



Original Research Article

Rice consumption in Cameroon: A need for policy change

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This study on rice consumption in Cameroon: A need for policy change was designed to analyze the social and economic factors that determine rice consumption in the North West Region. A random selection of rice consumers (285) and rice sellers (102) from the seven divisions of the North West Region constituted the sample. The data was collected using structured and pre tested questionnaires and discussion guides. The data was analyzed using the descriptive statistics and the multinomial logit model. Rice consumers were of all ages and a slight majority of them were females (56.84%) while for rice sellers 62.7% were males. For rice consumption, 46% of the respondents consume at least 25kg of rice per month with 44.21% of the respondents consuming it twice a week. In rice selling, the most experienced has 28 years while the majority has at least 10 years experience in the activity. There were 31 different rice types in the market with 24 imported rice brands and seven local rice types. The study results show that for the retailing price the most expensive rice type cost 500FCFA/kg (Franc de la communauté Financière l'Afrique) for local and 1,000FCFA for imported rice while the cheapest sells at 322FCFA/kg for imported rice brand and 273FCFA/kg for local rice. Findings indicated that the choice of imported rice brands that the sellers supplied in the market significantly influenced the likelihood that imported rice was preferred by consumers. In addition, other analysis revealed that high prices of the local rice and difficult cooking techniques which appears to result from its poor quality lessened the likelihood that consumers bought local rice in the markets. Furthermore, the income level of consumers did not significantly influence their rice preferences. The need for the government to support local rice producers and corporations acquire modern rice processing equipment; increase taxes levied on importation of rice and the systematic imposition of quotas on rice importation were recommended.

Key words: Local rice, imported rice, consumers' preference, income level, North West Region, Cameroon

INTRODUCTION

Rice, (*Oryza sativa*) is the staple food for more than half of the world's population. More than 3.5 billion people depend on rice for about 20% of their daily calories and one-fifth of the world's population, (i.e. more than 1 billion people) depend on rice cultivation for livelihood (Tonini and Gabrera, 2010). Thus, poor rice harvests can have adverse effects on many nations' economies (Van, 2009) In Cameroon, the national production of rice was estimated at 170,000 tons of paddy (IRRI, 2013) meanwhile, the national demand was estimated at 600,000 tons. This implies that

there is a deficit of 430,000 tons between demand and production. This was essentially covered by imports (Moulioum, 2014). Cameroon has five agro-ecological zones which are all suitable for rice production. Therefore, rice can be grown in all the 10 regions of the country. According to MINADER, (2009) there are approximately 145,000 farmers who are involved in rice production in Cameroon. Most of the rice that is produced by these farmers does not reach the principal consumers who are located in the major towns of Yaoundé, Douala, Limbe, Bafoussam, Bamenda,

etc. One of the reasons is that the main production basins are located far away from these centres of consumption. As such; a great quantity of the rice produced is illegally exported to neighbouring countries like Nigeria, Chad, Gabon and the Central African Republic.

Between 1972 and 1988 the government of Cameroon invested about 55 billion FCFA (Franc de la communauté Financière l'Afrique) in the production of rice through state corporations like the "Société d'Expansion et de Modernisation de la Riziculture de Yagoua" (SEMRY) in the Far North Region, the Upper Nun Valley Development Authority (UNVDA) in the North West Region and the "Société de Développement de la Riziculture dans la Plaine de Mbo" (SODERIM) in the West Region. Despite the magnitude of this investment, rice production in Cameroon could barely meet 20% of the domestic demand. The implementation of rice policy adjusted in line with government food policy and agricultural policy in the pre and post independent years has recognized rice as an important crop for the producer (Goufo, 2008). Although the budget survey of the ministry of Agriculture in 1984 indicated an annual consumption of 11.5 kg rice per capita for the whole country, with rice accounting for only 5.2% of the food expenditure of households rice production has been rising slowly; at about 8% per annum and today 95% of the population eats rice at least once a week (Goufo, 2008). Since 2004, domestic demand for rice has been on the rise while supply of locally produced. Rice is falling. Statistics indicate that Cameroon shipped in 545,000 metric tons of rice in 2011 at an estimated amount of 145 billion FCFA due to the growing demand estimated at 650,000 metric tons annually (USDA, 2013). According to reports from the Ministry of Agriculture and Rural Development, several factors account for this situation. These include: the high cost of production of rain-fed rice which requires considerable investment for the development of production basins; the location of the above three major production companies far from the major urban centers (Yaoundé and Douala) and closer to the border markets of Nigeria, Chad and Central African Republic; the preference by consumers in the southern regions for imported rice because of its superior quality; and inadequate promotion of other rice production techniques especially in the southern parts of the country (MINADER, 2009).

