking about the strength of the state and nation. Whatever power cannot protect the country.

Initially, the concept of food security focused on food availability, especially grains (Zakiah, 2016). Along with the increasing population and the global food crisis that began in 1972 – 1974, the availability of sufficient food at the national level did not guarantee sufficient access at the household level. Therefore, the food availability approach cannot fully be used as an indicator of food security. Food security will be realized if everyone, at all times, has physical and economic access to safe and nutritious food to meet their needs, for an active and healthy life (Saliem in Zakiah, 2016). Until now, the issue of food security is still the main topic of international discussion considering the threat of food insecurity occurs not only in poor countries and developing countries but also in developed countries (Conceição, Levine, Lipton, Warren-Rodriguez, 2016)

The 2019 global food security map as measured by the Global Food Security Index (GFSI) shows that from an economic perspective, countries with better levels of food security are generally developed countries. Table 1 shows the 5 countries with the highest GFSI are countries with high per capita income, while the 5 countries with the lowest GFSI are countries with low per capita income (The Economist Intelligence Unit Limited, 2019). Another thing found from the global food security map is that except for Singapore, geographically the more food-secure countries are concentrated in Europe, North America and Australia, while the more vulnerable and even food-insecure countries are mostly located in parts of Africa and a small part of South America. and Asia which incidentally is classified as poor countries.

Table 1. Per Capita Income on The Basis of Current Prices ($US) of 5 Countries with Highest and Lowest GFSI in 2019

Highest				Lowest			
No.	Countries	GFSI	Percapita Income	No.	Countries	GFSI	Percapita Income
1.	Singapura	87,4	65.223,3	1.	Venezuela	31,2	n.a
2.	Irlandia	84,0	78.779,0	2.	Burundi	34,3	261,2
3.	Amerika Serikat	83,7	65.297,5	3.	Yaman	35,6	774,3
4.	Swiss	83,1	81.989,4	4.	Kongo (Dem.Rep)	35,7	580,7
5.	Finlandia	82,9	48.771,4	5.	Chad	36,9	709,5

Source: The Economist Intelligence Unit Limited and *World Bank, 2019*

Indonesia's GFSI in 2019 reached 62.6, up 0.6 points from the 2018 figure with an also improving position, from 65th out of 113 countries in 2018 to 62nd in 2019. According to the Indonesian Resilience Agency's records Food Security (BKP) of the Ministry of Agriculture, the improvement in the number and ranking of our country's food security is mainly supported by improvements in the main aspects of food security that consist of availability, affordability (access), and food safety and quality.

Building food security for Indonesia is important given the large population with a wide geographical coverage (Logistics Affairs Agency, 2014). The wave of the Covid-19 Pandemic that hit almost all countries in the world in early 2020 has made efforts to meet food needs even more important. Large-Scale Social Restrictions (PSBB) and the Implementation of Restrictions on Community Activities (PPKM) implemented by the government to minimize the spread of the virus, have limited economic activity to the point of disrupting logistics systems and the food supply

chain. People will lose access to food due to problems in distribution and fluctuations in food prices that occur everywhere.

The food security map at the national level is measured by the Food Security Index (IKP) which provides an overview of the achievements of food security in the region and becomes the basis for evaluating and preparing programs as well as determining regional priorities and interventions (Food Security Agency, 2019).

Tasikmalaya City is the area with the lowest IKP among 8 other cities in the government area of West Java Province. The IKP achievement of Tasikmalaya City in 2019 was 58.14 (out of a scale of 100). At the national level, it is ranked 90 out of 98 cities in Indonesia, far below the IKP Denpasar City as the top which reached 89.84. Based on the established criteria, the City of Tasikmalaya is actually in the group of regions that are quite food insecure. However, the Covid-19 pandemic has the potential to reduce people's ability to access food due to sudden price increases. Cranfield, Preckel & Hertel (2007)

found that in developing countries more than half of household income is used to meet their food needs and this creates a situation of vulnerability in the event of sudden price fluctuations that can push people into poverty and hinder efforts to alleviate poverty. Poverty is closely related to food security. Food security and poverty are two sides of a coin, and both can explain each other (Suradi, 2015). The figure of poverty in a region directly describes the condition of food security in that region because the main characteristic of poverty is the inability of the population to meet their food needs. Furthermore, Alisjahbana (in Suradi, 2015) emphasized that food security and poverty have a strong relationship. Poverty alleviation in Indonesia will depend on the food factor. The price and availability of food will be a determining factor in the level of poverty in Indonesia. Therefore, efforts to develop food

security cannot be separated from efforts to reduce poverty (Cornelis, 2014).

