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Policy Paper

Food Security and Insecurity Analysis in Jambi Province

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ABSTRACT

This study analyzed food security and insecurity using FSVA (Food Security and Vulnerability Atlas) mapping approach. The FSVA map presents district distribution based on food security and insecurity indicators. Current issues on food security include a drop in production and productivity due to land conversion, low adoption of technology at the farmer level, price fluctuation and ineffective price management, inefficient commerce system, low quality and quantity of public food consumption, failure to implement Diverse, Nutritious, Balanced and Safe Food Consumption Pattern (B2SA). This study aims to determine the vulnerability level of each district and propose countermeasures to reduce its rate. The results of FSVA mapping show that the 139 districts in Jambi could be grouped into the following categories: vulnerable (4 districts), quite vulnerable (18), sufficiently resistant (34), resistant (61), and very resistant (22). No districts fall under very vulnerable categories. Based on the ratio of per capita normative consumption of cereal production, 36 districts (25.90%) are vulnerable to food. Based on the toddler stunting prevalence, 78 districts (56.12%) are vulnerable to food, while based on the indicators of life expectancy, 48 Districts (34.53%) are food vulnerable.

Keywords: Food, Food Security, Food Insecurity, FSVA, Resilience Level

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1. Introduction

According to Food Act No. 18 (Law of the Republic of Indonesia, 2012), food derives from biological sources of agriculture, plantation, forestry, fishery, livestock, water, and water products. It can either be processed or unprocessed and designated as food or beverage for human consumers. These include food additives, raw food, and ingredients used in preparing, processing, and making food or beverages. According to the Food and Agriculture Organization (FAO, 2002), food security is a condition of food availability that meets the public demand both in quantity and quality at any time for them to live a healthy, active and productive life. According to Hanani (2012), food security consists of four main aspects: food availability, food access, food utilization, and food stability. Food stability could only be achieved once the three aspects of food security (food availability, food access, and food utilization) are well-realized and integrated.

The main problem of food security is closely related to poverty and hunger. This assumption is very reasonable considering the food is a human's basic need and right protected by law. The government, business, and society are all responsible for its availability. In the past few years, food security has been challenged with fundamental and complex problems resulting from economic globalization, trade, and world climate change (Nainggolan, 2008). As one of the provinces in Sumatra, Jambi is famous for its tropical climate, rich in natural resources and biodiversity, but still vulnerable to climate change. Symptoms of climate change, such as temperature rise, changes in rain intensity and periods, shifts in rainy or dry seasons, and sea-level rise, will threaten the capacity of the environment and the activities of all development sectors. Economic, social, and environmental factors strongly influenced food security realization. In general, several food security problems in Jambi Province can be identified: 1) decreased production and productivity due to land conversion of food to non-food; 2) decreasing land quality and fertility due to environmental damage; 3) climate change, disease, and low technology application among farmers; 4) Institutional Management of Government and Community Food Reserves is not optimal; 5) Price fluctuations and low efficiency of the product marketing system; 6) quality and quantity of food consumption in part of the community is still low and only fulfills calories; Diverse, Nutritious, Balanced and Safe Food Consumption Pattern (B2SA) has not been implemented while the level of rice consumption is still high; 7) Empowerment of food barns has not been maximized; 8) yard utilization is not optimal; 9) limited fresh and processed food safety management.

Food security is a multidimensional and very complex issue. Both internal and external factors equally contribute to this issue. It would be challenging for people to achieve, maintain, and improve food security in the next ten years. The challenges would come from both supply and demand. Supply challenges include competitive use of natural resources, the impact of global climate changes, the dominance of small-scale farming. Demand challenges include ongoing population growth, dynamic demographic characteristics, changing consumer tastes, and competition for food commodity demand, feed, and industrial raw materials. Three components must be fulfilled to achieve household food security. They are adequacy of food availability, sufficient consumption needs, and even food distribution. The availability aspect relates to the capacity of natural resources. Currently, the capacity of potential natural resources continues to decrease in size and quality. The conversion of agricultural land to non-agricultural land continues to increase due to building construction. In the last five years, land conversion in Indonesia has occupied an area of approximately 600,000 hectares. In particular, for Jambi Province, no less than 5,000 hectares of agricultural land have changed functions every year. These changes can be observed in Table 1.

