



## Analysis of Food Security Strategy in Kubu Raya Regency

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### ABSTRACT

This study aims to analyze food security strategies in Kubu Raya Regency, focusing on villages with limited access to food resources. The method used is a qualitative approach with a case study design. The selected villages have different food vulnerabilities, with selection criteria based on data on their high food vulnerability. The results show that food security in Kubu Raya Regency is influenced by three main dimensions: food availability, food access, and food utilization. Food availability in several villages is limited by small agricultural land areas and dependence on food distribution from outside the region. Food access is hampered by poor transportation infrastructure, while food utilization is affected by low nutritional knowledge and limited access to clean water. This study provides several strategies, including the development of agricultural and transportation infrastructure, local economic empowerment through agro-industry-based agriculture, and nutrition education to improve healthy food utilization. The proposed policy recommendations are expected to strengthen food security in Kubu Raya Regency, especially in the most vulnerable villages.

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### INTRODUCTION

Food security is one of the important issues in the context of sustainable development, especially for developing countries such as Indonesia. Food security does not only depend on the physical availability of food, but also on the ability of people to access it both economically, physically, and socially. According to FAO (2009), food security is achieved when every individual has sufficient access to safe and nutritious food according to their needs, so that they can live an active and healthy life. This concept includes three main dimensions, namely food availability, food access and food utilization that are interrelated and inseparable.

The availability of food in an area is greatly influenced by production factors, such as the existence of agricultural land, natural resources, and the sustainability of the agricultural system. One of the crucial factors that affect food availability is the availability of water, which affects the quality and quantity of food production. The availability of sufficient, safe, and nutritious food will support the creation of community welfare, but this must be supported by adequate access from physical, economic, and social aspects. Good economic access will increase people's purchasing power, while physical access refers to effective food distribution infrastructure, and social access concerns the selection of food types that suit family needs (Hanani, 2000).

Food utilization is also an important dimension that must be considered in food security. Although food is available and accessible, its utilization is highly dependent on people's nutritional knowledge, especially in choosing and processing food in a healthy manner. Proper storage and processing will increase nutritional value and prevent food waste. The availability of skilled human resources in managing food at the household level greatly determines the quality of food utilization, which in turn will affect the nutritional status of the community (Food Security Council, 2009). Food stability is related to long-term food security, which includes the ability of food systems to withstand fluctuations in food supply and demand, both influenced by natural and socio-economic factors. For this reason, food stability is very important, especially in the face of climate change, global food crises, and food price uncertainty that can affect people's

purchasing power. Therefore, it is important to have a food security system that is flexible and adaptive to changing conditions.

In Indonesia, food security is a very relevant issue, given the diverse geographical and demographic circumstances. Each region in Indonesia faces different challenges related to food security. Kubu Raya Regency, which is located in West Kalimantan Province, is known as an agricultural area with abundant natural resources. However, the challenge of ensuring food security for all residents, especially in villages with limited access, remains an important issue. In 2023, based on the interim population projection, the population of Kubu Raya Regency is estimated to reach 639,250 people, with a population composition of 326,731 people (51%) and 312,519 people (49%) women. The population growth rate was recorded at 1.57% per year with a projected growth that continues to increase.

Although Kubu Raya Regency has great potential in the agricultural sector, some villages in this area face food insecurity due to limited infrastructure and food distribution facilities. Inequality of access between villages leads to disparities in the level of food security. Based on the 2024 Food Security and Vulnerability Map, sub-districts such as Batu Ampar and Teluk Pakedai are categorized as areas with high to very high food vulnerability, while Sungai Raya and Sungai Ambawang have better food security. This inequality needs to be analyzed to formulate strategies that are appropriate to the local context and require appropriate policies to address these problems. To increase food security in Kubu Raya Regency, a strategy based on empowering farmers, increasing market access, and strengthening food infrastructure in rural areas with limited food access is needed. Food security includes not only the physical availability of food, but also the ability of people to access food economically, physically, and socially. The purpose of this study is to analyze food security strategies in Kubu Raya Regency, focusing on villages that have limited access to food resources. This research is expected to provide insights and recommendations that can be used to formulate better food security strategies, as well as improve the quality of life of the community through increasing access to and utilization of healthy and nutritious food. Through the analysis of food security strategies carried out in this study, it is hoped that concrete steps can be found that can be implemented to overcome existing challenges and increase food security in Kubu Raya Regency, especially in villages with limited food access.

## RESEARCH METHODS

This study uses a qualitative approach with descriptive analysis to understand the conditions of food security in villages with limited access to food resources. This approach allows researchers to delve deeply into the social, economic, and environmental factors that affect food security at the local level. The research design used is a case study with a focus on several villages in Kubu Raya Regency. These villages were selected based on their high level of vulnerability to food problems. The sampling technique used is purposive sampling to select representative villages, based on data on their high vulnerability to food. This approach was chosen to gain an in-depth understanding of food security conditions in diverse regions and to explore the factors influencing food security from a local perspective. By using this research method, it is hoped that a more comprehensive understanding of the condition of food security in Kubu Raya Regency and strategies can be applied to improve it.

