



‘Consumers Acceptability and Willingness to Pay For Value Added Cassava Flour in Ekiti State’

Adebo G.M, O.M Apata, S.O.W Toluwase, A.O. Adekunmi, A. Ajiboye and. A.O. Awoyemi

Department of Agricultural Economics and Extension Services
Faculty of Agricultural Sciences, Ekiti State University.
Email of the corresponding author: grace.adebo@eksu.edu.ng.

Abstract: A survey of 160 respondents selected through a multi-stage sampling procedure from Ekiti state was conducted to assess the willingness to evaluate the importance of value-added cassava flour on consumers' preference for the different cassava flour product attributes. Also, their willingness to pay (WTP) premium prices for various combinations of value-added products was determined. The respondent's ideal cassava flour (*pupuru*) is the one produced using the traditional methods, with no fortification, no packaging and no labelling, usually sold in the open market in basins. A structured interview schedule was used to elicit information from the respondents. The information gathered were analyzed using frequency counts, percentages, a five-point Likert-type scale, mean, and Probit model. Data shows that a majority of the respondents were still young, below the age of 45 years. They cut across all the religious practices with the proportion of the Christians and Muslims almost at par. A considerable percentage (68.8%) of the respondents was married, with a mean household size of six persons. They were highly literate and had diverse primary occupations with a mean annual income of two hundred and eighty thousand nairas only (280,000.00) an equivalent of seven hundred and twenty-two, and fifty-seven dollars (\$722.57) per annum and 1.98dollars per day. The level of acceptance of value-added cassava flour was very high. The most acceptable product of cassava flour was Cassava flour fortified with Vitamin A (no packaging and labelling) odourless (\bar{x} =4.45). It was followed by Cassava flour enriched with Vitamin A Packaged and labelled and odourless (\bar{x} =4.03) and Cassava flour only (traditional method but odourless) (\bar{x} =3.26). The value-added cassava flour was preferred because it Competes favourably with other packaged foods, and perceived of being safe, its shelf life, and quest to gain more nutrients and get value for money. A majority (87%) of the respondents were willing to pay premiums for value-added cassava flour. However, the highest premium price most of the respondents were willing to pay was eighty-eight naira, i.e. 25% premium price. The result of the Probit regression model shows that the sex, education, average annual income, culture and the perceived quality influences the willingness of the respondents to pay a premium for value-added cassava flour. The study recommends that the cassava industry should develop innovative value-added cassava flour to meet the needs of the consumers and also enhance farm income from cassava flour.

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Introduction

Agriculture has been the primary source of livelihoods of people in Ekiti state. The people engaged in the production of all kinds of agricultural products ranging from food crops such as maize, rice, and cassava, to cash crops such as cocoa and Oil palm. Despite the high involvement of the citizens in agricultural production, the majority of the people in the State are impoverished and are food insecure. According to Olorunfemi (2011) study on poverty analysis in Ekiti state, the poverty headcount indicates that 48%, 71% and 62% share of the population are deficient in urban Ekiti Central, Ekiti North and Ekiti South while for the rural area it was 61%, 55% and 67% in that order respectively. Also, Akerele and

Adewusi (2011) established evidence of poverty and decline in the living conditions in the state capital of Ekiti state- Ado-Ekiti. They affirmed that the incidence, depth and severity of poverty are high and the burden of poverty is borne disproportionately by households of different socioeconomic status and among the female gender. According to Oluwatayo (2010), Ekiti state is one of the poorest states in Nigeria. Although the situation has changed, because according to the Nigerian Living Standards Survey (NLSS, 2019), and NBS, (2019) Ekiti state no longer ranked among the ten poorest states in Nigeria but somewhat ranked 22nd. Since agriculture is the main livelihood activities of the people in the State,

there is the need to ensure their sustenance and bail them out of poverty. Brenda (2011) opined that farmers need to think in new and different ways and break away from focusing all of their efforts on production and hence point to the necessity and the potential opportunity to attain more value.

