

# A STUDY OF ALTERNATIVE LOCAL FOOD SOURCES IN JAMBI PROVINCE

Dompak Napitupulu<sup>1\*</sup> and Saad Murdy<sup>1</sup>

<sup>1</sup> Lecturer of Agricultural Economics Department, University of Jambi, Indonesia

\*corresponding author: dompakn@yahoo.com

**ABSTRACT:** Rice is a major staple food commodity in Indonesia. It plays important role both as socio-politic and economic commodity. Rice should be available in sufficient amount to all markets; otherwise economic and politic stability well not run well. In order to fulfill the needs, it should be imported from other countries. This research was conducted to find out alternative local food sources in order to substitute rice commodity as energy and carbohydrate source in Jambi Province. This research was conducted in 2011 and located in four regencies of Jambi Province. The research result showed that 100% research respondents stated that rice still became main staple food as energy and carbohydrate source where they usually eat rice three times a day. In addition, other staple foods that consumed by Jambi people as energy and carbohydrate source were potato, cassava, sweet potato and soybean. There was rarely respondents, or none, that have consumed corn, sago, achira (or canna discolor), breadfruit and arrowroot as their staple food although those kinds of local foods were available around them.

Keywords: food security, rice, alternative food sources

## INTRODUCTION

Food security has been major problem throughout the countries. It cannot be denied that the world ability to feed people has improved due to the green revolution in the last three decades. However, as Malthus predicted that number of people to feed will grow even faster than food productivity improvement. Keeping food supply in sufficient level becomes problem that is necessary to be solved. Food security is a condition in which all household members in certain area have physical, social and economic access to various, sufficient, save and nutritious food in order to maintain healthy and active life (FAO and Indonesian Law).

One indicator that can be used in measuring food security achievement is Desirable Dietary Pattern (DDP) index. However, DDP index and food consumption pattern of Jambi Province in 2010 was presumed as relatively low though the individual calorie intake was greater than 2000 Kcal per day. Dewi (2011) showed that the energy that consumed in Tanjung Jabung Timur Regency, one of central rice production area in Jambi, was 2135.86 Kcal/capital/day. One factor that assumed to affect food consumption quality

is household purchasing power which closely related to household income. The higher household income, the greater household budget spent to food.

Food consumption subsystem takes a place in the end of food security system. Household food consumption performance, in fact, is not much varied to the local food consumption pattern. Usually, people in the same area will adopt similar consumption pattern to their neighbors. As mentioned before, this research was conducted to find out alternative local food sources in order to substitute rice commodity as energy and carbohydrate source in Jambi Province

It is obviously known that rice has been treated as a multi-dimension commodity aspect in Indonesia. Rice, besides as economic commodity, it has been also considered as social and political commodity. Clearly, it can be seen that self sufficient rice production level while maintaining stable and low rice price has been major purpose of Indonesian government since we achieved our independence. It is true that Indonesia, for several times, has claimed to achieve self sufficient rice production level since 1984. However, that prestigious achievement

failed to solve food security problem in Indonesia since more people change their dietary pattern to be depended on rice.

Historically, it was said that many Indonesian people consumed rice as their staple food, while others depended on corn or sago. Recently, it becomes difficult to find people consume corn and sago as staple food. Perhaps, the only people who have dietary pattern other than rice were people in Gunung Kidul where they consume cassava as their staple food. This phenomenon implicitly shows that food security problem still becomes great problem faced by Indonesian government.

One biggest problem in Jambi Province is food security that still limited to the availability of rice as main food source. In 2012, Jambi Province should import rice to fulfill the needs. As a whole, it is due to the way of people consume their diet. Some researches showed that approximately it was more than half calorie intakes of people in Jambi Province come from rice. Badan Ketahanan Pangan (Food Security Agency) of Jambi Province predicted that people in this region consumed about 15 % rice higher than what has been recommended. That unbalance diet also showed by the DDP score (78.60) which was too far from the ideal level while the RDA (Recommended Dietary Allowance), on the other hand, was 97.1 %. Inconsistency between the two indicators above implicitly shows unbalanced diet components that consumed by people in Jambi Province. Data shows that people in Jambi Province still fulfill their basic diet, mainly, from rice.

Based on short explanation above, this research aims to: (1) identify alternative local food sources in Jambi Province; (2) study the possibility of food diversity in Jambi Province.

## RESEARCH METHOD

This research was conducted to find out alternative local food sources in order to substitute rice at a certain level as carbohydrate and energy source in Jambi Province. The research was conducted through survey method by interviewing 20 households in each eight villages across four regencies in Jambi Province. Data in this research was tabulated and analyzed descriptively.

