

Food Vulnerability Condition in Food Production Riau Province Indonesia

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Abstract:

Regional food security does not guarantee food security at the household or individual level. This study aims to assess household food insecurity in the area of food production centers. The research approach was a survey, conducted in Kuantan Singingi district, Riau Province. The type of data used in this study are primary and secondary data. Primary data come from 91 household samples. The level of household food insecurity is measured using the Household Food Insecurity Scale (HFIAS) method. The results showed that 20.78 percent of households were in food-resistant conditions and 43.42 percent of households were in severe food insecurity. The acceleration of diversification of staple foods through increased knowledge of food and nutrition and acceptability of non-rice food can be a top priority program in realizing food security in Kuantan Singingi district.

Keywords: Diversification, food insecurity, food production, HFIAS

INTRODUCTION

Food security is the condition of food fulfillment for the country to the individual that is reflected in the availability of adequate food, both number and quality, safe, diverse, nutritious, evenly and affordable and not contrary to religion, belief and culture of society to be able to live healthy, active and productive sustainably (Food Security Council, 2015). While food insecurity is a condition of food insufficiency experienced by an area, society or household at a time to meet the standards of physiological needs for the growth and Health of society (Ariningsih and Rahman, 2008).

Theoretically, there are two types of food insecurity, namely chronic and transitory. Chronic food insecurity is a permanent insufficiency of food due to household inability to obtain the food needed,

this condition is rooted from poverty. Transitory food insecurity is a temporary reduction in access to food needed by households, such as natural disasters (Setiawan, 2004).

The region is said to be very vulnerable if many people who daily consume calories less than 1400 kcal per capita or less than 70 percent of Recommended Dietary Allowances (RDA), while vulnerable if many people who are daily consuming calorie 1400-1800 kcal per capita or between 70-89.9 percent of Recommended Dietary Allowances (RDA). Over the last 5 years (2011 – 2015), it shows the tendency of rising people who are experiencing food insecurity in Indonesia. In the year 2011 the percentage of food-vulnerability population was 46.47 percent, increasing to 50.10 percent in 2015. Meanwhile, in this period, national/regional food

availability has reached 3,500 kcal/capita/day and protein 89.2 grams/capita/day (Food Security Council, 2015).

The amount of food availability in Riau province in 2017 has reached 3,168 Kcal/capita/day, meaning that in terms of food availability in Riau province does not indicate the problem, because it has exceeded the number of food availability recommended by 2,400 Kcal/capita/day. But the high availability of food does not give a better picture of food consumption situation, because the average food consumption population during the period reaches 2,112 or still under the number of Recommended Dietary Allowances (RDA) according to the Widya Karya Pangan dan Gizi Nasional by 2,150 Kcal/capita/day.

Regional food security conditions do not guarantee food security at the household or individual level (Simatupang P., 1999). Although the area (in this case the province) has reached food security at the regional level, but still found a household that is indicative of food insecurity (Saliem, et. al., 2001). In the year 2017, the percentage of the population who suffered from food insecurity reached 50.02 percent (Indonesian Food Security Agency, 2018) and there was 29.7 a stunting (Ministry of Health Republic of Indonesia, 2018).

Riau Province consists of 12 (twelve) districts/cities, which have different agro ecosystems, causing the level of food production capability between regions also have a difference. This will cause the food security conditions between regions will also have a difference. So the formulation of the problem of this research is how the condition of food insecurity in the Food production center in Riau province?, so the purpose of this research is to know the level of domestic food insecurity in the Regional Food Production center of Riau province.

METHODS

This research used a survey approach, with

quantitative research types. Research location on Kuantan District Singingi Riau Province was chosen in consideration of the area of food production center where the ratio of availability and consumption of the rice is the highest in Riau province (0.83). The selection of sub-district and village research location was also done intentionally (purposive) namely Rice Production Center Sub-district, while the selection of villages with consideration, villages that have the closest distance and farthest from the capital of the sub-district. So it was elected Kuantan Tengah sub-district, with the villages of Seberang Taluk and Munsalo. The study was conducted for 6 months from January to June 2018.

The research population was household. Determining the number of samples was determined using the Slovin formula. Based on the number of households in the two selected villages in the number of samples by 91 households. The number of research samples for each village was determined proportionally, i.e. 47 in the village of Munsalo and 44 in the village of Seberang Taluk. The selection of samples in each village was determined randomly (simple random) (Nazir, 2003).

