COMMUNITY EMPOWERMENT IN THE EFFORT OF IMPROVING SUSTAINABLE FOOD SECURITY SYSTEMS IN PEKANBARU CITY

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ABSTRACT

The purpose of this study is to identify the conditions of community empowerment in food security, as well as to analyze community empowerment schemes in strengthening the sustainable food security system in Pekanbaru. This research is a descriptive-analytic study that was used to get a systematic, factual, and accurate picture. This research was used interview, observation, and documentation study methods. The results showed that food security and food availability in Pekanbaru in 2022 increased, as evidenced by the value of the Food Security Index (IKP) of Pekanbaru City in 2022 with a score of 90.56. This shows that the Pekanbaru City Government is committed to strengthening food security, it is hoped that Pekanbaru's human resources are healthy, active, productive, and competitive, that is smart people. IKP is one of the Main Performance Indicators of the Pekanbaru City Government that has been set in the 2017-2022 RPJMD to realize the 4th mission of the 5 missions of Pekanbaru City, that is realizing economic development based on a people's economy and a capital-intensive economy, in three leading sectors, namely services, trade and, industry. Regarding the condition of community empowerment in a sustainable food security system in Pekanbaru City, this remains a strategic activity, to maintain the productivity of farmers and food business actors who are members of the Kelompok Tani/Kelompok Wanita Tani (KWT) through strengthening the Kawasan Mandiri Pangan (KAMAPAN) and Pekarangan Pangan Lestari (P2L).

Keywords: Community empowerment, sustainable food security, Food Security Index (IKP), Kawasan Mandiri Pangan (KAMAPAN), Pekarangan Pangan Lestari (P2L).

INTRODUCTION

Indonesia is an agricultural country with a large area of land and has a rich biodiversity with natural resources. This makes Indonesia able to meet the basic needs of its people, such as food, residency, clothing, but of the three the most important is food. The low quality and lack of food availability will lead to famine, disease, and decreased welfare. Therefore, the state is responsible to ensure food availability because one of the goals of the state is to realize the welfare of its citizens. Thus, it can be said that there is a responsibility to ensure the availability of quality food according to needs as well as ensure its sustainability.

In recent years, food security has become an important issue in Indonesia, and in the past year, the world has also been hit by a food crisis. According to the Sunday Herald (12/3/2008)(1), the current food crisis is the biggest global crisis of the 21st century, affecting 36 countries in the world, including Indonesia. Various efforts have been made with the existence of ways to overcome every problem in preventing a challenge, implementation in our country will always be faced with a continuous food crisis. A condition where the amount of food production is not sufficient to meet the needs of the population. Until now, food security seems to be worrying because since the early 1990s the amount of food production, especially rice, tends to decrease so that in the last 15 years almost every year Indonesia has had to import rice. In addition, the price of rice also fluctuates. Although there seems to be speculation in price fluctuations, the price fluctuations are also related to fluctuations in the supply of rice in the market.

For Indonesia, food security is still a concept and there are still many people who think that food is just a commodity that has absolutely no value, both socially and culturally. In fact, the problem of food security in Indonesia is still happening, this problem covers four aspects (2):

- (1) Aspects of Food Production and Availability. Problems in the production aspect began with an increase in food production on a large scale, but on the one hand, it turned out that the population still lacked food.
- Aspect of Distribution, there are four root problems in food distribution. First, is infrastructure support, that is the lack of support for development access - roads, bridges, and others. Second, transportation facilities, that is the lack of attention from the government and the community in maintaining our transportation facilities. Third, the transportation system. which is our country's transportation system which is still less effective and less efficient. In addition, the lack of coordination between each mode of transportation results in the transported food being often late in arriving at its destination. Fourth, the problems of security and illegal levies, illegal levies carried out along transportation routes in Indonesia are still common.
- (3) Aspects of Consumption, the pattern of food consumption of the Indonesian population which tends to change has a major impact on the food security system. Currently, Indonesia's rice consumption is about twice as large as some neighboring countries such as Malaysia and Vietnam. In addition to rice commodities, the Indonesian population is also starting to depend on other imported food commodities such as meat, soybeans, wheat flour, and salt.
- (4) Economic Aspects/Poverty. Poverty is the main cause of food security issues in Indonesia. This is related to the income level of the community which is below the average so they are unable to meet their own food needs. Insufficient fulfillment of community needs due to low purchasing power will also affect the unfulfilled nutritional status of the community. The non-fulfillment of the nutritional status of the community will have an impact on the low

level of productivity of the Indonesian people. Low nutritional status also affects the level of intelligence of the young generation of a nation. Therefore, we can see that from year to year, poverty which is associated with a low level of the economy, purchasing power, and people's incomes greatly affects the stability of food security in Indonesia (Supardi Rusdiana and Ariesta Maesya, 2017)(3).