Until the 1990s, rice in Cameroon was considered as a western crop and a delicacy that was eaten only on feast days or special occasions like Christmas. During the past three decades, the demand for the crop has witnessed a steady increase. Now, a majority of the population prefer to eat rice almost on a daily basis rather than cooking it only on ceremonial occasions. Rice today is the staple food in many families and constitutes a major part of the diet in many others (Goufo, 2008). According to the household consumption survey that was conducted in Cameroon in 2008, the national average for rice consumed per head in 2007 stood at 25.7 kg (i.e. 37.3kg per inhabitant in the urban areas and 19.4 kg in rural areas). In terms of money this is worth about 11,180 FCFA in the urban areas (i.e. for

towns with more than 50,000 inhabitants); 5,817 FCFA in rural areas; with a national average of 7,709 FCFA. Taking the average cost of rice to be 300FCFA per kilogram, this consumption would be around 138 billion FCFA that were devoted to the purchase of rice in the food budget for household in 2007 as against 112 billion in 2001, representing an increase of 4% per year (MINADER, 2009). A survey carried out by "Association Citoyenne de Defense des Interets Collectifs" (ACDIC) (2007), revealed that Cameroonians have more zeal consuming imported rice than local rice. The foregoing therefore raises some pertinent questions regarding the relationship between the price of the rice and the consumers' preferences and how the consumers' revenue influence their preference of rice consumed. It also raises questions on the factors that determine the quality and quantity of rice demanded and which social and cultural factors influence the rice consumers' preferences. This study therefore aimed to contribute to the increase consumption of local rice in Cameroon. Specifically, the study was intended to identify the different types of rice sold in the market and describe the comportment of the rice sellers and buyers; to compare the prices of the different types of rice and to analyze the effect of consumers' income on their preference to local or imported rice. It was also meant to identify the physico-chemical characteristics that determine the consumption preferences of local and imported rice and also to identify the social and cultural factors that determine the consumption of a given type of rice.

METHODOLOGY

This study was carried out in the North West Region of Cameroon which is made up of seven Divisions namely: Boyo, Bui, Donga Mantung, Menchum, Mezam, Momo and Ngoketunja. The total population of the region is 1,728,953 inhabitants. It is spread over a surface area of 17,300km² or 6,680 sq. miles (NPC, 2010). The population density is 100inhabitants/km². It harbours the Upper Nun Valley Development Authority which is a giant local rice purchasing and processing corporation. In addition, there are other local rice producing basins in the Region notably: Tingoh in Mezam Division, Bu in Menchum Division, Mbaw in Bui Division and Sabongari in Donga Mantung Division. The population of the entire Region can have access to some quantities of local rice. This sets a platform from which consumers can make a rational choice between the local rice and the imported rice.

This study targeted members of households above 18 years of age. They were individual rice consumers and household heads. Rice sellers in the main markets (that operate daily), local markets (which hold weekly) and store owners in the quarters. Wholesalers, rice millers and some middle-men were also studied. Probability sampling was used in this study. In this approach, the proportional stratified sampling technique was applied whereby rice consumers and rice sellers were randomly selected from

each divisional headquarters. The number of consumers selected per division was obtained by working out a proportion of the population of the division using the sample size formula. This gave a total of 285 rice consumers and 102 rice sellers. In carrying out this study, primary data was obtained using questionnaires and discussion guides.

Analytical techniques

The tools used for analyzing the study data were the descriptive and the multinomial logit analysis. The socio-economic characteristics of the respondents were analysed using descriptive statistics and results were presented using the measures of central tendency. The multinomial logit tool was used to examine those factors that influence household preference for the imported rice only, local rice only, or a combination of both the imported and local rice. The t-test was used to check for difference in relationship between variables when they occur.

The Multinomial Logit Model

The multinomial logit model was used to assess why households in the study area prefer other rice types to the local Cameroon rice type. The model was chosen based on survey data which revealed that household rice consumption (dependent variable) was found to be a categorical variable which can take three categories or levels. These categories were assigned numbers 0, 1 and 2. 0 was used to indicate the combination for (local and imported rice) consumer, 1 for those who consume only imported rice and 2 was used to indicate the local rice consumers' group. The local rice consumer group was taken as the reference group. The multinomial logit model was therefore used to identify the variables that make households belong to categories 0 for local and imported rice consumer group; 1 for imported rice consumer group and 2 for the local rice consumer group.