Figures of poverty in Tasikmalaya City are shown in Figure 1. At the beginning of the formation of the government in 2001, the poverty rate (poverty rate) of Tasikmalaya City was quite low, even lower than the figures for the Province of West Java and the national figures. Along with the dynamics of various factors related to poverty from time to time, the poverty level of the City of Tasikmalaya has changed. But unfortunately, the changes that occur are not for the better. Although recently there has been a downward trend, the poverty rate in Tasikmalaya City is still higher than the West Java and national figures. Figure 1 also shows the increase in poverty rates in the cities of Tasikmalaya, West Java and Indonesia in 2020 which occurred simultaneously, allegedly as a result of the Covid-19 pandemic.
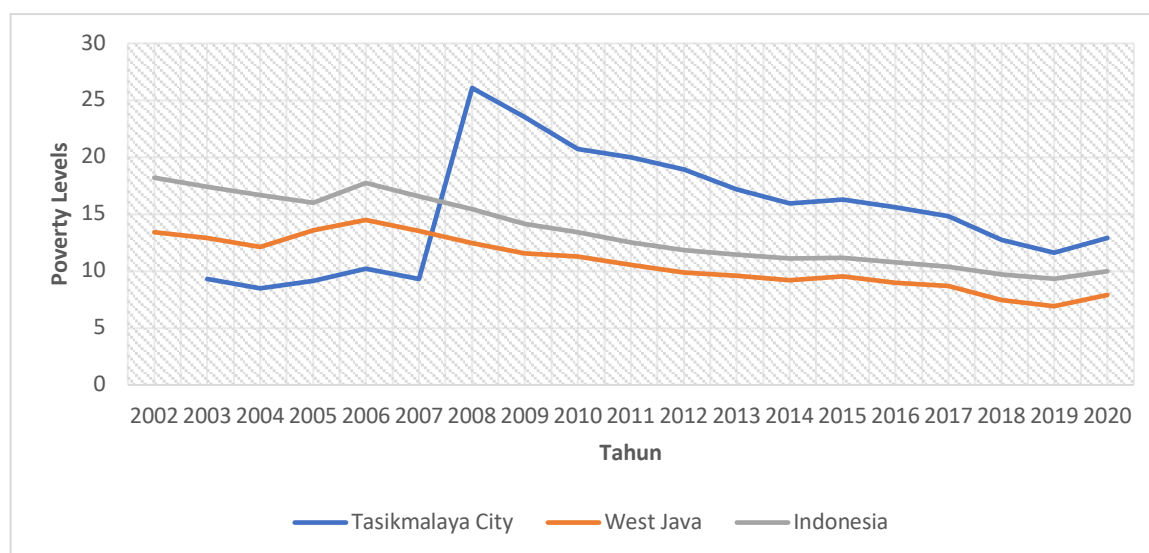

Figure 1. Comparison of Poverty Levels in Tasikmalaya City, West Java, and Indonesia During the Period of 2002 – 2020 (in %)
Source: BPS, 2021

Tamansari district is one of 10 districts which are included in the administrative area of Tasikmalaya City. There are 6,211 KPM (Beneficiary Families) or about 16.77% of all PKH and BPNT beneficiaries in Tasikmalaya City, which are 37,034 KPM (open data Tasikkota, 2021). This means that the poverty rate in Tamansari District is the highest.

According to Suryana (in Zakiah, 2016) the challenges to realizing food security can be grouped into two, namely from the supply and demand sides. A serious challenge in supplying food from the supply side is due to the influence

of production and distribution factors (Food Security Agency, 2019). The effects of production factors include the impact of climate change on cropping patterns, small-scale agricultural businesses, uneven provision of agricultural infrastructure, innovation and dissemination of technology, delayed regeneration of farmers and food and waste. Meanwhile, distribution factors include limited economic access (poor) and physical access (remote areas), weak connectivity between regions due to inadequate infrastructure,

distribution of production areas and length of distribution chain.