In relation to the reasoning as mentioned above, it is necessary to learn the current food security and insecurity in Jambi Province. The level of vulnerability and its causes need to be identified so that strategic steps and policies can be taken to prevent and overcome this vulnerability.

Table 1. Rice Field Area by Regency / City in Jambi Province, 2015 – 2019

No	*Regency / City*	Year				
		2015	**2016**	**2017**	**2018[1)]**	**2019[2)]**
1	Kerinci	20.780	17.742	18.042	14.907	12.876
2	Merangin	8.658	9.584	12.633	11.038	5.787
3	Sarolangun	5.177	5.621	5.629	4.850	3.835

No	*Regency / City*	Year				
		2015	**2016**	**2017**	**2018[1)]**	**2019[2)]**
4	Batanghari	8.645	8.940	8.145	8.269	7.287
5	Muaro Jambi	10.613	10.617	10.865	9.562	6.371
6	Tanjung Jabung Timur	16.068	17.421	17.145	28.523	10.523
7	Tanjung Jabung Barat	9.837	9.491	7.792	19.197	7.819
8	Tebo	4.979	7.537	7.511	4.398	4.939
9	Bungo	4.909	5,436	5.705	5.383	4.439
10	Kota Jambi	974	1.006	1.029	1.096	520
11	Full River City	4.095	3.194	3.194	3.923	3.952
	Jambi	**94.735**	**96.588**	**97.690**	**111.147**	**68.349**

Source: BPS (2015-2017) and ATR / BPN Ministry (2018-2019)

1.1 Literature Reviews

1.1.1 FSVA

FSVA mapping is made based on the interpretation of food and nutrition security and vulnerability. This conceptual framework is built on the three pillars of food security, availability, access, and utilization, into which nutrition is integrated. Thus, food availability is interpreted as food readiness based on domestic production, food reserves, and food entry (including imports and food aid). Food availability can be calculated at the national, regional, sub-district, and community levels.

Food access is the ability of a household to obtain adequate and nutritious food through its own production and supplies, purchases, bartering, gifts, loans, and food aid. Food may be available in an area, but some households cannot access it if their physical, financial, or social abilities cannot provide sufficient food diversity.

Food utilization refers to the use of food by households and the ability of individuals to absorb and metabolize nutrients. Food utilization also includes storing, processing, and preparing food, water safety for drinking and cooking, hygiene, dietary habits (individuals with special food needs), food distribution in households according to individual needs (growth, pregnancy, and breastfeeding), and the health status of each household member. Given the significant role of a mother in increasing the nutritional profile of the family, especially for babies and children, maternal education is often used as a proxy to measure household food utilization.

1.1.2 Food Security

According to the Food Act No. 18 (Law of the Republic of Indonesia, 2012), food is anything that comes from biological sources of agriculture, plantation, forestry, fisheries, livestock, and water, both processed and unprocessed, designated as food and beverage for human consumption. Food includes food additives, food raw materials, and other materials used to prepare, process, and make food or beverages. Nutrients are substances or compounds found in food consisting of carbohydrates, proteins, fats, vitamins, minerals, and their derivatives beneficial for human growth and health. Nutritional status is the health condition of a person or group of people caused by the consumption, absorption, and use of food nutrients which can be assessed through anthropometry, food consumption, biochemistry, and clinical assessment. Nutritional status is influenced by food consumption and disease infection, in which a two-way interaction exists between malnutrition and infection (Suhardjo, 1996). A high level of community nutrition problems indicates that their economic capacity has the most dominant influence on nutrition problems, in addition to a lack of nutrition awareness, poor environmental sanitation conditions, and limited access to health services for unfortunate people (Karyadi & Santoso, 1996).

Three components must be fulfilled to achieve household food security. They are adequacy of food availability, sufficient consumption needs, and even food distribution. The availability aspect relates to the capacity of natural resources. Food availability guarantees food supply to meet the population's needs in terms of quantity, quality, diversity, and safety. The availability component includes the stability and sustainability of the food supply. Food availability is also related to appropriate management of

production, stock, reserves, and balance of food imports and exports. Thus, even though some food production is seasonal, limited, and spread out across regions, the food is available for families in terms of volume, type, and stability. The distribution component includes efforts to accelerate food distribution across regions. Improved distribution would increase people's access to adequate food. Food surplus at the regional level does not guarantee food adequacy at the community level. Food access is also associated with physical, economic, and social accessibility to food over time. Access to food is thus defined as the ability of a household to periodically fulfill a sufficient amount of food through various sources of food reserves, food production, and food aid. While, physical access can be interpreted as infrastructure, conditions of natural resources, and the environment.