A study of fourteen farmers in the Southern US, according to Holly (2001) identified ten keys to success when pursuing a value-added business. These include: starting small and growing naturally; making decisions based on good records; creating a high-quality product; following demand-driven production; getting the whole family or partners involved; keeping informed; planning for the future; continuing evaluation; persevering and having adequate capitalization. Following these keys, value addition to agricultural products can bail farmers in Ekiti state out of poverty by increasing their earnings from some of their farm products.

Problem statement

One of the significant challenges of farmers in Ekiti is that a considerable proportion of the farm products are sold raw at the farm gate or market. The perishable characteristics of the products lend the farmer to the mercies of the middlemen and the consumers. The resultant effects are that the efforts of the farmers are not compensated for either in cash or kind. Hence the continual vicious cycle of poverty-low price, low savings and low productivity. According to Brenda (2011), the farmer's share of consumers pay for food has been shrinking over the years. It was about \$0.33 per \$1 in the 1970s and in recent years has dropped to about \$0.16 per \$1 in 2010. The farmer continues to get less, and the rest goes to processing, distribution and marketing. These figures are discouraging; hence, the need for value addition. Value addition to agricultural products has been viewed severally as a way of bailing farmers out of poverty and increasing their share of farm products. However, the farmers in Ekiti state have not tapped into these opportunities. One of the primary crops produced and consumed in the State is cassava. Cassava is processed to so many products among which are cassava flour, cassava flake- gaari.

The demand for cassava flour is increasing in Nigeria, and of the cassava products, cassava flour (pupuru) commands the highest price. Also, Cassava flour (*pupuru*) is a delicacy among many households, but the odour generated through traditional processing reduces its acceptability. Apart from that, it is purely a carbohydrate food. A lot of people in the State are suffering from vitamin A deficiency, adding value to cassava flour through fortifying cassava flour with Vitamin A, packaging and labelling is a means of improving the nutritional intake and generating additional income by the rural populace. Could people

of Ekiti state accept value-added cassava flour (*Pupuru*) and prefer it to ordinary ones? Will the people be willing to pay for the added-values? It is against this background that the study is carried out to investigate the acceptability and willingness to pay for value addition of cassava flour (*pupuru*) in Ekiti state.

The specific objectives include: to

- Ascertain the acceptability of value-added cassava flour by rural households in Ekiti state.
- Assess the consumers' willingness to pay for value-added cassava flour (*Pupuru*).
- Determine the socioeconomic factors influencing the willingness to pay for value-added cassava products among the respondents.

Literature review

"Value-added" means adding value to a raw product by taking it to at least the next stage of production (David and Daniel, 2013). Value-added agriculture entails changing a fresh agricultural product into something new through packaging, processing, cooling, drying, extracting or any other type of process that differentiates the product from the original raw commodity (Melissa, 2007). Value-added agriculture is a movement that has created a life of its own. It is an idea that has the potential to change production, agriculture and rural life. A broad definition of value added is to economically add value to a product by changing its current place, time and from one set of characteristics to other characteristics that are preferred in the marketplace. As a specific example, a more narrow definition would be to economically add value to an agricultural product (such as wheat) by processing it into a product (such as flour) desired by customers (such as bread bakers). "Value" is usually created by focusing on the benefits associated with the agribusiness product or service that arise from it. Such includes Quality, functionality, Form, Place, Time and Ease of possession. A product must have one or more of these qualities to generate additional value (David and Daniel, 2013). It involves the introduction of value-adding technologies such as processing and preservation techniques, dehydration and drying technology, freezing technology, packing and labelling. Brenda (2011) describes two ways of adding value to farm products as Capturing value and creating value. Capturing value relates to catching some of the amounts added to a product by processing or marketing. Farmers can capture value by entering the processing arena. It involves risk and requires a new skill set. Creating value consists in developing differentiated products.