## RESULTS AND DISCUSSION

The research showed that 36.24 percent of energy and 32.05 percent of protein which consumed by households in Jambi were still fulfilled from rice. Meanwhile, 49.12 and 58.26 percent respectively come from fish, meat and crops such as soy bean. It was also found that households already consumed energy 2,310.20 calories/capita/day higher than the ideal energy needs. Moreover, it was found that the average protein consumption was still under the standard level of 50.28 gram/capita/day. It means that the quality of household consumption in Jambi Province was poor, or in other words, had not been fulfilled sufficiently.

Based on the research findings, it could be seen that rice was still the main food sources for households in Jambi Province. All (100 %) respondents said that their household members ate cooked rice three times a day. The second carbohydrate source to those households in Jambi Province was potato, in which 93.13 % respondents ate potato as complementary food. Among those who consume potato as complementary food, 53.13 percent respondents consumed it 2-3 times a week. Usually respondents consumed potato as an ingredient to the side dishes such as curry, *rendang*, salad and soup. Based on this finding, it was concluded that potato could be counted as one of carbohydrate sources to substitute rice in fulfilling energy and carbohydrate for households in Jambi Province.

Despite potato, most of households in Jambi Province also consumed cassava in part of their daily dietary. It was found that 66.87 percent respondents consumed cassava at least once a week. Most of them processed cassava to make snack especially in the middle of meal periods and before dinner. The reason in less consumption of cassava was due to less cassava availability in local market as well as their less knowledge about how to process cassava. So far, it was rare to find household that can process cassava to be '*getuk*', '*tiwul*', or '*gato*' as most people in East Java made it.

The third carbohydrate source that consumed by households in Jambi Province was sweet potato. It was less than 18.75% respondents that consumed sweet potato. Like cassava, most of households in Jambi Province consumed sweet potato for snacking (fried or

boiled sweet potato). Other kind of sweet potato dish was rare to be found in Jambi.

The research also found that there were some other alternative local food sources such as achira (canna discolor), arrowroot, taro, breadfruit and sago that very rare consumed neither as main food nor as snack by people in Jambi Province. Moreover, none of respondent stated that their household members ever ate those kinds of food source during their last week before they were interviewed. Those phenomena implicitly showed that introduction to alternative local food sources beside rice was less intensive. Thus, it needed to conduct intensive socialization about alternative local food sources in order to create staple food diversity.

Further, the research showed that the other carbohydrate sources such as breadfruit, taro and arrowroot actually could be found all over places the Jambi Province. As Widowati (2007), said, breadfruit actually has high carbohydrate source. As it has good taste, breadfruit becomes favorite of many people, not only in Jambi, but also some other regions in Indonesia. Particularly, in Java, breadfruit has been made as flour that can be used to make various kinds of food. Thus, breadfruit could be said as one potential food source after rice.

Other crops that had very good prospect to be alternative food source in Jambi Province was achira (canna discolor). However, this commodity was less popular than cassava and sweet potato due to it was hard to find. Prospect of achira as alternative food source was theoretically acceptable since it contained rich carbohydrate. Nutrient Department of Health Ministry reported that nutrient content for 100 gram achira consists of energy: 95.00 calories; protein: 1.00 gram; fat: 0.11 gram; carbohydrate: 22.60 gram; calcium: 21.00 g; phosphor: 7.00 gram; Ferro: 1.90 mg; vitamin B1: 0.10 mg; vitamin C 10.00 mg; and water: 7.50 g. Based on its nutrient content, achira potentially could be made as main ingredient of noodle.

Besides achire, other tuber crop that had very good potent to substitute rice at certain level was arrowroot. It was reported that arrowroot carbohydrate had been widely used as ingredient to various foods and cookies, medicines, chemical materials, cosmetics, textiles, and papers. One of arrowroot benefits is its shorter fiber type that makes it easier to be digested. It makes arrowroot is suitable to be used as food for babies and children with autism and down

syndrome. Moreover, some researches showed that arrowroot flour potentially replaced wheat flour ,which was very popular to the food industries.

Other tuber crop that potentially consumed as main sources of carbohydrate to substitute rice at certain level was taro. Just like some other tuber crops, taro was rarely consumed by people in Jambi Province. Thus, it needed to conduct intensive socialization about alternative local food sources in order to decrease the high rice dependence.

## CONCLUSION AND SUGGESTION

Based on the research result, it could be concluded that:

1. 36.24 percent protein and 32.05 percent energy that consumed by people in Jambi Province come from cooked rice, while the rest 49.12 and 58.26 percent was gained from side dish.
2. The other food sources that consumed by people in Jambi Province were potato, cassava and sweets potato.
3. Some tuber crops such as achira, arrowroot and taro could be consumed as carbohydrate source in order to decrease the high rice dependence.

Finally, based on the research findings, it is suggested for the government to intensively socialize those alternative local food sources in order to decrease the high rice dependence.

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