The food consumption subsystem helps direct food utilization to meet the principles of quality, diversity, balanced nutrition, safety, *halal,* and efficiency. The consumption component is closely linked with public education to possess sound knowledge of nutrition and health. Such knowledge would help them in managing individual consumption according to their needs. Without paying attention to adequate and balanced nutritional intake, food consumption will not be effective in developing healthy, immune, intelligent, and productive individuals (Thaha et al., 2002).

1.1.3 Assessing Food Security

Assessing household food security could be carried out using qualitative and quantitative methods. The qualitative method is a relatively new approach, but it is more practical and easier to analyze and interpret compared to quantitative methods. This method explores and measures household perceptions about food security, the severity of food shortages, and the coping strategies employed by households in dealing with food shortages (Kennedy, 2002). On the other hand, the measurement of food security using quantitative methods can be done using the household expenditure survey method and individual food intakes. Four variables are often used to measure food security in household expenditure surveys, household energy consumption, energy adequacy, food diversities, and expenditure on food(Smith & Subandoro, 2007). Household food security can be measured through several indicators. These indicators are divided into two groups, process indicators and impact indicators. Process indicators describe the food situation that is apparent from food availability and access, while the impact indicators can be used to reflect food consumption.

The Food Security and Counseling Agency for Bandar Lampung City (2012) states that the city of Bandar Lampung uses Principal Component Analysis (PCA) and Cluster Analysis (CA) to map food security and vulnerability. The mapping analysis utilized three composite indicators. First, food availability was observed from the number of stalls and shops as an indicator of whether the food provider is available. Second indicators include access to food and livelihoods, the percentage of the population living below the poverty line, adequate access to food distributors, and households' percentage without access to electricity. Third, food utilization is determined through the number of health facilities, malnourished patients, and mortality rates of children under five years old and pregnant mothers.

In the current analysis, the vulnerability to food insecurity is shown in composites based on priorities. These priorities imply the vulnerability conditions of each region (district), caused by a combination of various dimensions of food insecurity. Based on the PCA and CA results, these districts can be grouped into six priorities. Priority 1 is the main priority sitting at the highest vulnerability table, while districts in the Priority 6 category are relatively more food resilient. In other words, districts in the Priority 1 have a greater risk of food insecurity than other sub-districts. Thus, they are in need of immediate attention. Jonsson and Toole's (1991) indicators adopted by Maxwell et al. (2000) use a cross-classification between two indicators of food security, food expenditure, and household energy consumption and energy adequacy (kcal). The following table shows that the limit of 80 percent of energy consumption (per adult equivalent unit) is combined with the food expenditure of > 60 percent of total household expenditure.

Table 2. Degree of Household Food Security

energy consumption per adult equivalent unit	Share of Food Expenditure	
	Low (< 60 % total expenditure)	High (≥ 60 % total expenditure)
Adequate (> 80 %) energy adequacy)	Food Secure	Food Vulnerable
Inadequate (≤ 80 %) energy adequacy)	Food Less Secure	Food Insecure

Source: Johnsson and Toole (1991 as cited in Maxwell, 2000)

Based on the table Table 2, food security can be classified into four categories. First, a household is considered food secure if the proportion of food expenditure is low (< 60% of household expenditure) while energy consumption is sufficient (80% of energy adequacy). Second, a household is said to experience food less secure if the proportion of food expenditure is low (< 60% of household expenditure) while energy consumption is sufficient (≤ 80% of energy adequacy). Four, a household is considered food vulnerable if the proportion of food expenditure is high (≥ 60% of household expenditure) while energy consumption is sufficient (80% of energy adequacy). Fourth, households are categorized as food insecure if the proportion of food expenditure is high (≥ 60% of household expenditure) while the level of energy consumption is less (≤ 80% of energy adequacy).

Approximately 60 - 70% of the human energy intake is obtained from carbohydrates, while the rest comes from protein and fat. The primary source of carbohydrates is obtained from rice and its processed products, corn and sweet potatoes. Hardinsyah and Napitupulu (2012) argued that protein derived from plants and animals is also very important for consumption. The human body needs protein as a source of growth. It maintains damaged tissue and regulates the body's resistance to certain diseases. The primary sources of protein come from plants and animals (meat, milk, and processed products).

