

## Local Food Preferences For Adolescents Girls In Kupang, East Nusa Tenggara, Indonesia

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**Abstract:** This study aimed to identify the major carbohydrate sources in adolescent girls, identify traditional foodstuffs favored by adolescent girls and identify adolescent girls' interest in 'jagung-bose'. This Study was survey method. The population in this study was all adolescent girls in Agriculture Polytechnic of Kupang, East Timor. Determination of respondents using the method of Non Probability Sampling (NPS), the selection of elements of population based on consideration of researchers with purposive sampling method. The sample size in this research was 87 adolescent girls. The results showed that most of respondents (96.4%) consume rice as a source of carbohydrates. Jagung-bose was a typical type of corn processed most often consumed at least once a week by 31.3% adolescent girls. As many as 53% of adolescent girls declared 'like' and will consume if available 'Jagung-bose Instan' products. The conclusion; Source of carbohydrate was frequently consumed by adolescent girls was rice and instant noodle. Compared to other corn-based dishes, corn-bose is more frequently consumed by respondents. About 53% of them preferred and willing to consumed instant bosc corn. Bosc corn was the local food of Kupang ENT, therefore, innovation to develop instant bosc for adolescent girls is important.

**Keywords:** Jagung-bose, local food, preference.

## INTRODUCTION

Local food are defined as food products that are produced, developed and consumed in a certain area or by a particular group of community. Local food products are usually developed meeting the preference of local consumer so that they are related to the culture [1]. There were many local food potential to substitute rice. As the examples, some local food in Papua having long history utilized by the people to substitute rice are sweet potato, taro, yam, and foxtail millet. Corn is also consumed as rice substitute in Madura, Kupang and Gorontalo [2]. In order to develop local food, the food should not only quality, nutritious, safe and palatable, but also suitable with community preference. Therefore, local food development must consider the preference of the community [3]. Food preference is defined as degree of fondness to the food which further influences the consumption. Food is the stimulant in terms of sensory, while the physicochemical characteristics of the food are determined by the ingredient, processing and storage. These interacts with human senses to form preference [4]. There are factors affecting food preference, namely age, sex, culture/tradition, and socioeconomy [5-7].

Food preference is also related to the habit, belief, norm and value which affects food choice. Most of the people keeps local food as food choice. As the example, corn is staple food for most of the people in East Nusa Tenggara (ENT) so that it is common and cultivated from generation to generation [8]. The novelties of this research is a review of local food preference that is more specifically targeted at adolescent girls's groups for the purpose of local food development in this case, corn-bose to address nutritional problems among adolescent girls such as anemia that prevalence rates are still high in Kupang ENT.

ENT has been known as one of the eight national corn production centers in Indonesia. Not only as staple food, corn is also used as alternative or supplementary food by most of rural people in ENT. Corn is commonly consumed in the form of wet corn and dry corn. Urban households often consumed wet corn (boiled sweet corn), while rural households cooked corn into bosc corn (corn cooked in coconut milk), katemak corn (corn soup), corn rice and corn flakes [9].

The objectives of this study were to: 1) identify main carbohydrate source of adolescent girls in Kupang ENT; 2) identify traditional food product preferred by adolescent girls in Kupang; 3) identify preference of adolescent girls on instant bosc corn.

**METHODS**

**Design, location, and time**

This was survey on local food preference conducted to adolescent girls in State Agricultural Politechnic of Kupang ENT. The study was done on October 25-28, 2016 using questionnaire.

**Number of sample and sampling technique**

There were 87 purposively selected adolescent girls as the subjects based on Lemeshow formula. State Agricultural Politechnic of Kupang ENT was selected as the location since the students came from various places in ENT who knew and ever consumed bosc corn.

**Research variable**

Independent variables of this study were adolescent girls, while dependent variables were local food, types of carbohydrates consumed, frequency of carbohydrate consumption, types of corn processed frequently consumed and interest of young women in local food.

**Study Implementation**

The survey was conducted to adolescent girls in State Agricultural Politechnic of Kupang ENT by interview using questionnaire. The structured non disguised questionnaire was previously pretested to 20 respondents and undergone validity and reliability test. Some questions that do not meet validity and good reliability are improved. The improved questionnaires were then used to measure the preferences of local consumers for young women at Kupang State Polytechnic of Kupang in East Nusa Tenggara.