Primary Data on household food insecurity was collected through interviews with housewives, using the scale of Household Food Insecurity Access Scala (HFIAS) (Coates, J, et al., 2007). HFIAS can describe the ability of households to access food (Becquey E, et al, 2010). The HFIAS scale has the ability to assess the availability, access, utilization, and stability of food in the community (Pandey Rishikesh, 2016). HFIAS measuring instruments showed good validity and reliability to measure household insecurity in rural of Tanzania (Knueppel D, et al, 2009). Respondents were asked to answer yes or no to the nine questions regarding household insecurity access (HFIAS), and choose how often they occur, namely: rarely (once or twice in the last four years of the week), sometimes (three to ten times in the last four weeks) or often (more than ten times in

the last four weeks). The HFIAS score was obtained by summing the frequency response from 9 questions. The higher the score, the more vulnerable the food that households naturally. The nine questions concern respondents' perception of the following indicators:

- (1) Worry of rice not in adequate quantity
- (2) Can not consume the desired type of rice
- (3) Consuming rice with a limited variety
- (4) Consume unwanted rice
- (5) Consume rice with smaller portions than needed
- (6) Eat less rice in a day because not enough rice
- (7) No type of any rice in the household
- (8) Sleep in a hungry at night for not eating enough rice
- (9) Do not eat all day and night as not enough rice

The data analysis techniques used in this descriptive study illustrate the tendency of

respondents' responses to questions related to the research variables.

RESULTS

Kuantan Tengah Sub-district in 2017 has a population of 47,874 people with an area of 291.74 kilometre square and consists of 23 villages/urban villages. Kuantan Tengah Sub-district has enormous agricultural potential to be developed. The carrying capacity and large area of land, more than half of the population working on the agricultural sector (Central Bureau of Statistics Kuansing District, 2017)

The results showed that the households in Kuantan Singingi District had a total household members of 3-4 people (57.89%), aged housewife 25 – 45 years (68.42%) (Table 1)

Table 1.Characteristics of households in Kuantan Tengah district, Sub-district of Kuantan Singingi year 2018.

Characteristics	N	(%)
Household Wife Age (year)	91	
- ≤ 25	10	10,53
- 25 – 45	62	68,42
- ≥ 46	19	21,05
Number of household (people)	91	
- ≤ 2	5	5,26
- 3-4	53	57,89
- ≥ 5	33	36,84
Main occupation of Household Wife	91	
- Civil servants/ employee	12	13,16
- Entrepreneur	10	10,53
- Farmer/Fisherman	11	11,84
- Labor	1	1,32
- Household Wife	57	63,16
Last Education	91	

- Not taking school/ Elementary Graduate	49	53,95
- Junior High School Graduate	22	23,68
- Senior High School Graduate	11	11,84
- Academy/ Bachelor Graduate	9	10,53

Source :Survey Results (2018)

There were still 22.37 percent of households have an income of less than Rp. 500,000 per capita per month. A total of 15.79 percent of households had revenues of more than Rp. 1,500,000 capita/month. Average household rice consumption reaches 84.32 kg/year or 231 grams/day. Households with the highest consumption of rice were at 140 – 300

grams/capita/day i.e. 66.23 percent. With the contribution of rice to the total most energy needs More than 50 percent by 57.89 percent (table 2). Table 2. Level of income, rice consumption and rice contributions to Total household energy consumption in Kuantan Sub District, Kuantan Singingi Regency Year 2018.

Characteristics	N	(%)
Income (Rp/Month/Kap)	91	
- ≤ 500.000	20	22,37
- 500.000 – 1.500.000	56	61,84
- > 1.500.000	15	15,79
Rice Consumption(Gram/Kap/day)	91	
- 60 – 139	8	9,09
- 140 - 300	60	66,23
- > 300	23	24,68
Rice Contribution to total household energy (%)	91	
- < 50	38	42,11
- 50 - 60	36	39,47
- > 60	17	18,42

Source :Survey Results (2018)

The domestic response to 9 (nine) HFIAS questions showed that 52.63 percent of the household never felt worried about the shortage of rice in households and 47.37 percent of households who felt worried about insufficient rice. There are 2.63 percent of households who often feel unwanted rice consumption, and all households declare never to feel uneaten all day and night as there was not enough rice (table 3).

Table 3 . Household response to 9 questions found in HFIAS

Question	Never	Rarely	Sometimes	Often
1	52,63	34,21	13,16	0
2	51,32	35,53	13,16	0
3	50,00	30,26	19,74	0
4	55,26	26,31	15,79	2,63
5	53,95	30,26	15,79	0
6	61,84	21,05	17,10	0

7	56,58	23,68	19,74	0
8	97,37	2,63	0	0
9	100	0	0	0

Further analysis of households to HFIAS illustrates that there were 23.68 percent of households experiencing heavy food insecurity (KPB), 27.63 percent of moderate food insecurity (KPS), 32.89 percent of light food insecurity (KPR) and only 15.79 percent of food-security households (TP) (Fig. 1).