Furthermore, Soekirman (2000) posits that households tend to spend less on food when their income increases. Conversely, if their income decreases, their food expenditure increases. Statistics Indonesia (2012) divided households into five groups according to their food expenditure. The non-poor group is households whose monthly expenditure per person is more than Rp 350.61. The almost non-poor group has monthly expenditures per person between Rp. 280,488 and Rp. 350,610. The Nearly poor households are those whose monthly expenditure per head is between Rp. 233,740 and Rp. 280,488. The poor group is households whose monthly expenditure per person is below Rp. 233,740. The very poor (chronic) group has no criteria for daily expenditure per person. Food expenditure negatively relates to household expenditure, while food security negatively relates to food expenditure. This means that the lower the food expenditure of a household, the higher its food security.

1.1.4 Food Insecurity

Suryana (2003) argues that if the three subsystems of food security are not realized, it is impossible for the government to achieve food security and otherwise cause food insecurity. Food insecurity is the inability of households to obtain sufficient and proper food to live a healthy life. Chronic food insecurity is a permanent insufficiency of food due to the inability of households to obtain the food they need from the market or their inability to produce their own food. This condition is often rooted in poverty. Transient or transitory food insecurity is the temporary decline in access to food needed by households. These conditions are usually triggered by natural disasters, riots, irregular seasons, and other unexpected events that disrupt the stability of harvest prices, production, or income (Baliwati, 2044). In order to alleviate food insecurity at the district level, it is necessary to have indicators and maps of food insecurity as a means to monitor and analyze food insecurity. Policymakers can later use these results in planning a better, targeted, effective, and efficient program to overcome temporary and chronic food insecurity problems (Pramoedyo, 201).

1.1.5 Factors Contributing to Food Security

According to Rachman and Suhartini (1996), besides the availability and distribution of food at the district level, food security at the household level is also influenced by several other factors such as rice surplus, purchasing power (seen from the level of income per capita), accessibility to food (reflected in food prices at the household level) and crop failure due to pests, plant diseases and natural disasters. Fatimah (2004) claim that the higher the education of a mother, the higher the percentage of household expenditure on food. Mothers with higher education tend to seek as much information as possible to make their family prosperous, including information about food and nutritional knowledge. On the other hand, mothers with low education level mean tend to have poor nutritional knowledge. Income level also determines the type and amount of food to be purchased and how much money a household plans to spend on food. The purchasing power and the family's ability to buy food are influenced by family income and food prices. Therefore, changes in income can directly affect changes in family dietary consumption.

Households with better income tend to buy food more quality food. Conversely, low-income families tend to buy more low-quality food. Insufficient family food supply indicates that households experience food insecurity. If this happens, they may fail to fulfill the nutrition need of the whole family in terms of quantity and quality. Increased income will increase the diversity of food consumption and result in increased consumption of fat, animal protein, and sugar. These families may also eat out more often. Conversely, a household with low income consumes cheaper foods such as starchy staples and vegetable protein (Soekirman, 2000).

There are differences in food consumption patterns between rice and non-rice consumption areas and rural and urban areas. The higher the income, the lower the consumption of grain carbohydrate food sources and the higher the consumption of animal protein sources such as meat, eggs, milk, and processed foods and beverages. Food security can be achieved with sufficient income and food production(Soetrisno, 1995). In line with Soetrisno, Suhardjo (1996) also argues that household food security is influenced by income, nutritional knowledge, and socio-cultural aspects. Likewise, low-income households with many household members will find fulfilling their food and nutritional needs more challenging. On the other hand, households with a few members can effortlessly provide food to meet their nutritional needs.

Rose (1999) states that date houses with more family members require greater food consumption to meet their food needs. Family members are a good predictor of calorie adequacy, total per capita expenditure, and per capita income. Family size will affect a family's nutritional status and health because it will affect the area per occupant in a house. Culture, education, and lifestyle are also the determinant in food consumption, but sometimes the prestigious factor becomes very important and prominent in dietary choice (Martianto & Ariani, 2004). High consumption of luxury food in cities compared to rural areas is often driven by education level and the variety of food and beverages in the city. A family's nutritional status is strongly influenced by income, nutritional knowledge, and local culture. If not balanced with sufficient nutritional knowledge, high income will only cause a person to be consumptive in their daily diet. As a result, the selection of a food ingredient is based more on taste instead of nutritional considerations.