**Type and data collection technique**

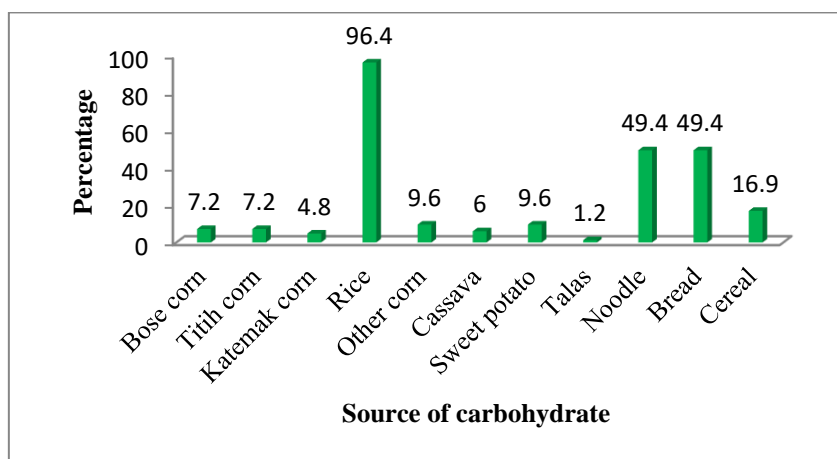
Subjects were selected using non probability sampling. The inclusion criteria were adolescent girl who often consume bosc corn.

**Data processing and analysis**

Data was analyzed using descriptive analysis and presented in graphs.

**RESULTS**

The results of this study show most (96.4%) of the subjects consumed rice as carbohydrate source (staple food). Besides, as carbohydrate source, there was 49.4% of respondents consumed instant noodle and bread, 16.9% consumed cereals, 9.6% consumed sweet potatoes, 7.2% consumed bosc corn (corn cooked in coconut milk), 7.2% consumed titih corn (corn flakes), 4.8% consumed katemak corn (corn soup), and 9.6% consumed other corn based dishes. The least consumed carbohydrate source was cassava (6%) and taro (1.2%) (Figure 1).



**Fig-1: Carbohydrate sources of adolescent girls in Kupang ENT**

This study show there was 62.7% of the respondents never consumed cereals and katemak corn, while there was 59% never consumed taro as carbohydrate source. Only few of them never consumed bosc corn (18.1%), titih corn (28.9%), and other corn

based dishes (48.2%). Rice, instant noodle and bread were the most popular carbohydrate sources, with proportion of 0%, 1.2% and 2.4% who never consumed them, respectively (Figure 2).

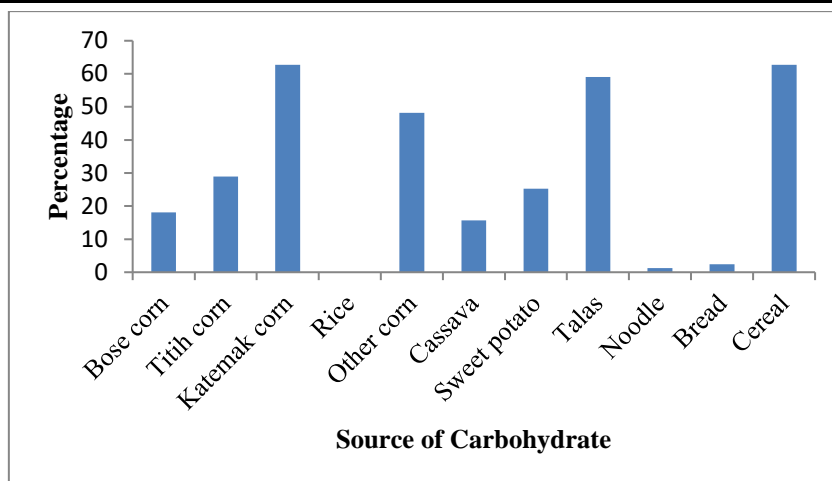


Fig-2: Carbohydrate sources which never be consumed by adolescent girls

The study result also showed that the preference of adolescent girls on local food, particularly corn product, was 31.3% for bose corn. This was in line with study by Ariani and Pasandaran [9] mentioning that the consumption participation rate of corn was 33.5% [9].

Bose corn was the most consumed corn based dishes by adolescent girls. The consumption was at least once a week (31.3%). On the other hand, both titih corn and katemak corn were only consumed once a week by 16.9% of subjects (Figure 3).

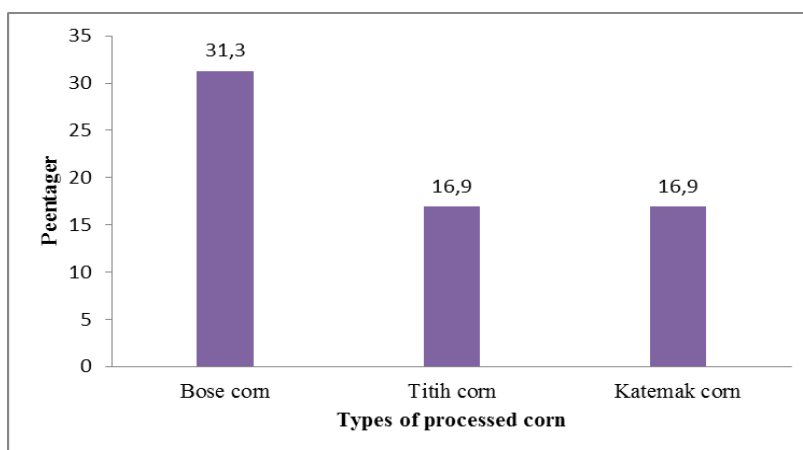


Fig-3: Corn based dishes consumed by adolescent girls in Kupang ENT

Survey was also conducted to adolescent girls in Kupang ENT on bose corn in the form of instant. About 53% of subjects preferred and was willing to consume instant bose corn since it needed only minimal preparation, while 30% of them preferred but not willing to consume it. About 10% of the subjects did not prefer instant bose corn because they perceived that the taste will not be similar with the traditionally prepared bose corn. They also concerned the addition of preservatives which may have negative effect to their healths

