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Assessment of women involvement in locust beans processing in Ejigbo Local Government Area

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ABSTRACT

A two-stage selection technique was employed to randomly pick the benefits, profitability analysis, and restrictions associated with women's participation in locus bean production within designated villages in Ejigbo Local Government Area, Osun State, Nigeria. A structured interview protocol was employed to collect primary data from 120 respondents. Collected data were analyzed using descriptive and inferential statistics executed with Statistical Package for the Social Sciences. The respondent's average family size was six individuals, with 73.33% of the respondents between the ages of 14 and 60 being married women. Also, 23.33% of the respondents possessed secondary education, with 2% attaining tertiary education. Likewise, 72% of the respondents identify as Christian, with 62.50% obtaining the requisite abilities for this enterprise from their parents. Furthermore, 67.50% utilized domestic labor for executing procedures involved in locust bean production. The profitability analysis revealed that each N1 invested in the enterprise generated a profit of N0.35, indicating the profitability of the firm as an alternative for additional income. Furthermore, processing experience in terms of year and age exhibited a positive and significant correlation; household size demonstrates a positive yet non-significant correlation, years of education indicate a negative and significant correlation. Conclusively, women's involvement in locust bean processing is a lucrative venture, but face challenges like inadequate financing, high costs of raw materials, firewood, and transportation. Consequently, governments and non-governmental organizations should promote the engagement of young graduates in local bean processing by supplying time-efficient machinery and contemporary processing apparatus, in addition to connecting them with established marketplaces.
Keyword: benefit-cost ratio, household labour, locust beans, profitability analysis

1. Introduction

One of the prominent members of the Leguminosae family is the Locust bean tree (*Parkia biglobosa*) [1], and virtually every of its part - seeds, stems, barks, roots, and leaves- is engaged either in the preparation of medicine or used an essential constituent of man's diet most especially in many African countries around the world [2]. For instance, the locust bean seeds when processed are an essential source of protein in man's diet, the roasted version of the seed is an excellent coffee substitute while its leaves and flowers serve as vegetables in many homes [3]. In addition, the mucilaginous pulp adjoining the seeds can be consumed fresh or better still processed as flavored beverages[3]. The major nutrient composition of raw locust bean seed comprises 13-15 % carbohydrates, 1.5 -13 % moisture content, 20-36 % protein, 1-6% minerals, 0.4 -17% fibers, and 8-32% fat in addition to other phytochemical constituents consisting of polyphenols, flavonoids, and vitamins [4, 5] Also, authors in [5] shown that these constituents are known to be responsible for triggering many bio-activities necessary for sustaining human health.

Furthermore, references [6, 7] substantiate this claim that the higher the antioxidant potential of a food substance, the greater its ability to reduce the occurrence of degenerative chronic diseases and oxidative stress occasioned by scavenging reactive oxygen species. Also, the locus bean grain antioxidant value can be

improved upon via indigenous fermentation techniques. With the indigenous fermentation technique, the cell wall undergoes hydrolysis, which in the process releases the polyphenols, which activate other biosynthesis processes [8]. The fermented version of the locust bean seed is called condiment, and condiment is called by various names among the three major tribes in Nigeria. For instance, Yoruba people call it "Iru", it is known as "Dawa dawa" by the Hausa people, while the Igbo tribe calls it "Ogiri okpe" [9]. This condiment is a popular household ingredient for flavoring traditional soups and stews in many homes in West African countries.

Also, research reports have shown that in Togo and Ghana, the average per capita per day consumption of iru was estimated to be 4 and 2 g, respectively while per day per consumption of iru among Yoruba is approximately 10g, and in Nigeria, the overall consumption ranges from 1 to 17 g per person per day [10]. This shows that iru is in high demand throughout the year and with adequate drying techniques, it can be made available around the year. The climatic condition of the South-Western states of Nigeria favors the growth of tree plantation, of which locust bean trees are not exempted, rather they are found virtually in many remote parts of towns and villages of Osun, Ekiti, Oyo, Niger, Kwara, and Ondo State. This explains why these food condiments are produced in large quantities in towns and villages of the South-Western states of Nigeria [11]. According to Owolarafe et al. [12], also shown that locust bean trees are found in Southeast Asia, Africa, South America, Guinea, Burkina Faso, Cote d'Ivoire, and Mali. The production of "iru" from the locust bean seed requires little capital, no wonder the majority of women involved in its production are more of low-class/skilled people. Aside from the medicinal and nutritional value of locust beans, it is a good source of income for the women involved in their production [13].