The pattern of food selection is also influenced by ethnicity. Handayani (2012) explains that culture can influence dietary habits and food choices. There is an assumption that one cannot be said to have eaten in Javanese culture if one has not consumed rice and its side dishes. Even though they may have eaten a plate of boiled cassava and are full because of it, people will consider them as empty-stomach if they have not had rice. In Melayu ethnic eating habits, the side dishes will not be perfect if they do not come with rice. Rice is often served with various side dishes and traditional Indonesian salads. The ingredients used in Malay cuisine range from chilies, shrimp paste, and coconut milk.

Another factor that affects food security is expenditure. The Statistics Indonesia (BPS) classifies expenditures into food and non-food expenditures. The composition of household expenditures can determine the level of community welfare. The lower the percentage of food expenditure compared to total expenditure, the better the economic level of the community (Statistics Indonesia, 2006). At a certain income level, households will allocate their income to meet these two needs. Naturally, the quantity of food a person needs will reach a saturation point, while non-food needs, including food quality, are not limited in the same way. Thus, the amount of income can be proxied by the total expenditure spent on food from a household. In other words, the higher the food expenditure (> 60%),

the less prosperous the household is. Conversely, the smaller the food expenditure (< 60%), the more prosperous the household is (Purwantini & Ariani, 2008).

2. Methodology

This study used Food Security and Vulnerability Atlas (FSVA) method. The FSVA is a thematic map illustrating geographic visualization of the food insecurity vulnerability. FSVA is compiled using nine indicators representing three aspects of food security: food availability, affordability, and utilization. The government can use this FSVA-based data in formulating policies and intervention programs by looking at the leading indicators that trigger vulnerability to food insecurity in Jambi Province. The study was conducted in Jambi Province.

2.1 Data Collection

This study used secondary data related to food access indicators to determine food-resistant areas. The sub-district level of FSVA data is obtained from Bappeda, the Agriculture Office, and other related offices. Only the secondary data from the last three years are used in the study.

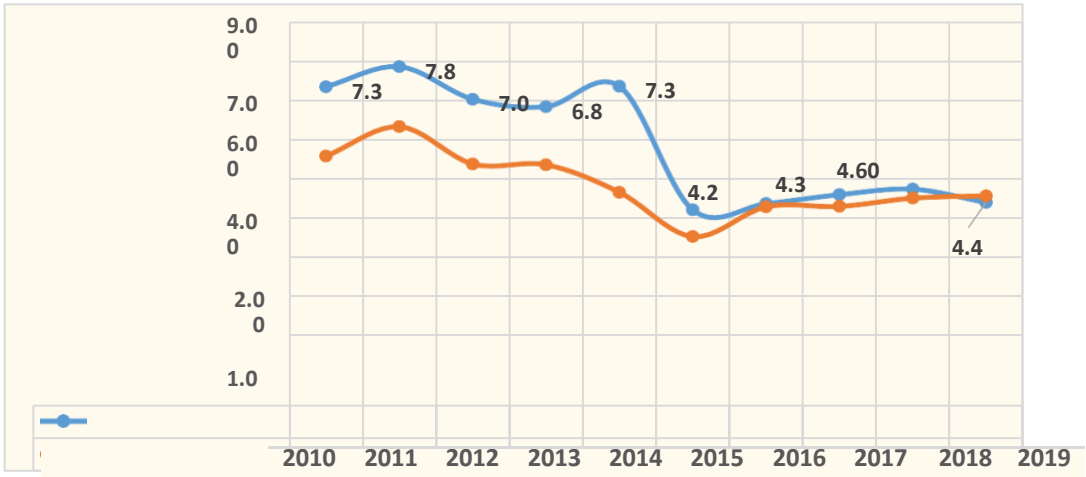
2.2 Scope of Study

The scope of this study consists of two areas, as follows:

1. Exploring the fact of the food security and insecurity at the sub-district levels in Jambi Province.
2. Examining regional food security based on FSVA.

3. Results and Discussions

Jambi Province consists of 9 districts and 2 administrative cities with a total area of 53,435 km2, 50,160.05 km2 of land, and 3,274.95 km2 of water, and a population of 3,515,017 people. Based on the type of occupation, the people in Jambi work in agriculture (47.35 percent), the processing industry (13.38 percent), and services (39.27 percent)(Statistics Indonesia, 2018). This shows that the agricultural sector and its derivatives still dominate Jambi Province. The economic condition of Jambi Province tends to fluctuate. When compared to the Sumatra island, Jambi province's economy is in fifth place. As an illustration, it can be observed in the following diagram.