Food security is still an important issue for the Indonesian people. Even though the State of Indonesia has succeeded in achieving selfsufficiency in rice, food security is still one of the national development priorities. This is partly because food is a basic human need that is not substituted with other materials. Meanwhile, the increasing population growth requires very large amounts of food. On the other hand, food actually faces capacity challenges, such as global climate change, competition in the use of land and water resources for agricultural and non-agricultural activities, as well as environmental degradation which reduces food production capacity (Dinas Ketahanan Pangan, 2011)(4).

Riau Province is the second richest province after East Kalimantan, which has a lot of natural resources. The issue of food supply in Riau Province in the future is quite serious, due to high population growth, poverty, environmental degradation, rupiah exchange rate, drought, and land conversion which will have an impact on production of various agricultural commodities, especially rice. On the other hand, food availability will be determined by food production in this area. Given that food needs in Riau are still imported from other regions, it will have an impact on food prices, that will fluctuate at any time. Due to the increase in food demand and the limited stock, the price of the food will be increased.

Food security is still a difficult problem to solve. Food is a mandatory business in regional governments based on the principles of autonomy, deconcentration, and assistance tasks in Pekanbaru City based on the Riau Province Regional Regulation Number 13 of 2018 concerning Food Security and Pekanbaru Mayor Regulation Number 24 of 2019 concerning the Establishment of the Pekanbaru City Food Security Council and Working Groups Food Security, so that the implementing element of government affairs in the food sector is the Pekanbaru City Food Security Agency (5).

Paying attention to the existing problem portraits, and being fully aware that food is a human right of every individual to be able to live a healthy, active, and productive life, and this is the responsibility of the Government, including the Regional Government. This study will be analyzed how the condition of food security in Pekanbaru City, through community empowerment.

RESEARCH METHODS

This research is a descriptive-analytic study that was used to obtain a systematic, factual, and accurate description of the facts of the relationship between the phenomena being investigated. Descriptive-analytic research is carried out by collecting data and information according to actual conditions, then the data and information are compiled, processed, and analyzed to be able to provide an overview of the existing problems (Sugiyono, 2008: 105)(6). This study was using a qualitative-naturalistic approach which shows that the implementation of this research does occur naturally, as it is in normal situations that are not manipulated by circumstances and conditions, emphasizing natural descriptions (Arikunto, 2002:11)(7).

This study seeks to obtain data on Community Empowerment in the Efforts of Improving the Sustainable Food Security System in Pekanbaru. The majority of the variables analyzed will be related to the community empowerment variable in strengthening the sustainable food security system.

The data source in the study is the subject from which the data can be obtained. The types of data sources for this research are informants(8), that is parties related to Community Empowerment in the Efforts of Improving the Sustainable Food Security System in Pekanbaru.

RESULTS AND DISCUSSION

Food Security is a condition of fulfilling 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 contradict with religion, belief, and culture of the community, to be able to live a healthy, active and productive life in a sustainable manner. The development of food and nutrition security was carried out systemically by involving cross-sectors. This approach was directed at realizing adequate food availability through domestic food production and trade; achieving stability in the availability and access of food on a macro-meso and micro basis, adequate quality (diversity and food safety), and quantity of food consumption supported by infrastructure improvements. To realize these conditions, it is necessary to support macroeconomic policies that could achieve economic stability ensuring the stability of food supply and prices.

SUMBER DAYA & PILAR KETAHANAN STATUS PANGAN DAN GIZI LINGKUNGAN STRATEGIS PANGAN Ekonomi Makro KETERSEDIAAN · Pertumbuhan Penduduk Produksi Pangan Domestik · Situasi Politik Stok/Cadangan Pangan · Pendidikan · Perdagangan Internasional KETERJANGKAUAN dan Domestik Kebijakan dan Peraturan Status SDM yang Stabilisasi Pasokan dan Harga · Sumber Daya Alam Sistem Logistik Pangan dan sehat. Teknologi Gizi Rumah aktif, dan Daya Beli Masyarakat Kondisi Iklim dan Agroekologi Tangga dan Akses terhadap Pasar dan produktif Infrastruktur Nasional · Kelembagaan Sosial Budaya PEMANFAATAN · Pencemaran Lingkungan ikan Pola Kon · Improved Lifestyle

