Cassava Processor’s Awareness of Improved Processing Technologies in Oyo State
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Abstract — The cassava production is most carried out by smallholder farmers in the rural areas using low-level production techniques which have left them with production of cassava tubers without much value addition. Therefore cassava processors’ awareness of improved processing technologies in Oyo State was investigated. Simple random approach was employed through questionnaire and interviews to collect information from 176 Cassava processors. Descriptive and inferential statistics such as frequency counts, percentages, mean, Chi-square were used in data analysis at 0.05 level of significance.

Results of analysis revealed that majority (77.2%) of the respondents fell within the age range of 21 years to 50 years with mean age of 41.23 and greater population of females (75.6%) than the males (24.4%). Over 45.5% had secondary and below as their educational qualification with most (75.6%) married, with fairly large household size 4-6 persons.

The respondents’ level of awareness of improved processing technologies among most need respondents low (54.5%) and this may accounted for low level of utilization of improved processing technologies among majority (56.8%) of the respondents. Chi-square analysis revealed that, among socio-economic characteristics of the respondents, religion(x² = 6.805, p= 0.033), educational qualification (x² = 10.572, p= 0.032), mode of processing (x² = 14.015, p= 0.001) and mode of Labour (x²=11.960, p=0.003) were significantly related to respondents’ awareness of improved processing technologies. The result revealed clearly that respondents’ awareness of improved processing technologies does not depend on marital status, sex, household size and experience.

It is therefore recommended that Government and NGO’s should encourage extension agents by giving them motivation as at when due to improve their services of dissemination of information to the cassava processors on awareness of improved processing technologies toward enhancing higher productivity, income and better standard of living of the respondents in the study area.

Keywords — Cassava processors, awareness, Improved processing technologies.

I. INTRODUCTION

In the area of cassava production, the recent Agricultural Transformation Programme of the Federal Government which has facilitated the establishment of Cassava processing plants, exportation of Cassava chips to countries like China has led to increase in the interest of the rural farmers including women to increase their level of Cassava production and processing. In the domestic parlance the rural women processing cassava into various products such as cassava flour, chips, and starch among other products. In Nigeria, women cassava utilizers constitute more than 60% of the adult population resident in the rural areas (Odebode, 1997). However, their traditional contribution to agricultural production has been rendered inefficient by the crude and inappropriate form of agricultural technologies frequently used (Olawoye, 1988), the result is a relatively low agricultural productivity, which is inversely proportional to the enormous labour intensive input. It is against this backdrop that this research investigated the extent of the cassava processors’ awareness of improved processing technologies in Oyo State.

Specific objectives

The specific objectives of this study include to:

i. Identify socio-economic characteristics of the cassava processors in Oyo state.

ii. Determine the level of awareness of improved processing technology by cassava processors in Oyo State.

iii. Find out attitude of respondents towards utilization of improved processing technology in the study area.
Hypothesis of the study

The hypothesis stated in the null form is tested:

Ho1 – There is no significant relationship between awareness of the respondents and their utilization of improved processing technology in the study area.

II. MATERIALS AND METHODS

The study was carried out in Oyo state, which is one of the six states in south west Nigeria. The economy of the state is based on the agriculture and the major occupation of the rural people is farming. The climate in the state favour the cultivation of crops like maize, yam, cassava, millet, rice, plantains, cocoa, oil-palm, cashew etc. They engage in other activities such as transport operation, blacksmithing, tailoring, and carpentry and so on. The state is homogenous and comprises the Oyos, the Ibadans and the Ibarapas, all belonging to the Yoruba family and speaking the same Yoruba language. People within and outside the country trade and settle in the urban areas. The capital, Ibadan is reputed to be the largest city in African, south of the sahara.

Sampling Procedure and Sample size

A Multi-stage sampling procedure was used to select respondents for the study. Random selection of 50% of the two ADP zones (Ogbonoso and Ibadan/Ibarapa), Purposive sampling Technique was used to select Local Government and Communities that are predominantly noted for cassava production and processing from the selected two zones: Ogbonoso South Local government (Ogbonoso zone) and Ibarapa East Local government (Ibadan/Ibarapa zone). List of registered cassava processors in selected communities was collected from the Department of Agric. and Health at the Local Government Headquarters in Arowomole and Eruwa respectively. 50% of registered Cassava Processors in selected communities was randomly selected and this gives a total of one hundred and seventy six (176) respondents that was used for the study.