Serious challenges from the demand side include demographic factors and changing consumption patterns in line with the increase in the Human Development Index (HDI). In addition, the ease of processing, safety and guarantee of halal food is a challenge in addition to nutritional problems.

Increased production or food availability does not always guarantee the fulfillment of community or household food consumption (Ariani, 2015). The food provided must reach an effort to fulfill food needs at the household and individual levels. Therefore, it is necessary to analyze the access or distribution of food.

Various researches were conducted to strengthen the importance of food access for fulfilling food needs. Mun'im's research (2012) found that in the food surplus district in 2007 the food availability factor did not have a significant effect, while the food access and absorption factor had a significant effect on food security. The results also explain that physical access concerns the level of regional isolation (distribution facilities and infrastructure), economic access concerns income, employment opportunities and food prices, while social access concerns food preferences.

The identification of the main factors that support food security in developing countries has been carried out by Abbade (2017). Using data from 57 developing countries which were analyzed by factorial, correlation and cluster analysis, it was found that the dimensions of food security in the form of physical access, economic access and food utilization were very strongly positively related to food security.

At the household level, food availability at the regional level does not guarantee that household food needs are met. Physically, infrastructure is needed that supports and facilitates the distribution of food to the household level. These facilities include roads, markets, electricity and transportation facilities. Meanwhile, economic access can be met through increasing purchasing power, price stability, employment opportunities and the share of food expenditure. Finally, social access is determined more by food preferences and mother's education as a food processor in the household.

Research Purposes

The main problem in this study tries to observe the opportunities for physical access, economic access and social access for poor households in Tamansari District, Tasikmalaya City, which incidentally is a pocket of poverty in Tasikmalaya City. It is possible that the title of the poorest city of Tasikmalaya in West Java has something to do with the condition of the poor and the level of food security in Tamansari District.

Based on the formulation of the problem, the purpose of this research is to:
1. estimating a map of food security for poor households during the Covid-19 Pandemic in Tamansari District, Tasikmalaya City,
2. measuring opportunities for physical access, economic access and social access to food partially strengthen food security during the Covid-19 pandemic in poor households in Tamansari District, Tasikmalaya City,
3. measuring opportunities for physical access, economic access and social access to food together to strengthen food security during the Covid-19 pandemic in poor households in Tamansari District, Tasikmalaya City, and
4. knowing the relationship between poverty and food security during the Covid-19 pandemic in poor households in Tamansari District, Tasikmalaya City.

RESEARCH METHODS

The research method used in this research is explanatory research, which is to examine the cause-and-effect relationship between two or more phenomena. This research is used to determine whether an explanation (causal linkage) is valid or not, or to determine which is more valid between two (or more) competing explanations (Digdowiseiso, 2017). This research method is also suitable for research that is directed at testing hypotheses because it has relevance in social studies that try to see, measure and test causality relationships between variables.

Research Location

This research was conducted in Tamansari District, Tasikmalaya City. The main consideration is that the Tamansari district is highest number of recipients of PKH and BPNT assistance (as a proxy for poor households) compared to 9 other sub-districts, namely 6,211 KPM out of a total of 37,034 KPM. Tasikmalaya City itself is the city with the lowest IKP among 9 cities in West Java province or ranked 90th out of 98 cities in Indonesia.

There are 6,211 poor households in Tamansari Subdistrict, which are spread unequally in 8 villages. The distribution is 431 KPM (Beneficiary Families) in Mugarsari Village, 806 KPM (Beneficiary Families) in Mulyasari Village, 480 KPM (Beneficiary

Families) in Setiamulya Village, 1,604 KPM (Beneficiary Families) in Setiawargi Village, 600 KPM in Sukahurip Village, 384 KPM (Beneficiary Families) in Sumelap Village, 791 KPM (Beneficiary Families) in Tamanjaya Village and 1,115 KPM (Beneficiary Families) in Tamansari Village.