Figure 1: Conceptual Framework for Food Security and Nutrition

Source: Indonesian Food Security Index, Food Security Agency Ministry of Agriculture, 2019

In order to determine the level of food security in a region and its supporting factors, an assessment system in the form of a Food Security Index (IKP) has been developed which refers to the definition of food security and the subsystems that make up the food security system. The Food Security Index (IKP) compiled by the Food Security Agency, Ministry of Agriculture is an adjustment of the existing index based on the availability of district/city and provincial level data. The nine indicators used in the preparation of the IKP are derived from three aspects of food security, those are food availability, affordability, and utilization. The selection of indicators used in the IKP is based on: (i) the results of a review of the global food security index; (ii) the level of sensitivity in measuring the situation of food and nutrition security; (iii) representation of the 3 pillars of food security; and (iv) the availability

of data is available regularly for a certain period (monthly/annually) and covers all districts/cities and provinces.

The weighting method was then used to determine the relative importance of the indicators to each aspect of food security. The weighting method in the preparation of the IKP refers to the method developed by the EIU in the preparation of the GFSI (EIU 2018 and 2019) and GHI (IFPRI 2018 and 2019). Goodridge (2007) states that if the variables used in calculating the index are different, it is necessary to do it in a weighted manner to form an aggregate index that is adjusted to its purpose. Determination of the amount of weight used was obtained through expert judgment (Table 1). The weight for each indicator reflects the significance or importance of the indicator in the District and Provincial IKP.

Table 1: Weights of District and Province Indicators Based on Expert Judgment

No	Indicator	Weight			
ASPECT OF FOOD AVAILABILITY					
1.	The ratio of normative consumption to net availability per capita per day	0.30			
Sub Total		0.30			
ASP	ASPECT OF FOOD AFFORDABILITY				
2.	Percentage of population below the Poverty Line	0.15			

3.	Percentage of households with the proportion of expenditure on food	0.075
	more than 65% of total expenditure	
4.	Percentage of households without access to electricity	0.075
Sub Total		0.30
ASI	PECTS OF FOOD UTILIZATION	
5.	The average length of girl schooling over 15 years	0.05
6.	Percentage of households without access to clean water	0.15
7.	The ratio of population per health worker to population density	0.05
8.	Prevalence of stunting toddlers	0.05
9.	Life expectancy at birth	0.10
Sub Total		0.40

Source: Indonesian Food Security Index, Food Security Agency Ministry of Agriculture, 2019(9)

Specifically for analyzing urban areas, only eight (8) indicators were used from the aspect of food affordability and utilization, considering that food availability at the urban level was not influenced by production originating from the region itself but trade between regions.

Therefore, the weight ratio of normative consumption to net availability was zero because the city IKP does not use indicators from the aspect of food availability. The weight value of 0.30 from the food availability aspect indicator was then transferred to 8 other indicators proportionally based on each aspect. The amount of weight used for each indicator reflects the significance or importance of these indicators in the City IKP (Table 2).

Table 2. Weights of City Indicators Based on Expert Judgment

No	Indicator	Weight			
ASPE	ASPECT OF FOOD AVAILABILITY				
1.	The ratio of normative consumption to net availability per capita per day	-			
Sub T	Total Control of the				
ASPE	CCT OF FOOD AFFORDABILITY				
2.	Percentage of population below the Poverty Line	0.20			
3.	Percentage of households with the proportion of expenditure on food	0.125			
	more than 65% of total expenditure				
4.	Percentage of households without access to electricity	0.125			
Sub T	Sub Total				
ASPECTS OF FOOD UTILIZATION					
5.	The average length of girl schooling over 15 years	0.08			

6.	Percentage of households without access to clean water	0.18
7.	The ratio of population per health worker to population density	0.08
8.	Prevalence of stunting toddlers	0.08
9.	Life expectancy at birth	0.13
Sub Total		0.55

Source: Indonesian Food Security Index, Food Security Agency Ministry of Agriculture, 2019(9)

The IKPs generated in each region were grouped into six groups based on the IKP cut-off points. Regions that fall into group 1 were

regencies/cities that tend to have a higher level of vulnerability than the regencies/cities with groups above it, on the other hand, areas in group 6 were regencies/cities that have the best food security. The distribution of district and city IKP based on the results of the grouping is presented in Figure 2.