Analysis of data

Data Collected were subjected to descriptive and inferential Statistical analysis using Statistical Package for the Social Sciences (SPSS). Descriptive statistical tools used included frequency counts, mean and percentage while inferential statistical used is Chi-square.

III. RESULTS AND DISCUSSION

Socio-economic characteristics of respondents

The mean age of all the respondents was 41.23. This implies that most of the respondents are in their active ages and this may urge them favourably to utilize improved processing technologies for their cassava processing.
| Variable                        | Frequency | Percentage | Mean |
|--------------------------------|-----------|------------|------|
| **Age (years)**                |           |            |      |
| 11-20                          | 3         | 1.7        | 41.23|
| 21-30                          | 27        | 15.3       |      |
| 31-40                          | 65        | 36.9       |      |
| 41-50                          | 44        | 25.0       |      |
| 51-60                          | 28        | 15.9       |      |
| Above 60                       | 9         | 5.1        |      |
| **Sex**                        |           |            |      |
| Male                           | 43        | 24.4       |      |
| Female                         | 133       | 75.6       |      |
| **Religion**                   |           |            |      |
| Christian                      | 107       | 60.8       |      |
| Muslim                         | 64        | 36.4       |      |
| Tradition                      | 5         | 2.8        |      |
| **Marital status**             |           |            |      |
| Single                         | 16        | 9.1        |      |
| Married                        | 133       | 75.6       |      |
| Divorce                        | 4         | 2.3        |      |
| Separated                      | 7         | 4.0        |      |
| Widow                          | 16        | 9.1        |      |
| **Educational background**     |           |            |      |
| No formal                      | 20        | 11.4       |      |
| Vocational education           | 2         | 1.1        |      |
| Primary school                 | 62        | 35.2       |      |
| Secondary school               | 80        | 45.5       |      |
| Tertiary school                | 12        | 6.8        |      |
| **Household size**             |           |            |      |
| 1-3                            | 41        | 23.3       |      |
| 4-6                            | 102       | 58.0       |      |
| 7-9                            | 28        | 15.9       |      |
| 10-12                          | 1         | 0.6        |      |
| No states                      | 4         | 2.3        |      |
| **Year of experience**         |           |            |      |
| 1-5                            | 52        | 29.5       |      |
| 6-10                           | 58        | 33.0       |      |
| 11-15                          | 31        | 17.6       |      |
| 16-20                          | 31        | 17.6       |      |
| 21-25                          | 4         | 2.3        |      |
| **Method of processing**       |           |            |      |
| Traditional                    | 37        | 21.0       |      |
| Modern                         | 95        | 54.0       |      |
| Traditional & modern           | 44        | 25.0       |      |
| **Income earn (#)**            |           |            |      |
| <20,000                        | 60        | 34.1       |      |
| 20,100-40,000                  | 89        | 50.6       |      |
| 40,100-60,000                  | 23        | 13.1       |      |
| 60,100-80,000                  | 3         | 1.7        |      |
Respondents’ awareness on improved processing technologies

By categorization of level of awareness in table 2b showed that the level of awareness of improved processing technologies is low (54.5%) and high (45.5%) in the study area. The implication of this is that those who claimed to be aware got the information through educational background or exposure to social network. This is in line with Bamikole et al (2016) that reported that apart from grater, presser, fryer machines that have their awareness rate above 50% awareness rates of processing is low.

Table 2a: Respondents’ awareness on Improved Processing Technologies

| Improved processing technologies         | Aware F | % | Not Aware F | % |
|------------------------------------------|---------|---|-------------|---|
| 1. Mechanical grater                     | 161     | 91.5 | 15          | 8.5 |
| 2. Screw Press hydraulic jack            | 160     | 90.9 | 16          | 9.1 |
| 3. Motorized Peeler                      | 67      | 38.1 | 109         | 61.9 |
| 4. Granulator                            | 128     | 72.7 | 48          | 27.3 |
| 5. Kiln Dryer/Drum Dryer                 | 154     | 87.5 | 22          | 12.5 |
| 6. Improved Pulverized                   | 66      | 37.5 | 110         | 62.5 |
| 7. Sifter                                | 81      | 46.0 | 95          | 54.0 |
| 8. Aluminum Fermentation tank           | 72      | 40.9 | 104         | 59.1 |
| 9. Hammer mill                           | 157     | 89.2 | 19          | 10.8 |
| 10. Washing Machine                      | 81      | 46.0 | 95          | 54.0 |
| 11. Dewatering                           | 123     | 69.9 | 53          | 30.1 |
| 12. Rotating Sieve                       | 121     | 68.8 | 55          | 31.3 |

Source: Field survey, 2017.