Research Variables

The research variables are broadly identified as one endogenous variable and one exogenous variable. The endogenous variable in this study is household food security as measured using the Household Food Insecurity Access Scale (HFIAS) questionnaire released by the Food and Nutrition Technical Assistance Project (FANTA) in 2007 (Coates J, Swindle A, Bilinsky P., 2007). The questionnaire contains 9 questions related to the condition of household food security of the respondents (Ashari, C., R., et al, 2019).

Exogenous variables related to food security are household access to food which is divided into physical access, economic access and social access (Ariani, M, 2016). Physical access is measured by transportation facilities and infrastructure used and traversed by respondent households to reach markets or other food sources as well as electricity infrastructure. Economic access is measured by household income, the proportion of household expenditure on food and price stability. Social access is measured by mother's education and ownership of clean water sources.

Data Collection and Analysis Techniques

The population in this study were all households receiving the Family Hope Program (PKH) and Non-Cash Food Assistance (BPNT) as a proxy for poor households in the Tamansari district, Tasikmalaya city in 2020, which were 6,211 KPM (Beneficiary Families). From this number of poor households, a minimum sample was taken using the Slovin method with the following formula:

$$n = \frac{N}{1 + Ne^2}$$

whereas: n = sample size
N = population size
e = margin of error

This study sets a margin of error of 10% so that the minimum sample size is 98 poor households. To minimize the sampling error, the number of respondents was rounded up to 100 KPM. The selection of 100 KPM (Beneficiary Families) from a total of 6,211 was carried out using proportional Simple Random Sampling, where the number of sample members from each kelurahan was calculated by the formula:

$$n_i = \frac{n_{mi}}{n_m} \, x \, n$$

whereas:

n_i	=	number of sample members of poor households from Kelurahan -i
n_{mi}	=	total number of poor households in Kelurahan – i
n_m	=	total number of poor households in Tamansari District
n	=	total number of sample members/sample size

For the first purpose, respondents' answers to the food security variable in the form of 9 questions were given a score of 0 to 3. A score of 0 for the answer "never", a score of 1 for the answer "rarely" (1 - 2 times in 1 month), a score of 2 for the answer "sometimes" (3 – 10 times in 1 month) and a score of 3 for "often" answers (> 10 times in 1 month). If the total score is 0-1, then the household is in the food insecure category, the total score between 2-7 includes the slightly food insecure category, the total score 8-14 includes the moderate food insecurity category and a total score of 15-27 includes the severe food insecurity category. The results of this mapping are used to estimate food security maps for all poor households in Tamansari District by using the proportion estimation technique, namely by using the formula:

$$\frac{x}{n} - Z_{\frac{\alpha}{2}}\sqrt{\frac{\frac{x}{n}\left(1 - \frac{x}{n}\right)}{n} \frac{N - n}{N - 1}} < p < \frac{x}{n} + Z_{\frac{\alpha}{2}}\sqrt{\frac{\frac{x}{n}(1 - \frac{x}{n})}{n} \frac{N - n}{N - 1}}$$

whereas:

$\frac{x}{n}$ = proportion of household samples that fall into the categories "food safety", "slightly food insecure", "moderate food insecurity" and "severe food insecurity"

$Z_{\frac{\alpha}{2}}$ = standard figures obtained from the normal table at the level of significance α

N = population size (sum of all poor households in Tamansari District)

N = sample size (sum of all sample households)

p = the proportion of household population that is categorized as "food safety", "slightly food insecure", "moderate food insecurity" and "severe food insecurity"

For the second and third purposes, multiple linear regression techniques are used. The regression model designed is:

$$KT_i = \beta_0 + \beta_1 AF_i + \beta_2 AE_i + \beta_3 AS_i + \varepsilon_i$$

Whereas:

K_i = Food security of household -i

β_0 = intercept

β_i = regression parameter, i = 1, 2, 3

AF_i = physical access of household -i

AE_i = economic access of household - i

AS_i = social acces of household - i

ε_i = error term of household – i

The probability value of each independent variable, namely physical access, economic access and social access is obtained from the level of confidence which causes the hypothesis of the influence of each variable to be rejected. Furthermore, to answer the fourth identification, the Chi-square test was carried out. This is done to determine whether the steps to take in strengthening resilience need to be done through poverty alleviation.