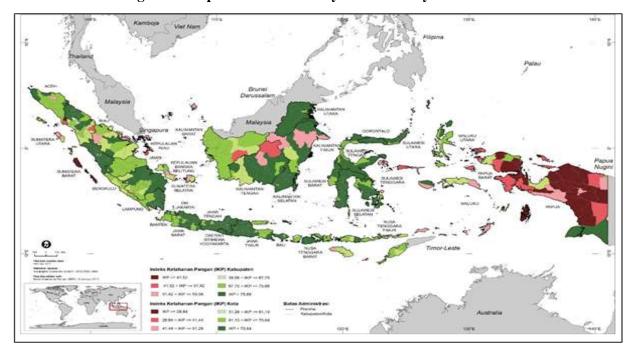


Figure 2: Map of District and City Food Security Index 2019

Source: Indonesian Food Security Index, Food Security Agency Ministry of Agriculture, 2019(9)

This study will analyze more about Community Empowerment to strengthen the sustainable food security system in Pekanbaru City, as follows:

1. Community Empowerment

Measurement of community empowerment programs, namely a) the principle of equality, b) the principle of participation, c) the principle of sustainability and d) the principle of self-reliance (1)

a). Principle of Equality

The principle of equality is the main principle that must be adhered to in the community

empowerment process, that is the existence of an equal position between the community and the institutions that carry out community empowerment programs, both men and women. In Pekanbaru City, the implementation of the principle of equality has been running effectively, with strategic activities involving community empowerment in maintaining farmer productivity in Kelompok Tani or Kelompok Wanita Tani (KWT), strengthening Kawasan Mandiri Pangan (KAMAPAN) and Pekarangan Pangan Lestari (P2L).

KAMPAPAN is an area built with community representation to improve the management of community institutions for community food security. Optimization of KAMPAPAN activities is directed through the distribution of stimulus assistance for the actualization of optimal use of agricultural land for the development of diverse and sustainable food availability in areas that are considered food insecure. The beneficiary object is the farmer group (KT).

Meanwhile, Pekarangan Pangan Lestari (P2L) are activities carried out by community groups who jointly cultivate unproductive yards or vacant land to be used as planting sites so that this program can sustainably provide food sources for the community while at the same time making the availability, accessibility, and utilization, and income of community group members. The beneficiary object is the Kelompok Wanita Tani (KWT).

b) Principle of Participation

Empowerment programs that will stimulate community independence are programs that are participatory, planned, implemented, monitored, and evaluated by the community. However, to reach this level, it takes time and needs a mentoring process that involves facilitators who are committed to community empowerment.

Community empowerment in strengthening the food security system in Pekanbaru City uses the principle of participation, which is manifested in the form of Diversification of Food Consumption Based on local Resources with the output of stimulus for agricultural assistance to 20 Kelompok Wanita Tani. Indicator Determination of the stimulus is based on the

stunting rate in the city of Pekanbaru. Besides that, there are also activities for the implementation of procurement, management, and distribution of food reserves in food insecurity with the output also being a banper stimulus to 17 Kelompok Wanita Tani with indicators for determining stimulus based on the FSVA map.

c) Principle of Sustainability

Empowerment programs must be designed/structured in such a way as to be sustainable, although in the beginning, the role of the facilitator is more dominant than the community itself. However, slowly but surely, the role of the facilitator will be reduced, even eventually removed because the community has been able to manage their own activities.

In this case, community empowerment in strengthening the food security system in Pekanbaru City to be sustainable uses the siDIVA application which is a digital map that could map food security and vulnerability in Pekanbaru City. For Food Independent Area Activities with stimulus outputs to 10 Farmer and most recently there Groups. empowerment activities aimed at 6 Food Village Groups. In 2022, the empowerment activities, which are known as food villages, will be given a total stimulus for community empowerment activities to 53 groups. Besides that, still using the principle of sustainability, there are activities to procure local government food reserves (CPPD) which are also being carried out.

d) Principle of Self-Sufficiency

The principle of self-reliance is to respect and prioritize the ability of the community over the assistance of other parties. This is realized through a revitalization program for food institutions through the Outlet Pangan PUAN Pekan Pangan BERSERI and Madani. hereinafter better known as PPM. Furthermore, Disketapang will also fully encourage the formation of PT. SPM to became BUMD Pekanbaru City. Strategic activities involving community empowerment remain the main concern, that is the existence of programs: Pekan Pangan Madani, Optimalisasi Kawasan Mandiri Pangan, Optimalisasi Pekarangan Pangan Lestari, Optimalisasi Penyediaan Database ketahanan pangan along with adequate educational information for all stakeholders.