The probability that the *i*th household belongs to the *j*th rice consumer group *P*_{ij} reduces to:

$$P_{ij} = \frac{e^{\beta_j X_i}}{\sum_{k=0}^j e^{\beta_k X_i}} \dots\dots\dots(1)$$

According to Maddala (1983), the model makes the choice of probabilities on individual characteristics of agents. Following Maddala (1990) and Babcock et al.,(1995), the basic model is written as:

$$P_{ij} = \frac{e^{\beta_j X_i}}{\sum_{k=0}^j e^{\beta_k X_i}} \dots\dots\dots(2)$$

Where: *i*= 1, 2,..... n variables;
k= 0, 1,.....*j* groups and
 β_j = vector of parameters that relates *X_j* to the probability of being in group *j*;
 where there are *j*+1 groups.

For this study, the *X_i* variables range from *X₁* -*X₁₄*. For rice consumers as follows:

<i>X₁</i> = tasteful	<i>X₄</i> = accessibility	<i>X₇</i> =cooking time	<i>X₁₀</i> =income level	<i>X₁₃</i> = family size
<i>X₂</i> = cheaper	<i>X₅</i> =swellability	<i>X₈</i> = bad smell	<i>X₁₁</i> = education	<i>X₁₄</i> =marital status
<i>X₃</i> = sticky	<i>X₆</i> =impurity	<i>X₉</i> = easy to cook	<i>X₁₂</i> = rice frequency	

For rice sellers, the *X_j* variables ranged from *X₁* - *X₁₀* as follows:

<i>X₁</i> = price	<i>X₄</i> = consumer dd	<i>X₇</i> =rice selling	<i>X₁₀</i> = infor rice
<i>X₂</i> = grain size	<i>X₅</i> =source of rice	<i>X₈</i> = chose rice	
<i>X₃</i> = type bag	<i>X₆</i> =country of origin	<i>X₉</i> = wholesaler	

Normalization of the Model

As a rule, the summation of the probability for the three categorical groups in the model must equal to unity. This calls for normalization of the equation model. The common rule is to set one of the parameters vectors equal to zero (Kimhi, 1994). Hence, for *k* number of choices only *k*-1 distinct parameters are identified and estimated.

Based on Equation (2), the probability of being in the reference group: the local rice consumer group with parameter vectors equal zero is

$$P_{i0} = \frac{1}{1 + \sum_j e^{\beta_j X_i}} \dots\dots\dots(3) \text{ With } k=j$$

Similarly, the probability of being in each of the other *j* groups is

$$P_{ij} = \frac{e^{\beta_j X_i}}{1 + \sum_j e^{\beta_j X_i}} \dots\dots\dots (4) \text{ With } k=j$$

Dividing equation (3) by (4) gives

$$\frac{P_{ij}}{P_{i0}} = e^{\beta_j X_i} \dots\dots\dots (5)$$

This denotes the relative probability of each group to the probability of the reference group. Hence, the estimated coefficients for each group reflect the effect *X_i* has on the likelihood of the consumer's household belonging to that alternative group relative to the reference group. The logarithm of the odd ratio in the equation to base *e* gives the estimating equation.

$$\ln \frac{P_{ij}}{P_{i0}} = \beta_j X_i \dots\dots\dots (6)$$

Issues: Coefficients, their signs and interpretations

- i A positive coefficient indicates that the variable is associated with a higher probability of being in the group choice under consideration relative to the reference group. This implies that the probability of the individual selecting the particular group is greater than the probability of choosing the reference group.
- ii A negative coefficient means that the probability of the household choosing the particular group is smaller than the probability of being in the reference group.
- iii Estimates not significantly different from zero indicate that, the particular regressor (*X_i*) does not affect

the consumption nor the probability of the state to which it applies relative to the reference group (Basant, 1997).

RESULT

Socio-economic characteristics of rice consumers and sellers surveyed

Respondents sex and age

Approximately 56.84% of respondents were females. For sellers, the rice selling activity in the North West Region is male dominated (62.7%) while 35.3% are females whose mean age fall under the value of 31.45 years.