It is imperative to bring to mind that the chain of processes involved in the production of "Iru" shortly after harvesting and depodding of the bean include sorting, washing, long-cooking, dehulling, sieving, short cooking, draining, and fermentation[13, 14]. This chain of processes can be achieved purely by human effort or through the use of a semi-mechanized approach with the aid of a motorized device [12,15]. Several empirical studies have been reported on "iru" production, for instance, Ikhimalo [16] reported the potential of locust beans has been capable of revolutionizing the medical, pharmaceutical, and agricultural industries if effectively utilized. As an addendum to the above finding, Olalude et al. [17] pointed out the possibilities of using locust beans to prevent cancer due to the presence of high levels of ash and fiber content and also as a good substitute for seasoning salts in human diets. This finding was established by conducting a proximate analysis and evaluation of the mineral content of locust beans.

Furthermore, the study of Ijigbade et al. [18] showed that educated married women are involved in the production of locust beans, and many of them had a lot of years of experience, one major characteristic is that they have a predominantly large family. The major identified problems encountered by these classes are unconnected to lack of access to modern processing facilities, non-availability of storage facilities, and inability to get an organized market for the product, hence majority of them are involved in hawking to sell their product which is extremely laborious. Similarly, Kolapo et al. [19] reported the use of family labor to process locust beans and this is peculiar to women with large household sizes. All the chain of processes involved is handled by different members of the household. Furthermore, Adejumo et al. [20] revealed that a larger percentage of their respondents derived their means of livelihood through sales of locust beans and many of them rely entirely on the traditional techniques of processing the locust bean seed to locust beans, and this is unconnected to lack of access to and fund to purchase modern processing tools. Also, Aderounmu et al. [21] investigated the contribution of processing and marketing of locust bean seed to the household economy of rural women in Oluyole Local Government Area of Oyo State.

The study showed that a good number of rural household women are involved in the processing and marketing of locust beans, which has significantly contributed to the improved economy of rural household women. The finding of the study also revealed a positive and significant relationship between livelihood income, perceived constraints, and the contribution of locust bean seed processing and marketing to the household economy of rural women. The related works presented showed that a good number of authors have investigated different dimensions of locust beans which include medicinal perspective, nutritional perspective, income generation, and problems encountered by the producers of locust bean processors among others. Ejigbo communities despite being endowed with locust bean vegetation, the production level is still very low possibly because of the low level of profitability awareness, and also younger women perceived the processing of locus bean into iru as a dirty job perceived to be meant for older women in the community and thus becomes less attractive to young school leavers. It is on this note that this present study aims to evaluate the benefits of women's

involvement in locust bean processing in addition to the constraints facing them using Ejigbo Local Government Areas as a case study. The study outcome was hoped to project iru processing into a viable cottage industry that will be attractive to younger women and younger school leavers as a panacea for the ever-increasing unemployment among younger university graduates in the study location. The hypothesis formulated for this study is as stated: There is no significant relationship between the selected socio-economic characteristics of locust bean Processors and their involvement in locust bean processing.

2. Materials and Methods

2.1. Description of study area

Ejigbo Local Government Area of Osun State, Nigeria was used as a case study for this research. The study location strategically linked the ancient city of Ibadan in Oyo State and Osogbo town the capital city of Osun State, Nigeria. The choice of this community is not only unconnected to the plenteous availability of locus bean plants but also the favorable geographical location as a linking village to the two capital cities in Osun and Oyo State. Also, the residents of the community particularly the adults engaged in the light production of iru despite its massive demand all through the year. The residents of the LGAs were estimated to be about 191,348 dwelling on land mass of about 245km^2 based on the report presented in the 2006 Nigeria census. The people in the LGAs are predominantly Yoruba by tribe and mostly peasant farmers. The area enjoys a tropical climate with prominent wet and dry seasons. The rainy season generally occurs between April and October while the dry season occurs between November and March. Most of the people in the area engage in farming activities especially animal rearing and crop production on small and medium scale.