RESULTS AND DISCUSSION

Explanatory research methods that are directed at testing hypotheses have relevance in social studies that try to see, measure and test causality relationships between variables. Therefore, to answer the problem comprehensively with justification that can be accounted for, supporting information is needed in addition to information directly related to the research variables.

The Profile Tamansari District

Tamansari District is the result of the division of Cibeureum District which was formed based on the Tasikmalaya Regency Regional Regulation No. 25 of 2000 concerning the Establishment of the Districts of Sukaratu, Parungponteng, Sukahening, Tamansari and Mangkubumi, where the establishment of the Tamansari District was inaugurated on August 22, 2000. The area of Tamansari District is 37.07 km2 or about 20.12% of the total area of the City Tasikmalaya is divided into 8 sub-district governments, namely Mugarsari Village, Mulyasari Village, Setiamulya Village, Setiawargi Village, Sukahurip Village, Sumelap Village, Tamanjaya Village and Tamansari Village (Open Data Tasikmalaya City).

The area is inhabited by 77,901 people (10.73% of the total population of Kota Tasikmalaya) consisting of 39,860 men and 38,041 women with a density of 2,165 people/km2. Based on their education, 172 residents of Tamansari Subdistrict have a Masters/S3 education, 2,450 people have an undergraduate education, 850 people have a Diploma, 11,513 have a high school education, 12,920 have a junior high school education, 29,014 have an elementary education and those who have not finished elementary school and who have not attended school are 7,677 and 13,305, respectively. person.

The number of recipients of PKH and BPNT assistance according to data released by Open Data of Tasikmalaya City in 2020 there are 6,211 households represented by one household member called participant. However, in the field, data on the recipients of the two aids were found to be 5,897 households, 412 in Mugarsari, 768 in Mulyasari, 459 in Setiamulya, 1,516 in Seiawargi, 589 in Sukahurip, 365 in Sumelap, 757 in Tamanjaya and 1,031 in Tamansari. This change in the number of households receiving PKH and BPNT assistance was due to several factors, including demographic changes related to mortality and population migration.

Respondents Characteristics

Society consists of many people who have various characteristics, not only demographic characteristics but also social and economic characteristics. Among these various characteristics, from 100 KPM respondents represented by one household member called participant, information was obtained as shown in Table 2 below:

Tabel 2. Characteristics of Respondents according to Several Classifications

Classification		Number of Participants	Percentage
Gender	Male	1	1
	Female	99	99
Age (year)	20 - 30	8	8
	31 - 40	39	39
	41 - 50	29	29
	≥ 50	24	24
Education	Elementary School	71	71
	JuniorHigh School	22	22
	Senior High School	7	7
Employment	Farmers	5	5
	Traders	19	19
	Workers	29	29
	Permanent Employees	3	3
	Services	6	6
	Housewives/others	43	43
Income (in thousands rupiah)	≤ 500	7	7
	501 – 1.000	26	26
	1.001 – 1.500	37	37
	1.501 – 2.000	24	24
	>2.000	6	6
Expenditures (in thousands rupiah)	≤ 500	17	17
	501 – 1.000	54	54
	1.001 – 1.500	22	22
	1.501 – 2.000	2	2
	>2.000	1	1

Source: Processed data, 2021

Demographic characteristics of KPM/participants show that the recipients of the Family Hope Program (PKH) and Non-Cash Food Assistance (BPNT) funds are dominated by women, even up to 99%. This is quite reasonable because it is indeed housewives who generally represent families as beneficiaries of assistance. In addition, participants are generally aged between 31 to 50 years, which actually belongs to the productive age group.

The social characteristics of the participants are shown by the level of education which is generally very low, namely Elementary School, although there are a small number of High School graduates. This is sufficient to describe the education of the community in Tamansari District as a whole, which is more than a third of whom have elementary school education. The majority of respondents have activities to take care of the household and become laborers which reflects the main activities of the entire community of Tamansari District.

Instrument Test Results

As previously stated, after the data was collected, a validity test was conducted to measure whether the questions submitted through the questionnaire were able to reveal something that was measured by the instrument. The validity test was carried out by measuring the correlation coefficient of each question item with a total score which was the sum of each item score which was then compared with the r value of the product moment for a certain level of significance and sample size. If the correlation coefficient of the instrument is greater than r table, it can be ascertained that the instrument is valid.