The product difference may be real or perceived (Brees, Melvin, Joe Parcell, and Nancy Giddens. (nd). The key to success is that the consumer feels there is added value to the product and will pay for it. Creating value can be accomplished with branded products or

those with special certification (Cooperative Finance Institute (2020). Any business enterprise c a value chain. Each activity performed should add value to the product, and this requires controlling the activities at each step in the value chain: from procurement of inputs; converting inputs into products; marketing and sales; supply chain logistics; and customer service activities. A new value-added business should focus on the product's uniqueness. The uniqueness of products or services (the value-added) is what ultimately attracts customers and their willingness to pay Anselmsson., Vestma, and Johansson, (2014); Boundless, (2016). Demand is the willingness and ability of a consumer to purchase a good under certain circumstances (Boundless, 2016). Adebo and Ajewole (2012) affirmed that consumers are usually willing to part with their money for services if the benefits to be derived will commensurate with the amount of money expended on such services. When people purchase a marketed good, they compare the amount they would be willing to pay for that good with its market price. They will only buy the products if their willingness to pay is equal to or higher than the cost. Many people are willing to pay more than the market price for a good, and thus their values exceed the market price. To make resource allocation decisions based on economic costs, what people want to measure is the net financial benefit from a good or service (Thomas, 1984).

Adding value to agricultural products is a worthwhile endeavour because of the higher returns that come with the investment, the opportunity to open new markets and extend the producer's marketing season as well as the ability to create new recognition for the farm. Increasingly, value-added products are hitting the local market as producers take advantage of high-demand product niches. The key to success in value-added agriculture is the niche markets are where smaller producers can be most successful in creating value and establishing a profitable business.

Research Methods

Method of production

The research involves obtaining cassava from the university farm. Value addition to Cassava flour consists of the application of new technology to produce *pupuru* in a way to remove the odour and adding sweet potato to supply the vitamin A, thus, making it attractive to consumers. The production, packaging and marketing were done for three months.

The Study area

The study was carried out in Ekiti State. The State lies within the tropics between longitudes 4°45'

and 6°45' East of Greenwich meridians and latitude 6°15' and 8°5' North of the equator. The State experiences a typically tropical climate with two different seasons, raining season between April-October while the dry season is between November-March. The StaYoruba ethnic group, the largest ethnic group in the West African coast and one of the largest and longest established ethnic groups in the African continent (Ayinde, 2005). According to the National Population Commission (2016) and the National Bureau of Statistics (2017), the estimated population of Ekiti state was three million, two hundred and seventy thousand, seven hundred and ninety-eight (3,270,798). The land area of Ekiti state is 6,353km².

The annual rainfall of the area is about 2,000mm – 2,500mm and high humidity of 85% to 95% at the rainy season and 60% or less at the dry season and the temperature ranges between 21°C and 29°C (Omoare, Fakoya, Fapojuwo and Oyediran, 2014).

Sampling Procedure and Sample Size: A multi-stage sampling procedure was employed to select 160 respondents used for the study. It entails purposively selecting four local government areas, two communities (from each LGA), and twenty respondents from each community, thus, a total of 160 respondents were used for the study. A well-structured interview schedule was used to elicit information from the respondents. The information gathered were analyzed using frequency counts, percentages, a five-point Likert-type scale mean, and Probit model.

MODEL SPECIFICATION

In the probit model (Gujarati, 1995, Sarimeseli, 2000)), let the latent Y represent the respondent's willingness to pay for value-added cassava flour.

The probit regression model used is then specified as follows:

$$\Pr(Y_i = 1) = f(\beta_i X_i) + \epsilon_1 \quad (1)$$

Where; Y is a dichotomous dependent variable which can either assume the value of 0 or 1. It measures the respondents' willingness to pay for value-added cassava flour

$X_i = n \times k$ matrix of explanatory variables/independent variables

$\beta_i = k \times 1$ vector of parameters/ coefficients to be estimated

$\epsilon_1 =$ error term

The estimated equation is of the form.

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_{12} X_{12} + \epsilon_1 \quad (2)$$

Y_i is the dependent variable measuring the respondents' willingness to pay for value-added cassava flour in the study area.