2.2. Sampling techniques and sampling size

A two-stage sampling procedure was utilized to select the locust bean processors for this research and during the first stage, eight communities were randomly selected based on the fact that women in those communities were predominantly involved in the locust bean processing. In the second stage, fifteen women were randomly selected from each community making a total of 120 respondents. A well-structured interview schedule which was administered personally was used to collect the primary data during the field survey. Data collected were analyzed using descriptive statistical tools such as frequency count, ranking, mean, standard deviation, and percentages while a Pearson Moment Correlation rank coefficient was used to test for the hypothesis.

2.3. Mathematical modeling of profitability analysis of the locust bean study area

Adejumo et al. [20] provided a platform for the usage of Cost and Return Analysis, Net profit, and Benefit-Cost Ratio (BCR) in analyzing the economic profitability of agro-ventures. It was used to analyze the profitability of women's involvement in locust bean processing in Ejigbo Local Government Area. These indexes are expressed mathematically, thus;

$$BCR = \frac{TR}{TC} \tag{1}$$

$$NP = TR - TVC \tag{2}$$

$$Depr = \frac{Depreciable\ cost}{Asset's\ lifespan} \tag{3}$$

where; BCR = Benefit-Cost Ratio, TR = Total Revenue (₦), TC = Total Cost (₦), TVC = Total Variable Cost (₦).

3. Results and Discussion

3.1. Socio-economic characteristics of locust bean processors

Table 1 presents the socio-economic characteristics of respondents. Very few (8.33%) of the locust beans processors were between 21 and 40years of age, 51.66% were between 41 and 60 years of age, 38.33% were between 61 and 80 years of age, and 1.66% were more than 80 years. The mean age and standard deviation of the women locust bean processors were 57.61 and 11.46 years, respectively. This revealed that aged women processors were actively involved in this industry, however, this finding disagreed with the findings of Adejumo et al. [20] that the youths are not left out in the enterprise, only that they are not willing to go into this industry. Also, a majority (73.33%) of the locust beans processors were reported to be married, 22.50% found to be widows, 2.50% were separated, and 1.66% were divorcees. This implies that most of the locust

beans processors in Ejigbo L.G.As industry are married which agrees with the findings of [19] that majority of the women processors in their study areas were married.

Furthermore, majority (60.83%) of the locust beans processors had a family size between 6 and 10 people, and some (39.16%) of the processors had a family size between 1 and 5 people. The mean and standard deviation of the locust beans processors' family size are 6 and 2 persons, respectively. The justification for this large family size is not unconnected to the fact that most of the processors engage family labour to support the business. This agrees with the findings of Adisa et al. [22] that a large family size supports the locust bean processing activities. In addition, Table 1 also revealed that majority (65%) of the locust beans processors had a household size between 1 and 5 people, some (31.66%) had a household size of 6 to 10 people and very few (3.33%) had a household size between 11 and 15 people. The mean and standard deviation of the processors' household size were estimated to be 5 and 3 persons, respectively.

This implies that most of the locust bean processors in Ejigbo L.G.As had a household size of between 1 and 5 people and that a relatively large household size may provide cheap and readily available labour for use in locust bean processing activities. This finding corroborates the research report of Adisa et al. [22], that large household sizes support locust bean processing activities. Furthermore, majority (72%) of the locust bean processors were Christians while the rest 48% were practicing the Islamic religion. It can be deduced that majority of the women involved in locust bean processing are Christians. Similarly, some (44.16%) of the locust beans respondents had no formal education, 30.83% had primary education, 23.33% had secondary education and very few (2%) had tertiary education. Educated locust bean processors may tend to know more and can apply the knowledge to improve locust bean processing and marketing.

Table 1. Distribution of the respondents according to age, marital status, family size, household size, and educational status (n = 120)

Variables	Frequency	Percentage	Mean	S.D
Age			57.61	11.46
21-40	10	8.33		
41-60	62	51.66		
61-80	46	38.33		
>80	2	1.66		
Marital status				
Married	88	73.33		
Separated	3	2.50		
Divorce	2	1.66		
Widowed	27	22.50		
Family size			6.05	1.51
1-5	47	39.16		
6-10	73	60.83		
Household size			5.05	2.54
1-5	78	65.00		
6-10	38	31.66		
11-15	4	3.33		
Religion				
Christianity	72	60.00		
Islam	48	40.00		
Educational status				
No formal education	53	44.16		
Primary	47	30.83		
Secondary	28	23.33		
Tertiary	2	1.66		