2. Food security

Measuring the level of food security through output and outcome indicators to see the results of a short-term or long-term program and evaluate changes in policies or programs in achieving future targets (outcomes).

The Food Security Level of Pekanbaru City won the second-best ranking for the National Food Security Index (IKP). Based on the 2021 Food Security Index Book published by the Center for Food Availability and Insecurity of the Indonesian Ministry of Agriculture's Food Security Agency in 2022, Pekanbaru City was ranked the second-best out of 98 cities in Indonesia with a score of 90.56. This is proof that the Pekanbaru City Government is always committed to strengthening food security so that it is expected that Pekanbaru's human resources are healthy, active, and productive, and competitive, as "Smart People" following the mandate of Law Number 18 of 2012 about Food.

IKP is one of the Main Performance Indicators of the Pekanbaru City Government which has been determined in the Regional Medium-Term Development Plan (RPJMD) for 2017-2022 to realize the 4th mission of the 5 missions of the city of Pekanbaru, Realizing Economic Development Based on People's Economy and Capital Intensive Economy, in The Three Leading Sectors are Services, Trade and Industry. The IKP compiled, based on the IKP Book of the Food Security Agency of the Ministry of Agriculture, is an adjustment of the existing index based on the availability of district/city and provincial level data. Based on the 2021 food security and vulnerability analysis (FSVA) at the national level, shows that the city of Pekanbaru is considered to be food insecure based on 8 indicators which are divided into two aspects of the assessment.

The first is the aspect of food affordability which is assessed from indicators; (1) Percentage of population below the poverty line; (2) Percentage of households with expenditure proportions of more than 65% of total expenditure; (3) Percentage of households without access to electricity.

And the Food Utilization Aspect is based on indicators (1) The average length of girl schooling over 15 years; (2) Percentage of households without access to clean water; (3) Ratio of population per health worker to population density; (4) Prevalence of stunting toddlers; (5) Life expectancy at birth.

When examined further in the Ministry of Agriculture's IKP book, it is stated that for the affordability aspect, Pekanbaru City has a score of 96.05 and the utilization aspect is worth 86.07 to produce a composite worth 90.56.

The IKP in the RPJMD document for the city of Pekanbaru in 2021 is targeted at 82.80. With a score of 90.56 in 2021, it means that its performance reaches 109.37%, while if it is compared with the IKP 2020 achievement which is worth 82.85 (Pekanbaru's position at that time was ranked 22), the IKP performance achievement of Pekanbaru City in 2021 was 109.31% higher.

IKP has a strategic role in measuring the achievement of food security development in the city of Pekanbaru, measuring regional performance in fulfilling mandatory government affairs, and is one of the tools in determining development priorities and program intervention priorities.

3. Consumption Pattern

People's consumption patterns describe the people's tendency to consume that lead to food or non-food elements. The tendency to consume was influenced by various factors:

- a. People's income level
- b. People's taste
- c. Price of goods
- d. Level of education

The consumption pattern of the people of Pekanbaru City cultivates a Diverse, Nutritious, Balanced and Safe (B2SA) food consumption pattern for a healthy, active and productive life, especially in maintaining stamina. The concept of B2SA is intended to emphasize that what is meant by variety is that the more diverse the nutritional content is complete. Furthermore,

Nutritious symbolizes that the food must contain macro (carbohydrates, protein, and fat) and micro (vitamins) nutrients that the body needs. Balanced with the understanding that the amount must be following the needs (age, gender, activity, and time) and safe means that it is free from chemical, physical and biological hazards.

4. Public Policy

According to Dunn (1994), the policy analysis process is a series of activities in the process of political activities. This political activity is defined as a policy-making process and is visualized as a series of interdependent stages, namely (a) agenda setting, (b) policy formulation, (c) policy adoption, (d) policy implementation, and (e) policy assessment.

The food security policy in Pekanbaru City, which was realized by increasing the IKP in the second-best ranking at the National level, was a manifestation of the leadership's commitment to realizing sustainable food security. This is evidenced by setting IKP to be one of the Main Performance Indicators of the Pekanbaru City Government which has been stipulated in the Regional Medium-Term Development Plan (RPJMD) for 2017-2022 to realize the 4th mission of the 5 missions of Pekanbaru city, namely Realizing Economic Development Based on People's Economy and Capital Intensive Economy, in Three Leading Sectors namely Services, Trade, and Industry.