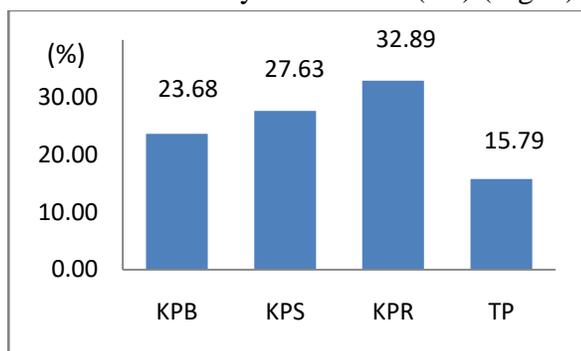


Figure1. The level of household food insecurity in Kuantan Singingi Regency year 2018.

DISCUSSION

The level of population food insecurity in Kuantan Singingi District, was relatively high because only 15.79 percent of households were in food-security conditions. It is in accordance with the research results of Danielle Knueppel, et al (2009) that the HFIAS measuring instruments demonstrate the validity and reliability of measuring food insecurity/household food insecurity among households in rural of Tanzania, found 20.7 percent of households categorized as food-security, rather vulnerable food insecurity 8.4% , 22.8% moderately food-insecurity (low food access) and 48.1% as the worst food insecurity (very low food access)

Still the discovery of households experiencing heavy, moderate and mild food insecurity in Kuantan Singingi Regency in 2018, although the area is known for production areas or agricultural areas, this condition indicates that the availability of food that

was safe at the district level. does not guarantee the achievement of food security at the household level. This was in accordance with the results of the study (Akhmad, 2012), which indicated that the food availability factor does not give meaningful influence on food security in the district that has surplus of food.

Availability of adequate food even excessive not accompanied by adequate food access, resulting in food absorption was not maximized so that many districts in Indonesia who have not been able to achieve food security despite achieving a surplus of food (Akhmad, 2012). This is due to the implementation of several food security policies that have not been unified and synergized with other development policies, causing the food security condition in Indonesia was still facing a threat that is not easy (Darwanto, 2005). Therefore, the handling of food security problem is not enough only focus on increasing availability, but the problem of food accessibility both physically and economically need to be focused on proportionate handling (Hanani, 2012).

Households with high enough income to obtain or access non-food, it can be said that the household in the status of food security was high enough. However, if the household income remains, while the level of food prices rises then the purchasing power of the community/household is reduced and in turn household access to food is also decreased (FAO, 2006).

There was a difference in food prices due to transportation facilities and infrastructures that were still limited in some villages, both the limitation of roads and the means of the infrastructures.

Food insecurity status was positively correlated with Mother's education, husband's education, household wealth status, part of agriculture, not pastoral tribe, consumption of animal food, and negatively correlated with maternal age and household size. The conditions above describe that conceptions were not proven in the field, that the regional food production centers will ensure the community will be

exempt from food insecurity. Which meant public food access is not always influenced by economic aspects (income) and physical aspects (food production). This showed the accessibility of food in addition to being influenced by economic access, also influenced by physical access/regional isolation and social access (Patric and Rogers, 2003) and Culture (Suhardjo, 1989).

The level of housewives' education was still low, the percentage of housewives who experienced formal education in elementary school still dominated other education levels, i.e., reaching 53.95 percent. The low level of education of the head of the Household and housewives was one of the indicators of low quality of human resources. The nutritional knowledge of mothers based on the level of housewife education also affects the consumption of family food. Mothers as decision makers in determining family meals, have their own preference and way of choosing a family meal menu. The low level of education certainly affects all aspects of life, such as: access to the acceptance of information on health knowledge, food knowledge and nutrition and others. It was supported by the research results of Rishikesh Pandey (2016) that food insecurity Status was positively correlated with maternal education, husband education, household wealth status, part of agriculture, consumption of animal food, and negatively correlated with maternal age and household size

From the diversity of demographic conditions, economic and social households it was seen that many factors influence the ability of people to reach the food that exists in the region. Public access to food was very related to the behavior of people in assessing, buying and making use of available food. It was in accordance with the model developed by Fransisco M. Nicosia (1966) in (Sumarwan, U, 2015).

The ability to acquire food was also influenced by the eating behaviors, eating cultures, and values of trust and religion related to food (Suhardjo, 1989). Suspected public accessibility to food in Kuantan

Singingi Regency was influenced by the combination of economic, physical, social and cultural factors. . Therefore, a thorough analysis was needed to determine what factors affect the level of food insecurity in Kuantan Singingi district. It was very useful for the preparation of better food policy in the future.

CONCLUSION AND SUGGESTIONS

Findings showed that in Kuantan Singingi district There were 23.68 percent of households experiencing heavy food insecurity (KPB), 27.63 percent of moderate food insecurity (KPS), 32.89 percent of light food insecurity (KPR) and only 15.79 percent of food-security households. Acceleration of basic food diversification through improved food knowledge and nutrition and the increase of the receiving power of non-rice food can be a major priority program in implementing food security in Kuantan Singingi district.

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