Source: Field survey, 2023

Presented in Table 2 are the distribution of the locust bean processors according to their main occupation, secondary occupation, skill acquisition, type of labour, and years of processing experience. The majority (84.16%) of the processors were into locust bean processing, very few (8.33%) were traders, 4.16% were into farming, and 3.33% were artisans. This finding corroborated the findings of Adisa et al. [22] that the majority of the processors had locust bean processing as their main occupation. Also, the majority (50%) of the locust beans processors' secondary occupation was farming, 25.83% were traders, 15.83% were into locust beans processing, and 8.33% were artisans. Also, the majority (62.50%) of the locust beans processors acquired the skill from their parents, few (19.16%) acquired the skill from their husband's family, 10.83% acquired the skill from their friends and very few (7.50%) of them acquired the skill as an apprentice to a mistress. This corroborates the finding of Alao et al. [23] that the majority of the locust bean processors inherit their locust bean processing skills from their parents long before they are married.

Also, majority (67.50%) of the locust beans processors used household labour, few (20.80%) of them hired labour and very few (11.66%) of them used personal labour. The use of household labour by the locust beans processor is not unconnected to the reduction of cost of production while few used hired labour. Furthermore, few (27.50%) of the locust beans processors had between 11 and 20 years of work experience in locust beans processing, 26.66% had between 21 and 30 years of experience, 17.50% had between 31 and 40 years of experience, 15.83% had between 41 and 50 years of experience, 7.50% had between 1 and 10 years of experience and very few (5%) had between 51 between 60 years processing experience. The mean years of processing experience is 29.11 years with a standard deviation of 13.11. This is a clear indication that the processor will adopt new ideas in locust bean processing.

Table 2. Distribution of the respondents according to their occupations, skill acquisition, types of labour, and year of processing experience (n = 120)

Variables	Frequency	Percentage	Mean	S.D
Main occupation				
Locust beans processing	101	84.16		
Farming	5	4.16		
Artisans	4	3.33		
Trading	10	8.33		
Secondary occupation				
Locust beans processing	19	15.83		
Farming	60	50.00		
Artisans	10	8.33		
Trading	31	25.83		
Methods of skill acquisition				
From parents	75	62.50		
From friends	13	10.83		
From the husband's family	23	19.16		
Apprenticeship	9	7.50		
Type of labour				
Personal labour	14	11.66		
Household labour	81	67.50		
Hired labour	25	20.80		
Years of processing experience			29.11	13.11
1-10	9	7.50		
11-20	33	27.50		
21-30	32	26.66		
31-40	21	17.50		
41-50	19	15.83		
51-60	6	5.00		

Source: Field survey, 2023

3.2. Women's involvement in locust bean processing activities

Results presented in Table 3 indicates that majority of the women were involved in the fermentation of locust beans ($\bar{x}$ =3.00 ± 0.00), boiling of the seeds ($\bar{x}$ =3.00 ± 0.00), blanching of the seeds ($\bar{x}$ =3.00 ± 0.00), washing of locust beans ($\bar{x}$ =3.00 ± 0.00), cleaning of the seeds ($\bar{x}$ = 3.00 ± 0.00), dehulling of the seeds ($\bar{x}$= 3.00 ±

0.00), marketing ($\bar{x}$ = 2.99 ± 0.00), sourcing for raw materials ($\bar{x}$ =2.57 ± 1.91), packaging ($\bar{x}$ = 2.47 ± 0.68) and value enhancement ($\bar{x}$ =2.32 ± 0.48). The processing activities that women were less involved in are the production of the raw materials ($\bar{x}$ = 1.07 ± 0.28) and depodding ($\bar{x}$ = 1.99 ± 0.64). Also, the grand mean of 2.61 ± 0.59 indicates that most of the respondents were always involved in the various processing activities. This tells us that processors carry out most of the laborious activities in locust bean processing. This agrees with the finding of Alao et al. [23] that women were highly involved in the processing and marketing of locust beans.