Level of education of rice consumers surveyed

This study reveals that all the respondents could at least read and write. This is because they have attended some formal education. From the results, 19% have attended primary or elementary education, 28% attained secondary education, 19% completed high school level, 20% completed professional schools while 14% attained the university level.

Family size, rice eating frequency and quantities of rice consumed

The results of this study reveal that the maximum family size of the respondents is 19 persons while the minimum is one person. The mean family size of the respondents is five persons with standard deviation of 2.76. For rice consumption frequency: 12.3% of respondents consumed rice on a daily basis, 44.2% two days in a week, 28.4% three days in a week, 10.2% more than three days in a week and 4.2% rarely (i.e. once or twice a month). As for the quantities of rice consumed per month the study shows that: 4% of households consumed more than 50kg of rice, 13% consumed 50kg, 44% consumed 25kg and 39% consumed less than 12.5kg.

Selling experience, the comporment of sellers interviewed and the types of rice found in the market.

The study results show that the most experienced rice seller have been in the activity for 28 years while others have experience ranging from two to 10 years. At the time of this study, 31 types of rice were found in the markets of the North West Region. This was made up of seven local rice types and 24 imported brands. The most expensive local rice cost 500FCFA while the cheapest cost 322FCFA, meanwhile the most expensive imported rice were the perfumed brands that sold at 1000FCFA and cheapest imported brand costs 273FCFA per kilogram. Unlike the local rice, the imported brands were found in larger quantities throughout the study area.

For knowledge of the country of origin of rice, the

the study reveals 97% of the rice sellers have knowledge of the origin the rice they are selling. However, 50.98% of the respondents were of the opinion that the rice they are selling comes from China. Meanwhile, the results reveal that 95.8% of imported rice comes from Thailand.

Price and consumers' income analysis on rice preferences

In analyzing the influence of prices of the local and imported rice in the market it was found out that the mean difference in the price of imported rice and local rice was not significant at 10% level significance. Furthermore, by analyzing the influence of consumers' income on their rice preference using the t-test gave a p-value of 0.197 (which is not significant at 10% level) this led to a conclusion that the consumption of local rice was not dependent on the income level of the consumers. Equally, a t-test value of 0.676 (not significant at 10% level) indicates that the preference for imported rice by consumers does not depend on their income level.

Determinants of the type of rice sold

Rice marketers use a variety of parameters to choose the rice type that is going to attract the consumers. This study demonstrates that the consumers demand determine 31.3% of the rice that the marketers sell. Grain size determines 22.6%, price controls 20.6%, type of packaging defines 16.8% of sales while country of origin controls only 8.8% of the sales (Table 1).

By substituting the values of the multinomial logistic regression in the model the following regression equation for the criteria that determine the sales of rice is obtained:

$$\text{Guide choice}(Y) = 46.39 + 0.01\text{price} + 0.002 \text{ grain-size} - 0.026\text{bagtype} - 0.013\text{consumer'sdd} - 0.541\text{infor-rice} - 0.048\text{source-rice} + 0.009\text{country-origin} - 0.001\text{chose-rice}$$

These result shows that the choice that the rice suppliers make greatly influences the rice type in the market. As such, if suppliers alter their choice of rice, the whole market is affected. For instance if the suppliers decide to increase their choices for brands of rice the likelihood for the consumers to buy it will reduce by 0.985 unit lower that the corresponding increase. This study shows that there are 31 rice types in the market. If this number is varied there is the prospect that the consumers' choice will increase or decrease.

For rice consumption, replacing the values of multinomial logistic regression in the model, the regression equation for imported rice consumption was obtained as follows:

$$\text{Rice consumption (Y)} = 1.160 + 0.343\text{taseful} - 0.578\text{cheaper} - 0.660\text{sticky} - 1.123 \text{ accessibility} + 0.124\text{swellability} - 0.447\text{impurity} + 0.057\text{cooking time} + 0.066 \text{ bad smell} + 0.302\text{easy cook} + 0.667\text{income level} - 0.006\text{education level} - 0.106\text{rice freq} + 0.047\text{family size} - 0.080\text{marital status}$$