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
GRDP Jambi (%)	7.35	7.86	7.03	6.84	7.36	4.21	4.37	4.60	4.74	4.40
GRDP Sumatera (%)	5,58	6.33	5.38	5.36	4.66	3.53	4.29	4,3	4.51	4.57

Source: Statistics Indonesia (2020)

GRDP based on the business sector, in 2016-2019 shows that the contribution of GRDP in the agricultural sector has decreased. A detailed comparison can be observed in Table 3

Table 3. ADHB GRDP Distribution by Business Sector in Jambi Province (in percentage)

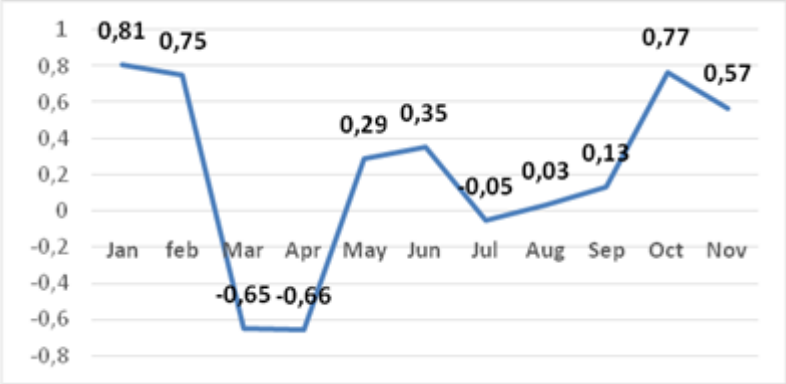
PDRB Sectors	[2010 Series] ADHB GRDP Distribution by Business Sector in Jambi Province (in percentage)				
	2020	2019	2018	2017	2016
A. Agriculture, Forestry and Fisheries	30.85	27.88	27.85	29.68	30.05
B. Mining and Excavation	12.21	18.44	19.84	17.79	16.64
C. Processing Industries	10.83	9.83	9.94	10.31	10.54
D. Electricity and Gas Supplies	0,07	0,07	0,06	0,06	0,06
E. Water Supply, Waste Management, Waste and Recycling	0.15	0.14	0.14	0.14	0.14
F. Construction	7.94	7.43	7.09	7.01	7.05
G. Wholesale and Retail Stores; Car and Motorcycle Repair Shop	12.63	12.14	11.77	11.63	11.84
H. Transportasi dan Pergudangan	2.71	3.23	3.22	3.29	3.36
I. Accommodation, Food, and Beverages	1.18	1.21	1.19	1.21	1.19
J. Information and Communication	4.42	3.9	3.79	3.74	3.65
K. Financial Services and Insurance	2.61	2.32	2.33	2.46	2.53
L. Real Estate	1.72	1.63	1.55	1.56	1.59
M Company Services	1.25	1.23	1.2	1.21	1.21
N. Mandatory Government Administration, Defense, and Social Security	5.25	4.89	4.59	4.51	4.72
O. Educational Services	3.83	3.51	3.37	3.32	3.35
P. Health Services and Community Services	1.35	1.18	1.12	1.1	1.1
Q. Other RSTU Services	0,99	0.97	0.96	0.97	0.97
GROOS REGIONAL DOMESTIC PRODUCTS	100	100	100	100	100

Source: Statistics Indonesia (2021), Jambi Province

The composition of PDRB support distribution in Jambi Province is still dominated by the Agriculture, Forestry, and Fisheries sector at 30.85 percent, followed by Mining and Excavation at 12.21 percent, and Transportation and Warehousing at 2.71 percent.

3.1 Inflation

In addition, Jambi Province also witnesses fluctuations in inflation. Inflation in Jambi City and Muara Bungo are shown in the following figure



Source: Statistics Indonesia (2012)

In November 2020, Jambi City experienced an inflation of 0.57 percent. Inflation in Jambi City occurred due to an increase in the price index for 3 producer groups: (i) processed food, beverages, and tobacco (2.07%), (ii) household appliances, equipment, and routine maintenance (0.08%), and (iii) health (0.08%).