Table 3. Distribution of women's involvement in locust bean processing according to their activities

Activities	Mean	S.D	Ranking
Cleaning of seeds	3.00	0.00	1st
Boiling of the seeds	3.00	0.00	1st
Dehulling of seeds	3.00	0.00	1st
Washing of the seeds	3.00	0.00	1st
Blanching of the seeds	3.00	0.00	1st
Fermentation	3.00	0.00	1st
Marketing	2.99	0.00	2nd
Sourcing for raw materials	2.57	1.91	3rd
Packaging	2.47	0.68	4th
Value enhancement	2.32	0.48	5th
Depodding	1.99	0.64	6th
Production of raw materials	1.07	0.28	7th

Source: Field survey, 2023, Grand mean = 2.61±0.59

3.3. Profitability and cost-benefit ratio of locust bean production

Table 4 presents the cost of six (6) congos of locust bean seeds (Iyere in Yoruba). This constituted the highest proportion (44.33%) of the total cost, while the least among the variable costs was the transportation cost (6.47%). The average value for the total variable cost was ₦14,251.88. Also, the depreciation cost of mortal and pestle, iron pot (15 years each), calabash, basket (6 months each), and sieve (1 year) were 1.48, 2.66, 2.16, 0.58, and 0.72%, respectively. The average value of the TFC was ₦1,175.64, and the average total cost of production per cycle was estimated to be ₦15,426.88. Also, the TR from the sales of products was ₦20,900.00, The NP was found to be ₦5,473.12.

Table 4. Profitability in locust beans processing in a cycle

Activities	Average value (₦)	Proportion (%)
Average total revenue (6 congos per cycle)	20,900.00	
Variable cost		
Average cost of Iyere (6congos)	6,840.00	44.33
Firewood	1,238.33	8.02
Preservation and packaging	1,113.33	7.21
Transportation cost	999.58	6.47
Labour cost	4,060.00	26.31
Total variable cost	14,251.24	
Fixed cost after depreciation		
Mortal and pestle (15 years0	228.33	1.48
Iron Pot (15 years)	4413.05	2.66
Calabash (6 months)	333.33	2.16
Basket (6 months)	89.58	0.58
Sieve (1 year)	111.35	0.72
Total fixed cost	1,175.64	
Total cost	15,426.88	
Net profit (TR-TC) for a cycle	5,473.12	
BCR	1.35	
Average monthly net income	83,600.00	
Average monthly net profit	21,892.48	
Average annual net income	1,003,200.00	
Average annual net profit	262,709.76	

Source: Field survey, 2023; Average cycle per month = 4times; Average cycle per year = 48

The net average monthly income was ₦83,600.00, the net average monthly profit was found to be ₦21,892.48, the net average annual income was found to be ₦1,003,200.00, and the net average annual profit was found to be ₦262,709.76. Furthermore, the BCR of 1.35 implies that every ₦1 invested in locust beans processing yielded ₦0.35 profit. These show that the enterprise was profitable as it yielded extra income over the investments into the business. This result is in tandem with the findings of Adisa et al. [22] and Alao et al. [23] that locust bean processing was a profitable and viable enterprise.

3.4. Perceived benefit of locust beans processing

Table 5 shows that locust beans processing has a lot of perceived benefits which include using the wastewater to control termite ($\bar{x}$ =3.00 ± 0.00), as source of employment opportunities ($\bar{x}$ =3.00 ± 0.00), as viable source of income ($\bar{x}$ =3.00 ± 0.00) and material for food ($\bar{x}$ =3.00 ± 0.00), medicinal purposes ($\bar{x}$ =2.91 ± 0.40), sometimes as gift for visitors ($\bar{x}$ = 2.84 ± 0.51) and as source of foreign exchange ($\bar{x}$ = 2.69 ± 0.62). These findings corroborate the findings of Ikhimalo [16] that locust beans have medicinal and health benefits and can be developed and exploited through process technology for the development of new products.

Table 5. Perceived benefits of locust beans

Benefits	Mean	S.D	Ranking
Source of employment	3.00	0.00	1st
Source of income	3.00	0.00	1st
Material for food	3.00	0.00	1st
Waste water to control termites	3.00	0.00	1st
Medicinal purpose	2.91	0.40	2nd
As a gift for visitors	2.84	0.51	3rd
Source of foreign exchange	2.60	0.62	4th
Source of Government revenue	1.75	0.46	5th

Source: Field survey, 2023; Grand mean 2.76 ± 0.43

3.5. Constraint to women's involvement in locust bean processing

The major constraints to women involvement in the study location are as presented in Table 6 which shows that majority of the locust beans processors are faced with poor extension services ($\bar{x}$ = 4.00 ± 0.00), poor finance ($\bar{x}$ = 3.50 ± 0.69), high cost of raw materials ($\bar{x}$ = 2.91 ± 0.94), high cost of fire wood ($\bar{x}$ =3.12 ± 0.63), high cost of transportation ($\bar{x}$ = 2.58 ± 0.60), time-consuming ($\bar{x}$ = 2.43 ± 0.86), scarcity of labour ($\bar{x}$ = 2.34 ± 1.26). These constraints are a pointer to the fact that the traditional method of processing locust beans is faced with diverse kinds of challenges which agrees with the research reports of the Ikhimalo [16] and Alao et al. [23].