Because the sample size used in this study was 100 beneficiary families, with a significance level of 5%, the r table value of 0.195 was obtained so that the instruments in the form of questions on the questionnaire were all valid.

In addition to testing the validity of the instrument, a reliability test was also carried out aimed at measuring the reliability of the research instrument. The instrument is said to be reliable if the respondents' answers to questions/statements are consistent from time to time. Reliability measurement is carried out by means of one shot or one-time measurement and the statistical test used is Cronbach's Alpha, where one variable is said to

be reliable if it gives Cronbach's Alpha value > 0.60 (Ghozali in Suliyanto, 2011).

The results of the reliability test for each variable as the results of the instrument validity test can be seen in Table 3.

Table 3. Validity and Reliability Test Results

Variable	Question items	Validity Test		Reliability Test	
		r	Results	*Alpha Cronbach's*	Results
Security	1	0,726	Valid	0,877	Reliable
	2	0,650	Valid		
	3	0,507	Valid		
	4	0,624	Valid		
	5	0,588	Valid		
	6	0,637	Valid		
	7	0,781	Valid		
	8	0,754	Valid		
	9	0,698	Valid		
Physical Access	1	0,752	Valid	0,913	Reliable
	2	0,703	Valid		
	3	0,577	Valid		
	4	0,345	Valid		
	5	0,681	Valid		
	6	0,325	Valid		
Economic Access	1	0,721	Valid	0,782	Reliable
	2	0,746	Valid		
	3	0,760	Valid		
	4	0,676	Valid		
Social Access	1	0,569	Valid	0,812	Reliable
	2	0,530	Valid		
	3	0,554	Valid		
	4	0,646	Valid		
	5	0,425	Valid		

Source: Processed data, 2021

Estimation of Food Security Map for Poor Households during the Covid-19 Pandemic in Tamansari District, Tasikmalaya City

The preparation of a food security map is carried out to identify areas that require priority handling. Food security mapping will provide an overview of food security achievements and become the basis for evaluation and preparation of programs as well as determining priorities and interventions (Food Security Agency, 2019).

Because the data collection was not carried out by means of a census, the food security map of all poor communities in Tamansari District could be estimated/estimated based on the food security map in the sample. Based on the answers of 100 respondents, a total score of answers between 0 – 1 for the food security variable was given by 7 respondents, a total score of answers between 2 – 7 was given by 63 respondents, a total score of answers between 8 – 14 was given by 24 respondents and a total score between 15 – 27 was given by 6 respondents. These results provide an indication that per 100 members of the sample of poor households there are 7 households including the "food safety" category, 63 households including the "slightly food insecure" category, 24 households including the "medium level food insecurity" category and 6 households including the category of "severe food insecurity".

By using the proportion estimation formula, at the 95% confidence level, the approximate food security map for all poor households in Tamansari district is as listed in Table 4.

Table 4. Approximate Map of Food Security for the Poor in Tamansari District

Categories	Approximate proportion (%)
Food Safety	2,00 – 12,00
Slightly food insecure	53,54 – 72,46
Moderate food insecurity	15,63 – 32,37
Severe food insecurity	1,34 – 10,66

Source: Processed data, 2021

Poor households are the household group that is most vulnerable to the threat of food security. Weak economic access of poor households due to low-income levels makes it difficult for them to meet one of their physiological needs. This condition was exacerbated by the emergence of a wave of pandemics that hit almost all countries in the world. Lockdown, PSBB, PPKM and so on aimed at limiting the spread of the virus have limited economic activity to the point of disrupting the logistics system and food supply chain. The poor will increasingly lose access to food due to problems in distribution and fluctuations in food prices that occur everywhere.

The same condition is experienced by poor households in Tamansari District. This is at least evident from the results of the research presented in Table 4 which explains the approximate food security map of poor households in Tamansari District. Although overall the food security of the people of Tasikmalaya City is in priority group 4 or is included in the category of moderately food insecure (BKP Ministry of Agriculture, 2019), at the sub-district government level, especially the Tamansari District, findings are found that there is a threat of food insecurity. The most worrying situation is the finding of households with severe food insecurity category, which is estimated to be above 10% or 10.66% to be exact. This finding points to the need for more serious handling from the government. Even if the pandemic is prolonged, it is not impossible that the threat of food insecurity will continue to spread to moderate food insecurity groups or even slightly food insecure groups and food insecure groups.