The IKP in the RPJMD document for the city of Pekanbaru in 2021 was targeted at 82.80. With a score of 90.56 in 2021, it means that its performance reaches 109.37%, while if it is compared with the IKP 2020 achievement which is worth 82.85 (Pekanbaru's position at that time was ranked 22), then the IKP performance achievement of Pekanbaru City in 2021 was 109.31% higher.

Pekanbaru City Government policy to improve sustainable food security, by continuing other optimized efforts through Fresh Food Safety Supervision. Supervision is carried out by testing pesticide residues on fresh food of plant origin using a rapid test kit whose materials (samples) were obtained from markets in Pekanbaru City. In addition, strategic projects such as siCANTIG (Integrated Food Reserve

Locations) will also be maximized by considering the availability of funds.

Then there was also optimizing the use of information technology in public services through the Disketapang Berkabar Program, siTANGAN, siDIVA, and social media which were constantly updated.

CONCLUSION

Measurements of community empowerment programs were a) the principle of equality, b) the principle of participation, c) the principle of sustainability and d) the principle of selfreliance. Based on the 4 principles in measuring community empowerment programs sustainable food security in Pekanbaru City, it can be said that community empowerment programs in sustainable food security in Pekanbaru City have been running effectively. This was carried out in order to maintain the productivity of farmers and food business actors who are members of the Kelompok Tani and Kelompok Wanita Tani (KWT) through strengthening Kawasan Mandiri (KAMAPAN) and Pekarangan Pangan Lestari (P2L). Measurements of community empowerment programs are the principle of equality, the principle of participation, sustainability, and the principle of self-reliance. Based on the four principles in measuring empowerment community programs sustainable food security in Pekanbaru City, it can say that community empowerment programs in sustainable food security in Pekanbaru City have been running effectively. This is carried out to maintain the productivity of farmers and food business actors who are members of the Farmer's Group and Women's Farmer's Group (KWT) through strengthening Food Independent Areas (KAMAPAN) and Sustainable Food Courts (P2L).. Pekanbaru City's Food Security Level won the second-best ranking for the National Food Security Index (IKP). Pekanbaru city was ranked second best out of 98 cities in Indonesia with a score of 90.56. The consumption pattern of the people of Pekanbaru City cultivates a Diverse, Nutritious, Balanced and Safe (B2SA) food consumption pattern for a healthy, active and productive life, especially in maintaining stamina. Pekanbaru City Government policy to improve sustainable food security, by continuing other optimized efforts through Fresh Food Safety Supervision. In addition, strategic projects such as siCANTIG (Integrated Food Reserve Locations) will also be maximized by considering the availability of funds. Then there was also optimizing the use of information technology in public services through the Disketapang Berkabar Program, siTANGAN, siDIVA, and social media which were constantly updated.

REFERENCES

- [1] Malang PK. Pemberdayaan Masyarakat Melalui Pengembangan Pangan Lokal (Kelorisasi) Di Kelurahan Bareng Kota Malang. 2017;1(1):14–7.
- [2] Purwaningsih, Yuniastuti. Ketahanan pangan: situasi, permasalahan, kebijakan, dan pemberdayaan masyarakat. 2008;9(1).
- [3] Rusdiana S, Maesya A. Jurnal Sosial Ekonomi dan Kebijakan Pertanian. 2017;6.
- [4] Nainggolan K. Persoalan Pangan Global dan Dampaknya Terhadap. 2015;20(1):1–13.
- [5] Vaulina S, Kurniati SA, Mulyani S. Pemetaan Ketahanan Pangan Berdasarkan Aspek Ketersediaan Pangan Di Kota Pekanbaru Propinsi Riau Mapping of Food Security Based on Aspect of Food Availability in Pekanbaru City Riau Province, 2021:2021:285–92.
- [6] Ardianto H, Alfirdaus LK. Analisis Rencana Pemekaran Desa dan Kecamatan di Kabupaten Kotawaringin Barat: Sebuah Skenario Wajah umum wilayah Indonesia pasca Orde Baru adalah lahirnya provinsi, kabupaten, dan kota-kota baru. Hal ini merupakan hasil perubahan politik pasca reform. 2020;2(2):99–120.
- [7] Suharsaputra U. Metode Penelitian Kuantitatif, Kualitatif, dan Tindakan. 2012. 189–190 p.
- [8] Raco J. Metode penelitian kualitatif: jenis, karakteristik dan keunggulannya. 2018.
- [9] Badan Ketahanan Pangan KP. Indeks Ketahanan Pangan Tahun 2019.