Table 1. Multinomial Logistic estimates results for choice of rice sellers

For rice sellers surveyed			
Explanatory variable	β	Sig.	EXP
Suppliers' choice	-5.610	0.006*	0.985
-2likelihood = 12.898		Nagelkerke = 0.326	
Percentage of correct prediction = 72.1%			
For rice consumers surveyed			
Explanatory variable	β	Sig.	EXP
Cheaper cost	-0.578	0.064**	0.556
Easy to cook	0.491	0.031**	1.177
Number of observations, n = 285		Nagelkerke = 0.261	
Percentage of correct prediction = 81.8%			

*Significant at 1% level

**Significant at 5% level

DISCUSSION

Analysis of socio-economic characteristics of rice consumers and sellers

The mean age indicates that the consumers fall within the youthful population. This tendency is due to the fact that people of this age group consume more rice because they need high-energy content food like rice to meet their daily energy requirements. This result is similar to the findings of Onwuka et al. (2009), who revealed that the marginal propensity to consume (MPC) rice is higher with the youths and the middle aged than the ageing household members. The higher percentage of females (56.84%) is indicative that in most households the women take decisions when it comes to the menu of the family. This is also in resonance with the findings of Onwuka et al, (2009) in Ikwuano and Umuahia North local government areas of Abia State in Nigeria. For sellers, the male domination of the activity can be explained with the fact that it is a tedious action that needs moving bags of rice in and out of the market stall every day. The women were found to be physically limited in this aspect.

The educational level of Cameroon goes from basic primary or elementary school through colleges, to universities and professional schools. This study reveals that all the respondents could at least read and write. This educational level enabled the consumers to access the type of rice that they consume from the packaging of the product. The schooling attainment also helped the consumers to identify the type or quality of rice that they are dealing with. This could influence their preferences to the type of product that they buy.

This study shows that the mean family size of the respondents is five persons and that the more the number of persons in a household, the higher the quantity of rice that they consume. This result is in resonance with a study carried out by Bamdele et al. (2010) in which they exposed that those larger households tend to consume more rice as opposed to those with small households.

Frequency and quantities of rice consumed by households

The frequency of eating rice per week shows that rice has shifted from a ceremonial dish to a more frequently consumed food. This is similar to the result of a study carried out by Goufo, (2008) which shows that rice today is the staple food in many families and constitutes a major part of the diet in many others. Since the 2008 food price crisis, market prices of domestic staples in Cameroon and NWR specifically have remained high. Supply side constraints such as poor roads and corruption on the highway by the forces of law and order have impeded the consistent and timely delivery of these foods, including plantain, cocoyams, yams, garri, etc to marketing centres. These realities do not bode well for consumers who have become increasingly reliant on rice consumption by default, and not by desire.

This study reveals that the rice sold in the markets of Cameroon is packaged in bags that can weigh 50kg, 25kg, 10kg and 5kg. The number of households that consume the various quantities of rice shows that more consume less than or equal to 25kg of rice per month. This can be explained with the fact that the North West Region has a basically agricultural economy. Many other types of food stuffs are grown like maize, beans, cocoyams, plantains,

etc which can substitute for rice.

Marketing experience of rice sellers surveyed and product origin identification

The distribution of rice sellers according to their experience in the market is not normally distributed. This could be explained that the rice market is an almost perfectly competitive market. There is free entry and exit of the sellers. Secondly, it can be presumed that as the sellers stay in the activity, they advance in age and cannot more conveniently undertake the tedious activities involved in rice selling.

According to Codex standards rice is classified as long, medium or short grain (FAO/WHO, 1995). Grain wise, the long and medium rice grains are prominent in the markets of the NWR. Imported rice sold in these markets is identified under many manufacturer names, brands or trademarks. The rice is sold in bags of various sizes and distinctive designs with easily recognizable patterns for identification or other purposes. This gives a total of 24 different brands of imported rice. On the other hand local is identified or called by the name of the production location e.g. Tingoh rice (because it is grown in Tingoh area), Ndop rice (because it grown in Ndop plain), Bu rice (grown in Bu area), Mbaw rice (grown around the Mbaw plain in Bui Division) and Sabongari rice (grown in Sabongari around Donga Mantung Division). This totals only to five types of local rice found in the market. Furthermore, the cost of production of local rice is still quite high as it is grown on smaller scale and using mostly hand implements and human labour.