Opportunities for Physical Access, Economic Access and Social Access to Food in Strengthening Food Security during the Covid-19 Pandemic Period in Poor Households in Tamansari District, Tasikmalaya City

The condition of food insecurity is not only caused by the availability of food but also due to the lack or even the absence of access (individuals or households) both physical access, economic access and social access to obtain sufficient food in quantity, quality, diversity and safety for individual life. or productive households. Food sufficiency/availability at the regional or regional level does not guarantee adequacy/availability at the household level if it is not accompanied by the household's ability to access food.

The ongoing decline in the ability to access food due to a prolonged pandemic needs to be watched out for and anticipated early on. One form of vigilance is to strengthen the causal factors (physical access, economic access and social access) which are expected to be able to strengthen food security at the household level. Prioritization of strengthening can be done by first identifying the factors that have the most opportunity to strengthen food security through the regression parameter significance test. With the dependent variable of food security (KP) and the independent variable of physical access (AF), economic access (AE) and social access (AS), the results of data processing with the help of the SPSS program are as follows:

**Table 5. Regression Model Estimation Results
and Partial Significance Parameter Test
Coefficients[a]**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.259	1.941		.134	.894
AF	.279	.126	.157	2.217	.029
AE	1.592	.166	.681	9.594	.008
AS	.089	.143	.044	.626	.533

a. Dependent Variable: KP

The results show that the relationship between physical access, economic access and social access with food security in the following empirical model:

$$KP_i = 0{,}259 + 0{,}279AF_i + 1{,}592AE_i + 0{,}089AS_i$$

The empirical equation above shows that there is a unidirectional relationship between physical access, economic access and social access with food security, meaning that the better physical access, economic access and household social access to food, the better household food security, and vice versa.

However, although all three are mutually reinforcing, at the 5% level, only physical access and economic access have a significant strengthening. This can be seen from the p-values of the two variables, which are 2.9% and 0.8%, respectively, which are smaller than the specified level of significance. Meanwhile, social access does not significantly strengthen food security because the p-value of this variable is 53.3% greater than the real level.

Furthermore, to measure the opportunities for physical access, economic access and social access partially in strengthening the food security of poor households in Tamansari District, it can be done with the t-test, namely by calculating the probability of rejecting the hypothesis that there is a positive relationship between physical access, economic access and social access. should be rejected, which statistically is the confidence level value. The opportunity for physical access is 1 – 2.9% = 97.1%, the opportunity for economic access is 1 – 0.08% = 99.2% and the opportunity for social access is 1 – 53.3% = 46.7% in strengthening food security of poor households in Tamansari District.

The PSBB policy set by the Indonesian government through Government Regulation no. 20 of 2021 as an effort to prevent the spread of the virus has created supply disruptions and delays in food distribution. Although in the government regulation, food items are not included in the inhibition of movement, but in practice, food distribution experiences problems as a result of restrictions on the use of toll roads, ports, airports issued by the Ministry of Transportation through Minister of Transportation Regulation Number 25 of 2020.

The impact of these various restrictions is felt by the local community, including the people of the Tamansari District, Tasikmalaya City. Especially since Tasikmalaya City was designated as one of the Covid-19 emergency zones, restrictions on the operation of public transportation at the local level have made it more difficult for the poor to physically access food. For the poor, it is difficult to find a solution to the disruption of the distribution system that is more physical in nature, unlike people with upper middle income who shift their spending to the online market.

Disturbances in the distribution system (including food) in various regions have an impact on increasing the length of the supply chain. This can be seen from the difference in the trade and transportation margin (MPP), which is the difference between the selling and buying prices from producers to final consumers. Labor shortages and travel restrictions when the PSBB was enforced, especially in urban areas, pushed up prices at the consumer level.