**DISCUSSION**

Staple food is a food consumed in large amount with the biggest energy contributions to food consumption. ENT is one of provinces with corn as main staple food, which is usually cultivated in dry land or farm in the same period with rice, tubers, and legumes [9]. With regard to the nutritional value, corn

is also potential to substitute rice. Energy content of rice and corn is relatively similar for every kilogram. Moreover, corn is local food which is developed in Kupang ENT.

Not only as staple food, is corn also used as alternative or supplementary food by most of rural people in ENT. Corn is commonly consumed in the form of wet corn and dry corn. Urban households often consumed wet corn (boiled sweet corn), while rural households cooked corn into bose corn (corn cooked in coconut milk), katemak corn (corn soup), corn rice and corn flakes [8].

Generally in East Nusa Tenggara, corn was not consumed alone but cooked with other food, such as rice and legumes. The processing method varied. There were three main types of corn, namely: (1) katemak corn; (2) bose corn; and (3) milled corn. Processing

method of each type of corn was different. In order to cook katemak corn, it took 2.5 hours, while bosc and milled corn only took two and one hour, respectively [8].

Nevertheless, although corn was local food of Kupang, the product development was still limited. On the other hand, development equity in Indonesia was improved, particularly with regard to availability of transportation enabling food (including rice) access from other areas. Food consumption pattern of Indonesian people was still bias to rice resulting in rice as a single staple food. The province which initially consumed non rice staple food became rice consumer, resulting in relatively high rice consumption among Indonesian people [10]. This affected also food consumption pattern of adolescent girls in ENT, changing main staple food from corn to rice. This was shown by higher proportion of subjects consuming rice compared to corn and its derived products. Yuliatmoko also mentioned that local food product was not able to compete with rice and wheat flour which were dominating in Indonesia. One of the triggers was poor technology innovation of local food product [3]. Enhancement of role of nonrice local food was potential to substitute or complement rice or grain through local food product technology development in terms of product diversity, taste, packaging, and size. Local food, which is potential for staple food or snack, is sources of carbohydrate (tubers, corn, sago) consumed and produced based on local wisdom and potential [11].

Corn production in ENT was improved from year to year. In 2015, the production was improved by 11.99% compared to the previous year [12]. ENT was the province with the highest corn consumption, reaching 39.21 kg/cap/year. Therefore, ENT was appointed as one of eight national corn production centers in Indonesia. This improved corn production showed food security of the people in ENT [8]. Food preferences usually refer to the acceptability of the food, which is influenced by the habits, the quality of the food taste and the nutrients contained in the food. Food preferences may also differ between age groups and sexes as in children and adults [13]. According to Azrimaidaliza & Purnakarya [15] that one's food consumption is influenced by economic factors, cultural factors, food availability, education level, and lifestyle. The introduction of certain types of foods from an early age by the family influences adolescents in choosing foods that are reflected in the strong taste or dislike of food [15].

The decreasing interest of young women consuming local food in Kupang ENT is influenced by changes in consumption patterns in the respondent's family. Along with the progress of time parents began to move from local food to fast food. Where in families who live in urban areas rarely present local food such as corn bosc considering processing takes a long time.

This is in keeping with Ramington's 1948 findings which suggest food preferences are passed down through generations through family experience and that can be influenced by socio-economic factors over time [13].

In this study, interview was conducted to gain opinion of subjects on instant bosc corn. As much as 53% of them preferred and willing to consume instant bosc corn. Traditionally, bosc corn was cooked in two hours. Therefore, instant bosc corn was potential to enhance the consumption. The preference of adolescent girls on bosc corn of Kupang could be alternative to improve local food product. One of the efforts was modifying local food product with regard to the name, shape, serving, and packaging which meet preference of the consumer [3]. Contribution of corn in strengthening food security in ENT was high. Technically, this local food was potential to be developed as alternative food product. Technology modification of food product improved the quality as well as the taste and prestige. In other words, staple food diversification was developed by improving the diversity of food product [14].

## **CONCLUSION**

Source of carbohydrate which was frequently (every day) consumed by adolescent girls was rice (96.4%) and instant noodle. As much as 49.4% of adolescent girls consumed instant noodle and bread every day, while the other 42.2% consumed instant noodle at least once a week. Compared to other corn based dishes, bosc corn was consumed more at least once a week by 31.3% of the subjects. About 53% of them preferred and willing to consumed instant bosc corn. Bosc corn was the local food of Kupang ENT and potential to be the alternative to improve the local wisdom. Therefore, innovation to develop instant bosc for adolescent girls is important.

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