The effect of income level on local rice consumption

By failing to reject the hypothesis that the preference for local rice does not depend on income suggests that no matter the income level of the consumer, he/she can purchase any of the types of rice i.e. the imported or local rice. From previous analysis, the mean price of local rice is not significantly different from that of imported rice. It was expected therefore that numbers of low-income earners who demand local rice be equal to the number that demands imported rice. This is not the case as other analysis reveals that 34.56% of low-income earners consume local rice. The high-income earners on their part do not also show some preference to local rice as 11.71% of high-income earners consume local rice. These results cannot conveniently lead us to conclude that the reticence to consume local rice is exactly due to its price. On the other hand, if we limit ourselves to the taste of local rice, we observe that 83.9% of respondents confirmed that locally produced rice tastes better than imported rice. Considering that middle-income earners have the means to purchase either local rice or imported rice, we would normally expect them to give preference to local rice. This is not the case as it is observed that 27.27% of the respondents within the middle-income range sampled consume local rice and

72.73% do not consume it. It can therefore be assumed that income is not the only condition that influences consumers' non-preference for local rice.

Effect of income on imported rice consumption

Results from this study illustrate that 65.45% of low income earners consume imported rice. This leads to the supposition that low income earners have more preference for imported rice than local rice. 64.71% of respondents who are high income earners also consume more imported rice. Furthermore, 59.74% of respondents with middle-income who presumably have a wider range of choice also consume more of imported rice than local rice. These tendencies lead to the prediction that the consumption of imported rice is not determined only by the income level of consumers. It is determined by other factors like physical characteristics of the rice and availability of the product in the market. The results of this study are similar to the findings of Obayelu, et al, (2009). The study found that residents in the urban areas consume more imported rice than the locally produced rice. It is also in line with studies conducted in Nigeria by Agbonifoh et al. (1999) and Okechuku et al. (1999) which showed that products from the technologically more advanced countries were viewed more positively by nationals of developing countries, than those from the technologically less advanced countries.

Multinomial Logit estimates

The multinomial Logit estimates results for selling price figures foretell that the selling price has a negative influence on the choice of rice type that consumers will request. With this result, it can be postulate that a one unit increase in the selling price of imported rice will lead to an almost proportionate increase in the likelihood that consumers will want to buy local rice type. Consequently, increasing the price of imported rice will favour the consumption of local rice.

The multinomial Logit estimates results for cooking techniques forecast that by simplifying or improving on the cooking techniques by one unit will lead to a more than 0.617 increases in likelihood to consume the local rice type. Other multinomial Logistic results for the other characteristics like taste, degree of stickiness, swelling capacity; purity and scent are not significant. This suggests that the characteristics cited above do not so much influence the likelihood that local rice is consumed.

Conclusion

This study examines rice consumption in Cameroon using the North West Region as a case study. The results of the study reveal that 44.2% of households eat rice at least two days in a week and the consumers fall within the youthful age range. All the consumers have attained at least the elementary level in education which enables them to fully

identify the types of rice they want to purchase. The rice sellers depend on big importers who are based in the bigger cities and the retailers buy what the whole sellers supply. At most 31 types of rice were found in the markets of this region. The local rice was presented in seven types while the imported rice was presented in 24 brands. While 70% of the local rice was sold in basins, buckets and unlabeled bags mostly around the areas of production, the imported rice was sold in well identified packages and distributed throughout the markets in this region.

The results of this study showed that the most expensive local rice cost 500FCFA while the cheapest cost 322FCFA on the other hand the most expensive imported brands of rice were the perfumed brands that sold at 1000FCFA per kilogram while the cheapest brand cost 273FCFA per kilogram. Multinomial Logistic results showed that the choice of imported brands rice that the sellers supplied in the market significantly influenced the likelihood that imported rice was preferred by consumers. Furthermore, same analysis revealed that high prices of the local rice and difficult cooking techniques of local rice which results from its poor quality lessened the likelihood that consumers bought local rice in the markets. These observations were confirmed by the analysis of the effects of consumers' income on their preferences to imported or local rice. This analysis revealed that the income level of consumers did not significantly influence their rice preferences. It demonstrated that low, middle and high income earners all showed preferences to imported rice.

In this respect the study recommends that the government should support rice producing corporations and organizations acquire modern rice processing equipment which will enable them to improve on the quality of the local rice that is sent to the markets. Additionally, the government could increase the tax levied on imported rice to render it more expensive thereby discouraging its consumption or systematically impose quotas on importation of rice in order to boost domestic production. For the local rice producing corporations and organizations, this study recommends that they should improve on the packaging, branding and information dissemination about the produce.

Conflict of interests

The authors declare that they have no conflicting interests

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