Source: Statistics Indonesia (2021)

In November 2020, Muara Bungo City experienced an inflation of 0.44 percent. Inflation in Muara Bungo City occurred due to an increase in the price index for four producer groups, (i) processed food, beverages, and tobacco (1.66%), (ii) housing, water, electricity, and household fuels (0.15%) (iii) information, communication and financial services (0.18%), (iv) recreation, sports and culture (0.05%). According to price fluctuations, the food, beverage, and tobacco group were the highest sources of inflation in the two cities.

3.2 Poverty

The number of poor people in March 2019 was 274.32 thousand people (7.60 percent), decreasing from 281.69 thousand people in March 2018 (7.92 percent). From March 2018 to March 2019, the poverty rate in urban and rural areas declined, with a drop of 3.54 thousand people and 3.83 thousand people, respectively. The number of poor people in Jambi Province in March 2018 was 281.69 thousand people (7.92 percent). It was down from March 2017 which was 286.55 thousand people (8.19 percent). Between March 2017 and March 2018, the poor population in urban and rural areas also decreased by 2.0 thousand people and 2.86 thousand people, respectively. The pattern of changes in the number of

poor people is in line with the pattern of changes in the percentage of poor people. Both in urban areas and in rural areas, the percentage of poor people has decreased. The decline in the number of poor people in rural areas, higher than the decline in the number of poor people in urban areas, was followed by a decrease in the percentage of poor people in rural areas, higher than in urban areas.

3.3 FSVA

The results of FSVA mapping show that the 139 districts in Jambi could be grouped into the following categories: vulnerable (4), quite vulnerable (18), sufficiently resistant (34), resistant (61), and very resistant (22). No district falls under very vulnerable categories. This indicates that all sub-districts in Jambi are in food-resistant categories. The results of the FSVA analysis of regencies in Jambi based on food security indicators are as follows.

1. About 53 districts (38.13%) are vulnerable to food based on the indicator of the population living below the poverty line;
2. Less than 30% of households without access to electricity are vulnerable to food;
3. Based on the average length of schooling for girls over 15, 97 districts (69.78%) are food vulnerable;
4. Based on the toddler stunting prevalence, 78 Districts (56.12%) are food vulnerable.
5. Based on the indicators of life expectancy, 48 Districts (34.53%) are food vulnerable.

Conclusions

According to the aforementioned analysis, it can be concluded that:

1. From 139 districts in Jambi, 4 districts are vulnerable, 18 are quite vulnerable, 34 are sufficiently resistant, 61 are resistant, 22 are very resistant, and no district falls under very vulnerable categories.
2. Based on the ratio of per capita normative consumption of cereal production, 36 districts (25.90%) are vulnerable to food. About 53 districts (38.13%) are vulnerable to food based on the indicator of the population living below the poverty line. Based on the percentage of households without access to electricity, less than 30% of households experience food vulnerability. Based on the average length of schooling for girls over 15, 97 districts (69.78%) are food vulnerable. Based on the toddler stunting prevalence, 78 districts (56.12%) are vulnerable to food. Based on the indicators of life expectancy, 48 Districts (34.53%) are food vulnerable.

Recommendation

Following the result of the analysis, the following recommendations should be considered to address the root of the problems:

1. Accelerate and strengthen the strategic programs through coordination, integration, and synchronization across related sectors.
2. Improve the implementation of integration programs and partnerships between the government, businesses, and community.
3. Provide maximum budget support from existing funding sources.
4. Increase the Expected Food Patterns (PPH) score by increasing public knowledge about the importance of consuming diverse, nutritious, balanced, and safe foods (B2SA) through B2SA socialization activities and training on food consumption pattern analysis.
5. Introduce food-independent village development activities and develop local-based agricultural businesses by allocating regional budgets to the districts in priority 1, 2, and 3 based on the results of FSVA mapping.
6. Increase food production through improved infrastructure, intensification, knowledge, technology, and innovation in agricultural land management; optimize the use of renewable energy resources to meet energy needs in Jambi Province.
7. Record and track regional food reserves every year to comply with national targets.

8. Establish a Food Task Force Team in Jambi Province to monitor and stabilize food prices so as not to experience a significant increase and contain regional inflation.
9. Control food circulation in the community, especially fresh vegetables (PSAT), to maintain certified food quality according to Prime 3, Prime 2, and Prime 1.

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