## RESULTS AND DISCUSSION

The concept of food security involves three main pillars that are interrelated, namely food availability, food access, and food utilization. Food availability includes the capacity of the food system to produce sufficient food to meet the needs of the community. Food access is related to the ability of people to obtain enough food, both economically and physically. Food utilization refers to how people process and consume food by paying attention to nutritional aspects. FAO's theory of food security (2009) underlines that food security is achieved when all individuals have sufficient access to secure and nutritious food according to their needs. In addition, FAO's vulnerability model can be used to understand the factors that affect food security in Kubu Raya Regency, such as its vulnerability to climate fluctuations and dependence on food distribution outside the region.

The villages selected in this study have different levels of vulnerability to food. The selection of villages is based on the food vulnerability criteria recorded in the 2023 Food Security and Vulnerability Map. Villages such as Dabong Village and Madura Village were chosen because they have a low ratio of agricultural land to population and limited access to food distribution. Meanwhile, villages with lower vulnerability, such as Sungai Raya Village, were chosen as a comparison to look at the factors that affect food security in areas with better access levels. Thus, the villages chosen reflect the diversity of social, economic, and geographical conditions in Kubu Raya Regency.

### Food Availability

In terms of food availability, Kubu Raya Regency has a significant area of agricultural land, but the ratio between land area and population needs to be increased to ensure that food needs can be met. The

availability of food in Kubu Raya Regency is greatly influenced by natural factors, namely the area of agricultural land, water availability, and climate. Kubu Raya Regency has great agricultural potential with a significant area of rice fields and plantations. However, food availability in some villages faces obstacles, such as lack of adequate irrigation and dependence on certain growing seasons.

Based on data from the 2023 Food Security and Vulnerability Map, the villages with high priorities for food vulnerability are Dabung, Madura, and Sungai Besar Villages, showing shortcomings in the availability of food that can optimally meet the needs of the population. Dabong Village has a very low ratio of Agricultural Land to Number of Population (13.56%) based on the 2023 Food Security Map, the ratio between land area and population needs to be increased to ensure that food needs can be met. Dabong Village shows a high dependence on food distribution from outside the region. The limited area of agricultural land affects the ability of this village to meet food needs independently. Furthermore, Madura Village experienced a similar problem, even though it has a ratio of Agricultural Land to Population of 36.95%, which is better than Dabong. However, limited access to transportation and infrastructure hinders efficient food distribution. To ensure sufficient food security, one of the strategies that can be carried out is to optimize the use of agricultural land and improve irrigation systems in drought-prone areas, as well as encourage the development of technology-based agriculture that can increase crop yields, both in terms of quantity and quality.

### **Food Access**

Food access is a challenge in several villages in Kubu Raya Regency, especially for residents with the lowest level of welfare. Some villages still have inadequate access to connections, either by land, water, or air. This limits the ability of people to obtain food easily and affordably. Food access includes two main aspects, namely physical access and economic access. In Kubu Raya Regency, physical access to food is still a big problem, especially in remote villages that are difficult to reach. Some areas such as Batu Ampar and Teluk Pakedai Districts have limited access to connections, which hinders the distribution of food from production centers to consumers.

On the other hand, economic access is also an obstacle, with many households classified as poor and have difficulty buying nutritious food. Improving food access in Kubu Raya Regency can be done by improving road and transportation infrastructure. Programs that can improve accessibility infrastructure, such as the construction of roads and transportation facilities, are essential to ensure equitable food distribution so that food distribution can run more efficiently. In addition, there is a need for policies that support household income, such as empowering local economies through MSMEs and agro-industry-based agriculture, to increase people's purchasing power for nutritious food.

### **Food Utilization**

Food utilization does not only depend on the availability of food, but also on the ability of households to process and consume nutritious food. In some villages, problems related to food utilization arise due to a lack of knowledge about healthy diets and good food processing methods. In addition, limited access to clean water also affects optimal food utilization, such as Limbung Island and Seruat Villages, experiencing problems related to food utilization. Without adequate access to water, the food processing process is hampered, and the nutritional potential contained in food cannot be utilized optimally. This low food utilization is also closely related to public health problems that often occur due to poor water quality.

Access to clean water and the ratio of health workers available in the country play a major role in improving the quality of food consumption. The provision of clean water facilities and capacity building of health workers in remote areas need to be the focus of policies to support food utilization. Efforts to increase food utilization can be done by holding training for housewives on the importance of balanced nutrition and healthy food processing methods. Local governments also need to ensure the availability of adequate sanitation and clean water facilities throughout the region, especially in villages with high food vulnerability.