Table 2b: Level of awareness

| Category | f | % | Mean | SD  | Minimum | Maximum |
|----------|---|---|------|-----|---------|---------|
| Low      | 96 | 54.5 | 7.76 | 3.62 | 0.00    | 12.00   |
| High     | 80 | 45.5 |      |     |         |         |

Source: Field survey, 2017.

Respondents’ attitude on the improved processing technologies.

Table 3a revealed that (56.8%) of the respondents had positive attitude to utilize improved processing technologies while (43.2%) had positive attitude towards utilization of improved processing technologies. Also table 3a showed that (69.9%, 66.5% and 58.0%) agreed strongly to modern cassava processing method increase production, modern processing save time and also ready to recommend the techniques to their friends respectively. The implication is that the respondents may eager to utilize the improved processing technologies due to the benefits cum the improvement of their standard of livings.

Table 3a: Respondents Attitude on the improved Processing Technologies (N= 176)

| Attitudinal Statement                  | SA | A  | D  | SD  | Mean |
|----------------------------------------|----|----|----|-----|------|
| Modern cassava processing method save  | 117| 46 | 12 | 1   | 3.52 |
| time                                   |    |    |    | (66.5)| (26.1)| (6.8) | (0.6) |
| Spare parts of improved methods are    | 4 | 35 | 81 | 56  | 1.77 |
| not readily available                  |    |    |    |     | (2.3)| (19.9)| (46.0)| (31.8) |

www.ijeab.com
Modern cassava processing method increase production 123 40 13 0 3.55
(69.9) (22.7) (7.4)

Fund is not a problem to acquire the improved techniques 14 7 19 131 2.06
(8.0) (4.0) (13.6) (74.4)

In operation of modern techniques injuries are sustained 44 109 19 4 3.01
(25.0) (69.9) (10.8) (2.3)

I’m not feeling comfortable using the method 8 10 73 85 1.73
(4.5) (5.7) (41.3) (48.3)

Instability of electricity prevents the use of improved method 16 17 42 101 2.04
(9.1) (9.7) (23.9) (57.4)

Use of modern method reduces the use of hired labour 14 34 121 7 1.67
(8.0) (19.3) (68.8) (4.0)

I will recommend modern methods of cassava processing to any friend 102 51 21 2 3.33
(58.0) (29.0) (11.9) (1.1)

I prefer used of hand grating as traditional method techniques 29 23 92 32 1.94
(16.5) (13.1) (52.3) (18.2)

Stone pressing as traditional techniques is cheaper 125 38 11 2 3.57
(71.0) (21.6) (6.3) (1.1)

Source: Field survey, 2017.

Table 3b: Categorization of respondents by their attitude

| Category          | F  | %   | Mean | SD  | Minimum | Maximum |
|-------------------|----|-----|------|-----|---------|---------|
| Unfavorable       | 76 | 43.2| 28.20| 5.03| 11.00   | 41.00   |
| Favorable         | 100| 56.8|      |     |         |         |

Source: Field survey, 2017.

Hypothesis: test of relationship between awareness of the respondents and their utilization of improved processing technologies.

This hypothesis was tested with the aid of PPMC. The result of the analysis in Table 4 revealed that there is a significant positive relationship between awareness ($r=0.524, P=0.000$) of the respondents and their utilization of improved processing technologies. This implies that the more the respondents aware of improved processing technologies, the more they will utilize it.

Table 4: Pearson Product Moment Correlation (PPMC) analysis between Awareness of improved processing technologies and their utilization

| Variable          | r      | p    | Decision |
|-------------------|--------|------|----------|
| Awareness         | 0.524  | 0.000| Significant |

**Correlation is significant at the 0.01 level (2- tailed)**

IV. CONCLUSION AND RECOMMENDATIONS

More females than males that married with secondary education alternative involves in cassava processing in the study area. Awareness of the respondents of improved processing technologies was low. The study thus, concludes that based on the empirical findings of this study, the following recommendations are made:

Government should create or build factory or industry where improved processing technologies would be fabricated at low cost. Also fund Research adequately and have MOU (Partners) with private Organizations to come up with quality/standard improved processing technologies for increased productivity. Workshops and seminars should be periodically organized through extension by the government and NGOs for cassava processors on effective use of improved processing technologies. This will go a long way in easing effective use of improved processing technologies.
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