Table 1: Description and measurement of the explanatory variable

Variable	Description	Measurement
X1	Age	Years
X2	Sex	Dichotomous: male, 1: female, 0
X3	Marital Status	Dichotomous: Married, 1: Single, 0
X4	Family size	No of people under living & eating together
X5	Education	educated (1), not educated (0)
X6	Average annual income	N/year
X7	Cultural food	yes, 1, No, 0
X8	Quality of food	buy for quality yes, 1, No, 0

Results and Discussion

The result in Table 2 shows the socioeconomic characteristics of the respondents. Over 70percent of the respondents were below forty-five (45) years of age, an indication of being young and expected to be active in whatever activities they are involved in to generate enough fund for their sustenance. Equal proportions of male and female gender were involved in the study, and they cut across all the religious practices in the area with Christians and Muslims almost having close percentages (48.8 and 40.6% respectively) while those practising the African Traditional religion were of the minor number. A huge proportion (68.8%) of the respondents was married, with a handful of singles, widows and divorced individuals. The household sizes range from one person to 10, with a mean of six persons. It signifies a large household size and the possibility of spending a huge proportion of their income on meeting the basic needs. Studies (Adebo and Ajiboye, 2012; NBS, 2019) indicated a high level of poverty among large households sizes in Ekiti state and Nigeria, respectively. The respondents were highly literates because over ninety per cent of them could read and write while almost half of them had tertiary education. The high literacy level is peculiar of the people in Southwest Nigeria when compared to other parts of

the nation. It is also responsible for the low level of poverty in the region as compared to other regions in Nigeria. For instance, the NBS, 2019 report, indicated the poverty headcount rate of 28.04 and poverty index of 6.16 in Ekiti state. However, states like Taraba, Sokoto and Zamfara states poverty headcount rate were 87.73, 87.72 and 73.93, respectively with poverty indices of 38.82, 42.38 and 24.95 (NBS, 2019). The primary occupation of the respondents was diverse, ranging from civil servants to teaching, farming, trading and artisans. It is contrary to previous studies (Kolawole, Isitor, and Owolabi, 2016; World Bank, 2020b) which indicates that most of the people in Ekiti state are primarily agrarian. Occupational diversification might emerge from their higher literacy statutes. The mean annual income of the respondents was two hundred and eighty thousand naira only (280,000.00) an equivalent of seven hundred and twenty-two, and fifty-seven dollars (\$722.57) per annum and 1.98 dollars per day. Going by World Bank (2019) poverty line of \$1.90 per day, it shows that most of the respondents are a bit (0.8dollars) above the poverty line. It confirms the recent estimates that 10 per cent of the world's population or 734 million people lived on less than \$1.90 a day (World Bank, 2020).

Table 2: Socioeconomic characteristics of the respondents

	Frequency (n=160)	percentages
Age		
16-30years	80	50.0
31-45years	46	28.8
45-60years	27	16.8
>60 years	7	4.4
Sex		
Male	80	50.0
Female	80	50.0
Religion		
Islam	65	40.6
Christianity	78	48.8
African Traditional Religion	17	10.6
Marital status		
Single	20	12.5

Married	110	68.8
Divorced	18	11.2
Widowed	12	7.5
Household size		
One person	20	12.5
2-4persons	27	16.9
5-9 persons	68	42.5
>9 persons	45	28.1
Educational status		
Primary education	24	15.0
Secondary education	60	37.5
Tertiary education	68	42.5
No formal education	08	05.0
Primary Occupation		
Civil Servants	40	25.0
Teaching	60	37.5
Artisans	16	10.0
Farmers	44	27.5
Annual income		
≤ 240,000.00	72	45.0
241,000-1, 200,000, 000	40	25.0
1, 212,000-2,400,000.00	12	7.5
2, 412,000-3,600,000	20	12.5
>3, 600,000.00	16	10.0

Level of Acceptability of cassava flour

The result in Table 3 shows the level of acceptance of cassava flour products. It was measured on a five-point Likert-type scale, while the mean of 3.00 was the benchmark. Going by the mean, the most acceptable product of cassava flour was the odourless Cassava flour fortified with Vitamin A (no packaging and labelling) ($\bar{x}=4.45$). It was followed by the

odourless Cassava flour enriched with Vitamin A Packaged and labelled ($\bar{x}=4.03$), and Odourless Cassava flour only (Improved Technology method) ($\bar{x}=3.26$). It shows the respondents appreciate the worth of value-added to cassava flour. It confirms the assertion of Leslie De Chernatony, Harris, & Dall' Olmo (2000) that added value helped consumers decide and choose between one brand and another.