### **Strategy to Increase Food Security in Kubu Raya Regency**

Based on the analysis of the condition of food security in Kubu Raya Regency, some of the strategies that need to be implemented to increase food security are as follows:

Agricultural Infrastructure Development is by improving irrigation systems and supporting the use of agricultural technology to increase food production, especially in areas with limited agricultural land. In addition, the development of better food storage and processing systems can help reduce post-harvest losses.

Improving Transportation Infrastructure is by increasing transportation access to remote areas, so that food distribution can run smoothly and food prices are more affordable for the community.

Local Economic Empowerment such as developing an agribusiness and agro-industry-based economy to increase the income of village communities and strengthen food security. This includes supporting local food MSMEs and strengthening the capacity of farmers and micro-entrepreneurs in the food sector.

Nutrition and Health Education is to increase the knowledge of the public, especially housewives, about the importance of balanced nutrition and safe and healthy food processing. In addition, improving access to health and sanitation services will help the community to make more optimal use of food.

In collaboration with stakeholders, the Kubu Raya Regency Government needs to work with various parties, including the community, non-governmental organizations, and the private sector, to formulate and implement policies that focus on strengthening food security at the village level.

Food security in Kubu Raya Regency faces challenges, especially in villages that have food vulnerability. Despite its great potential in the agricultural sector, limited access to infrastructure, food distribution facilities, and low community income hinder the achievement of optimal food security. Therefore, a comprehensive strategy is needed that includes infrastructure improvement, community economic empowerment, and nutrition and health education to ensure that all residents can access sufficient, safe, nutritious, and affordable food. With the right policy implementation, Kubu Raya Regency can achieve better and sustainable food security.

## CONCLUSION

This study reveals that food security in Kubu Raya Regency is greatly influenced by three main dimensions: food availability, access, and utilization. Villages with limited access to infrastructure and food distribution facilities tend to be more vulnerable to food insecurity. Therefore, there needs to be a policy that focuses more on improving transportation infrastructure and providing food distribution facilities, especially in isolated villages with high food insecurity. From the results of this study, it can be concluded that food security in Kubu Raya Regency is greatly influenced by three main dimensions: food availability, access, and utilization. Villages with limited access to food infrastructure and distribution facilities, as well as health problems related to access to clean water and health workers, tend to experience higher food insecurity. Therefore, there needs to be a policy that is more focused on infrastructure development, increasing local food production, and strengthening health facilities in food-vulnerable areas.

## SUGGESTION

Infrastructure Development, the construction and rehabilitation of village roads is one of the important steps that must be taken to facilitate food distribution in Kubu Raya Regency. Limited accessibility is one of the main obstacles in ensuring food reaches consumers, especially in remote villages. Damaged or inadequate roads often hamper the distribution process, causing food to reach consumers late or even being damaged during the journey. Therefore, local governments need to invest in road infrastructure, not only to improve population mobility but also to facilitate food transportation. The construction of good roads will allow food to be distributed more quickly and efficiently, so that food prices can be more affordable and food security in remote areas can be improved. In addition, the development of other supporting infrastructure, such as village markets and food storage facilities, must also be prioritized to support the smooth distribution of food.

Counseling and Education, in addition to the development of physical infrastructure, counseling and education regarding nutrition and good food processing are also needed to increase food security in Kubu Raya Regency. Many villages, especially remote ones, face obstacles in utilizing available food in a healthy and nutritious way. Therefore, local governments need to provide nutrition counseling programs that can provide knowledge to the community about the importance of balanced food consumption and correct processing methods so that the nutritional value of food can be maximized. Training on proper storage, nutritious food processing, and healthy food selection will help people improve the quality of their consumption, reduce food waste, and maximize the nutritional benefits of available food. This educational program can involve housewives as the main target, given their huge role in food management at the household level. By increasing public knowledge about the importance of a healthy diet, it is hoped that food security in families and communities can increase.

Farmer Empowerment, empowering local farmers is a key step in strengthening food security in Kubu Raya Regency. As an area with considerable agricultural potential, increasing food production must be encouraged by providing incentives to local farmers. These incentives can be in the form of assistance in the form of agricultural technology, more efficient agricultural engineering training, and access to more modern agricultural tools. In addition, the provision of credit facilities with low interest or subsidies for the purchase of quality fertilizers and seeds is also very necessary to increase farmers' productivity. By increasing the capacity of farmers, they will not only be able to meet local food needs but can also reduce dependence on food distribution from outside the region which is often unstable and can increase food prices. Local governments also need to facilitate farmers in accessing wider markets, both local and regional markets, through the development of agribusiness and agroindustry. Thus, the empowerment of farmers will not only increase food production but also contribute to the local economy and long-term food security.

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