The enactment of PSBB in addition to having an impact on food distribution which can affect food price increases, also affects people's income. This is reflected in the performance of economic growth in the first quarter of 2020 which decreased by 2.97% (BPS 2020a). This economic contraction affects the narrowing of employment opportunities (decreased working hours and layoffs) which has an impact on decreasing income and purchasing power.

The measurement of the magnitude of the opportunity for physical access, economic access and social access together in strengthening the food security of poor households in Tamansari District is carried out through the -F test, namely by calculating the confidence level value. If the F-test gives a p-value of 0.000 (see Table 6), it can be ascertained that the chance of these accesses together is close to 100% (because the p-value is the result of rounding up).

Table 6. Regression Model Estimation Results and Parameter Significance Test Together

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1329.025	3	443.008	36.978	.000[b]
	Residual	1150.096	96	11.980		
	Total	2479.122	99			

a. Dependent Variable: Y
b. Predictors: (Constant), X3, X2, X1

These results provide an indication that physical access, economic access and social access together are factors that greatly determine community food security during a pandemic. This is understandable considering that various restrictive policies, especially physical restrictions during the pandemic, which automatically limit economic activity accompanied by price increases that occur everywhere and have made it difficult for

household food choices have an impact on decreasing the level of community food security, especially the poor.

The Relationship between Food Security and Poverty

To answer the identification of the last problem, namely testing whether there is a relationship between food security and poverty, the Chi-square test is used. This technique begins by grouping the respondent communities according to the level of food security/insecurity by referring to the HFIAS questionnaire, namely "food safety", "slightly food insecure", "moderate food insecurity" and "severe food insecurity". Another grouping is carried out according to the poverty level by referring to the 2020 Tasikmalaya city poverty line, which is IDR470.150 (Open Data Tasikmalaya City). A household is said to be poor if food consumption expenditure is below the poverty line. The grouping results are obtained in Table 7 below:

Table 7. Classification of Respondents by Poor Status and Level of Food Security

		Food Insecurity				Total
		Food Safety	Slightly food insecure	Moderate food insecurity	Severe food insecurity	
Poverty	Poor	1	3	2	2	8
	Not-Poor	6	60	22	4	92
Total		7	63	24	6	100

Source: Primary data

The results of data processing with the help of SPSS 20.0 are shown in Table 8 which shows that at the 5% level of significance there is no significant relationship between food security/insecurity and poverty.

Table 8. Chi-Square Test Results

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.509[a]	3	.089
Likelihood Ratio	4.484	3	.214
Linear-by-Linear Association	2.074	1	.150
N of Valid Cases	100		

a. 3 cells (37.5%) have expected count less than 5. The minimum expected count is .48.

Based on the results above, it can be explained that it is not always the poor who experience food security problems, and vice versa that the problem of food security is not solely based on the poverty factor.

According to Hardianto (2017) the absence of support for the proposed research hypothesis is caused by the determination of the population and sample. This study uses the target population of poor households as proxied by households or Beneficiary Families (KPM), Family Hope Program (PKH) and Non-Cash Food Assistance (BPNT) in Tamansari sub-district, Tasikmalaya city. Although PKH assistance is a conditional social assistance for the poor, in the field it was found that more than 90% of KPM are not classified as poor households. This can be interpreted that the provision of PKH and BPNT assistance has not been right on target.

CONCLUSION

Based on the results of the research and discussion described previously, the following conclusions are drawn:
1. The estimated food security map during the Covid-19 pandemic for poor households in Tamansari District, Tasikmalaya City is around 1.34% to 10.66% of poor people in Tamansari District, Tasikmalaya City which

are classified as "severe food insecurity", 15, 63% to 32.37% are classified as "moderate food insecurity", 53.54% to 72.46% are classified as "slightly food insecure" and 2.00% to 12.00% are classified as "food safety".

2. Partially the opportunities for physical access, economic access and social access in strengthening food security during the Covid-19 pandemic for the poor in Tamansari District, Tasikmalaya City were 97.1%, 99.2% and 46.7%, respectively.

3. Together, the opportunities for physical access, economic access and social access in strengthening food security during the Covid-19 pandemic for the poor in Tamansari District, Tasikmalaya City are close to 100%.

4. At the 5% level of significance, it turns out that there is no relationship between food security/insecurity and poverty.

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