Table 3: Level of Acceptability of cassava flour

CATEGORY	Product	Not at all satisfied	Slightly satisfied	Moderately satisfied	Very satisfied	Completely satisfied	Total	Mean
A	Cassava flour only (traditional method)	50	54	24	32	0	358	2.24
B	Odourless Cassava flour only (Improved technology method) (ITM)	28	39	10	30	53	521	3.26
C	Odourless Cassava flour fortified with Vitamin A (no packaging and labelling) (ITM)	0	06	05	60	89	712	4.45
D	Odourless Cassava flour fortified with Vitamin A Packaged and labeled (ITM)		10	35	55	60	645	4.03

Reasons for preference/ acceptability

The result in Table 4 shows the various reasons for the acceptability of the four categories of cassava flour. These reasons for their preference for the products are divergent. The most important reason for choosing the first category (cassava flour with odour using traditional method) was its cheapness. Customers might decide to purchase products because of the low cost. It might be prevalent among the low-income earners and situations where the needs are several, and the means of satisfying them is limited. Half (50%) of the respondents chose the second category (cassava flour without odour using improved technology method (ITM)) because of its palatability, while 37.5% of them accepted it because it was cheap. The third category (Cassava flour fortified with Vitamin A, odourless but no packaging and labeling (ITM)) was chosen for its increased shelf life and ability to gain more nutrients from it (56.3% respectively), desire to get value for money (55.0%), perceived as being safe (50%) and its palatability (46.9%).

The last category (Cassava flour fortified with Vitamin A, packaged, labelled and odourless (ITM)) was mostly chosen by 75.0% of the respondents because it competes favourably with other packaged foods and its safety. Other reasons include increased shelf life (56.3%), to gain more nutrients, get value for money and its palatability, all of which were responses of 55.0% of the respondents. It affirms the report of Leslie De Chernatony, Harris, & Dall' Olmo (2000) and David and Daniel, (2013) that added value played a psychological role, providing "a kind of psychological comfort and security for the customers.

It is important to note that the food safety and competitive nature of cassava fortified with Vitamin A, packaged and labelled and without odour had the highest percentage preference (75%). Food Safety refers to handling, preparing and storing food in a way to best reduce the risk of individuals becoming sick from foodborne illnesses. The world over is concerned with the consumption of safe foods. According to the World Health Organization (WHO, 2020), access to sufficient amounts of safe and nutritious food is key to sustaining life and promoting good health. However, unsafe foods containing harmful bacteria, viruses, parasites or chemical substances, can cause several diseases, ranging from diarrhoea to cancers. The consumption of insecure food, according to WHO impedes the socioeconomic development of nations. World Health Organization affirms that US\$110 billion is lost each year to unsafe food in low- and middle-income countries. No wonder food safety is rated higher among the preferences. When comparing the fourth categories of cassava flour, the fourth category was preferred to the other three products due to so many reasons. The higher the value of the product, the more reasons the respondents' accept/prefer them to others. Experts (Leslie De Chernatony, Harris, & Dall' Olmo, 2000; Ortiz, 2010) agreed that value addition enhances sustainability (increased shelf life) of products. Also, one of the primary reasons for preferring the fourth and third categories was to gain value for money. Studies (Zepeda and Li, 2007) indicated that the attitudes toward cooking and the cost of food were significantly positively associated with local buying behaviour.

Table 4: Reasons for preference/ acceptability

Characteristics	CAO	CAWO	CAFA	CAFPL
Palatable	40 (25.0%)	80(50.0%)	75(46.9)	88(55.0%)
Compete favourably with other packaged foods	08 (5.0%)	30(18.8%)	45(28.1%)	75
Light and ease digestibility	42(26.3%)	42(26.3%)	60 (37.5%)	60(37.5%)
Food Safety	08 (5.0%)	30(18.8%)	80(50.0%)	75
Cultural food	25(15.7%)	25(15.7%)	25(15.7%)	25(15.7%)
Get value for money	4 (2.5%)	35(21.9%)	88(55.0%)	88(55.0%)
To gain more nutrient	10 (6.3%)	20(12.5%)	90(56.3%)	88(55.0%)
Increased Shelf Life	10 (6.3%)	20 (12.5%)	90 (56.3%)	90(56.3%)
Cheap	75 (46.9%)	60 (37.5%)	45(28.1%)	10(6.3%)