Table 6. Constraints to women's involvement in locust beans processing (n=120)

Constraints	Mean	S.D	Ranking
Poor extension service	4.00	0.00	1st
Poor finance	3.50	0.69	2nd
High cost of firewood	3.12	0.63	3rd
High cost of raw material	2.92	0.94	4th
High cost of transportation	2.58	0.60	5th
Time consuming	2.43	0.86	6th
Scarcity of labour	2.34	1.26	7th
Scarcity of water during dry seasons	1.88	0.81	8th
High cost of labour	1.75	1.07	9th
Inadequate storage facilities	1.62	0.71	10th
Low production	1.45	0.75	11th
Non-affordability of packaging materials	1.37	0.48	12th
Poor production practices	1.27	0.51	13th
Inadequate knowledge of locust beans processing	1.09	0.31	14th
Poor market availability	1.08	0.27	15th
Scarcity of locust beans	1.06	0.23	16th

Source: Field survey, 2023; Grand mean 2.09 ± 0.92

3.6. Hypothesis testing

Table 7 presented the result of the hypothesis proposed for this study, the locust beans processors' age (r= 0.187*; p<0.041) showed a positive and significant relationship with their involvement in the locust beans processing. This implies that age has a greater effect on women's involvement in locust bean processing, as age increases, the level of women's involvement in locust bean processing increases. This justifies why older women tend to be involved more in locust bean processing than younger women and it might also be to support their family's essential needs of food, clothing, and shelter. Also, the household size (r=0.022; p<0.814) shows a positive but not significant relationship with their involvement in locust bean processing. This indicates that the larger the household size, the lower the women's involvement in locust bean processing. Furthermore, a negative and significant relationship between years of education (r= -0.557**; P<0.001) and women's involvement in locust bean processing exists. This finding is not unconnected to the fact that an increase in education leads to a decrease in women's involvement in locust bean processing as women with formal education tend to work in white-collar jobs. Similarly, a positive and significant relationship between years of processing experience (r= 0.723**; P<0.001) and women's involvement in locust beans processing was noticed which shows that the more the women are experienced, the more their involvement in locust beans processing activities.

Table 7. Test of hypothesis and results of the correlation coefficient

Variables	Correlation coefficient (r)	P-value	Decision
Age	0.187*	0.041	Significant
Household size	0.022	0.814	Not significant
years of education	-0.557**	0.001	Significant
Years of processing experience	0.073**	0.001	Significant

Source: Field survey, 2023

* Correlation is significant at the 0.05 level (2-tailed)

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

4. Conclusion

This paper presents an assessment of women's involvement in locust bean production in Ejigbo Local Government Areas, Osun State. Majority of the respondents were married with a family of less than ten people. Also, the majority of the processors took the locust bean process as their main occupation with most of the respondents acquiring the requisite skills for enterprise from their parents and with the majority of the respondents utilizing household labour for the business. The mean income from locust bean processing was found to be slightly above twenty thousand naira per cycle of production showing that production of locust beans brings an appreciable return on the investment. The benefits derived from locust bean processing include wastewater to control termites, a source of employment, a source of income, and material for food. However, the major constraints facing the women locust beans processor in the study location include poor extension services, poor finance, high cost of raw materials, high cost of firewood, high cost of transportation, time-consuming, and scarcity of labour among others.

Similarly, the test of hypothesis showed that age and years of experience were positively related and significant with their involvement in locust processing at ≤ 0.05% level while years of education were negatively related and significant at 0.01 level. Profitability analysis showed that maize farming brings an appreciable return on the investment. The study recommends that the Government at all levels, NGOs, and private individuals should encourage young graduates to be involved in locust bean processing activities, by providing modern processing equipment and a ready-made market for the locust bean. Also, the extension agents should pay more attention to the training needs of the women involved in this enterprise. They should ensure that aged women change their attitude that traditional technique is better than the utilization of labour and time-saving machines to help ease their stress.

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