Note

CAO= Cassava flour with odour (Traditional Method)

CAWO Cassava flour without odour (Improved technology method (ITM))

CAFA= Cassava flour fortified with Vitamin A (ITM)

CAFPL= Cassava flour fortified with Vitamin A, Packaged and Labelled (ITM)

Willingness to pay for value-added cassava flour (Pupuru)

The result in Figure 1 shows that a majority (87.0%) of the respondents were willing to pay for value-added cassava flour. In comparison, 13% are not willing to pay any premium for value-added cassava flour.

We also determine what precisely the respondents were willing to pay for the various products. The result in Table 4 shows that N350 was the necessary price used per kilogram of traditionally prepared cassava flour. The premium price willing to be paid was measured as N35/10%, N88/25% N140/40% and N175/50% more than the fixed price (N350). For the first product (Cassava flour prepared through the traditional method, having odour), 35% of the respondents were willing to pay the fixed price, but none was willing to pay any premium. Also, 86.3% of the respondents were willing to pay 385 nairas (additional 35 nairas, i.e. 10% premium) to purchase Odourless cassava flour, prepared through ITM only 1.3% of them were ready to pay 25% above the benchmark. Furthermore, 50.0% of the respondents were willing to pay a 25% premium for the third category (Cassava flour fortified with Vitamin A (no packaging and labelling odourless).

In comparison, 32.5% and 5% of them were ready to pay 10% and 40% premium for the same product, respectively. Lastly, 65% of the respondents were prepared to pay a premium of eighty-eight naira (25%), on odourless Cassava flour fortified with

Vitamin A Packaged and labelled. The study affirmed that the highest premium price willing to pay for category C and D was eighty-eight naira, i.e. 25%. Only 8.8% of the respondents perceived packaging and labelling as an extra value to Cassava flour and are willing to pay beyond 25% premium for the two products with higher values (Ortiz, 2010) affirmed that Customers are prepared to pay a price premium if the perceived benefits exceed the perceived costs. Monroe, (1990), also confirmed the fact that added value helped consumers decide between brands and helps them to choose between one brand and another.

Figure 1: Willingness to pay for Value added cassava flour

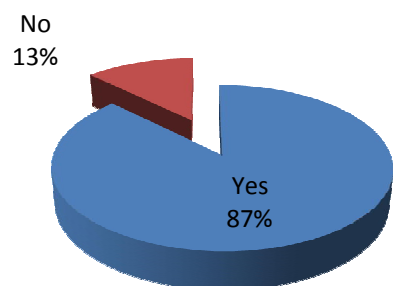


Table 4: Amount / Percentage willing to pay more for value-added cassava flour

CATEGORY	Value-added	Fixed price N350/ ten cups	385(10%)	438.00(25%)	490 (40%)	525(50%)
A	Cassava flour only (traditional method)	N350/ ten cups	-	-	-	-
B	Odourless Cassava flour only (Improved Technology method)	20(12.5%)	138(86.3%)	2 (1.3%)	0.00	0.00
C	Odourless Cassava flour fortified with Vitamin A (no packaging and labelling)	20 (12.5%)	52(32.5%)	80(50.0%)	08 (5.0%)	0.00
D	Odourless Cassava flour fortified with Vitamin A well packaged & labelled	20(12.5%)	20 (12.5%)	104(65%)	14 (8.8%)	02(1.3%)

The result of the Probit regression model employed to ascertain the probability relationship between respondents' willingness to pay for value-added cassava flour and their socioeconomic characteristics are presented in Table 5. From Table 5, sex (0.015) is significant at 1% level; it shows that the females are ready to pay for value-added cassava flour than the males. It might be because of their responsibility of preparing foods in the house and their

knowledge of nutritious food of which the men are less concerned. Education also significantly influences the willingness to pay for value-added cassava flour. It implies that as the respondents acquire more knowledge, the higher the quest for better quality food. Other socioeconomic characteristics that influence the willingness to pay for value-added cassava flour includes the average annual income, Culture and the perceived quality of the food by the

respondents. They are all significant at 5% level. It affirms the findings of Carpio and Isengildina-Massa (2009) that premiums for local products were influenced by age, gender, and income as well by perceived product quality, a desire to support the local economy, patronage of farmers' markets, and consumer ties to agriculture. It shows that the higher the income of the respondents, the higher their preference for better and quality foods, and vice versa. One of the major attractions to any meal is the culture of the people. Cassava flour (pupuru) is a food common among a specific part of the people in Ondo state, most of which are residing permanently in Ekiti state. Also, there is the diffusion of culture; Cultural diffusion, according to Peggy (1998), Rosenberg (2019), is the movement of ideas, customs, and beliefs

from one country to another. Culture is the entire way of life for a group of people. It includes; language, foods, region/beliefs, clothing and more. Culture moves when people migrate. Cultural diffusion is the spread of cultural beliefs and social activities from one group of people to another. The mixing of world cultures through different ethnicities, religions, and nationalities has also increased with advanced communication, transportation, and technology. In which case, there are diffusions of so many foods consumed from one culture to another in Nigeria. The significance of sex and income confirms the report of Zepeda and Li (2007) that attitudes toward cooking and the cost of food were significantly positively associated with local buying behaviour.

Table 5: Estimates of the Probit Regression Model Factors influencing willingness to pay

Age	0.105	0.354
Sex	0.015**	0.434
Marital status	0.103	0.315
Family size	0.016	0.139
Education	0.031*	0.290
Annual income	0.018*	0.084
Culture	0.031*	0.156
Perceived Quality	0.034*	0.168
Significant at 5%		
** Significant at 1%		
Source: Data Analysis, 2020		

Summary, conclusion and recommendations

The study examines the willingness to pay for value-added cassava flour (pupuru) among rural households in Ekiti state. A total of 160 respondents were selected through a multi-stage sampling procedure from eight communities in four local government areas of Ekiti state. A structured interview schedule was used to elicit information from them. The information gathered were analyzed using frequency counts, percentages, a five-point Likert-type scale mean, and Probit model. An equal proportion of male and female gender was purposively selected for the study. Data shows that a majority of the respondents were still young, below the age of 45 years. They cut across all the religious practices with the proportion of the Christians and Muslims almost at par. A considerable percentage (68.8%) of the respondents was married, with a mean household size of six persons. They were highly literate with over 90% able to read and write, while almost half of them had tertiary education. They had diverse primary occupations and a mean annual income of two hundred and eighty thousand nairas only (280,000.00) an equivalent of seven hundred and twenty-two, and

fifty-seven dollars (\$722.57) per annum and 1.98 dollars per day.

The level of acceptance of value-added cassava flour was very high. Going by the mean, the most acceptable product of cassava flour was Cassava flour fortified with Vitamin A (no packaging and labelling) odourless (\bar{x} =4.45). It was followed by Cassava flour enriched with Vitamin A Packaged and labelled and odourless (\bar{x} =4.03) and Odourless Cassava flour only (Improved Technology method) (\bar{x} =3.26). The value-added cassava flour was preferred because it competes favourably with other packaged foods, and perception of its safety, its shelf life, to gain more nutrient and get value for money.

A majority of the respondents were willing to pay premiums for value-added cassava flour. However, the bonuses they are willing to pay varies. The highest premium price most of the respondents willing to pay for category C and D (Cassava flour fortified with Vitamin A (no packaging and labelling) odourless and Cassava powder enriched with Vitamin A Packaged and labelled and odourless) was eighty-eight naira, i.e. 25%. The result of the probit regression model shows that sex, education, the

average annual income, Culture and the perceived quality of the food by the respondents.

Conclusion

The study concludes that the households in Ekiti state are willing to pay a premium of 25% on value-added cassava flour. The willingness to pay the premium by the respondents were influenced by their sex, education, the average annual income, culture and the perceived quality of food.

Recommendations

The study recommends that the cassava industry should develop innovative value-added cassava flour to meet the needs of the consumers and also enhance farm income from cassava flour.

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