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RESEARCH ARTICLE

WOMEN PARTICIPATION IN VALUE ADDITION TO GROUNDNUT (*Arachis Hypogaea*) IN KWARA STATE, NIGERIA

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ABSTRACT

The study assessed participation in groundnut value addition among women in Kwara State, Nigeria. A three-stage sampling procedure was used in selecting 102 respondents, data was collected using structured interview schedule. Descriptive and inferential statistics were used to analyze the data. Findings showed mean age of the women to be 42.2 years, formal education was 6.2 and income realized per production was N50,000.00. Participation of women in groundnut value addition were prevalent in groundnut cake ($\bar{x} = 3.05$), roasted groundnut ($\bar{x} = 2.83$), and groundnut ball ($\bar{x} = 2.48$), Participation in groundnut value addition is constrained by poor access to capital, poor extension service delivery, and high cost of input, Correlation analysis indicated that age $r = -0.230$; $p = 0.030$, household size $r = 0.341$; $p = 0.042$, processing experience $r = 0.122$; $p = 0.034$, income $r = 0.176$ $p = 0.019$, value-added products $r = 0.143$; $p = 0.045$ had positive and significant effect on level of participation in groundnut value addition. The study confirms that level of women participation in groundnut value chain was high with low income realized and therefore recommended that in order to ensure food security in society, policymakers must consider value addition hitches in addition to production and also concerns women should have access to better extension services and financial support from government and relevant stakeholders.

KEYWORDS

Value Addition, Groundnut, Processing, Women, Participation

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Introduction

Ensuring food security for the rapidly increasing population in many developing countries have been on the front burner for a while. Also, food production has for many countries have failed to meet local demand resulting in massive importation which in turns cripples the economy hence, the vicious cycle of the economy. However, value addition activities related to groundnut play a pivotal role in livelihoods of rural women and development of the region. The engagement of women in groundnut value addition help ensure the quality of the product. The processing of groundnut is both source of income and employment to a large proportion of rural women in Nigeria. Thus, achievement of the Sustainable Development Goal number 5 (Gender equality) which is more an inclusive goal setting process cannot be achieved if the Millennium development goal number three (promotion of gender equality and women empowerment) is not realized. It is therefore requiring that a study be conducted to assess rural women participation in Value addition of Groundnut in Kwara state.

Groundnut is an important food crop with botanical name *Arachis hypogaea.*, derived from two Greek words, *Arachis* meaning a legume and *hypogaea* meaning below ground. (Ronald, 2016) Groundnut, an upright annual crop and distributed in tropical, sub-tropical and warm temperate zones. China and India are the world's leading groundnut producers accounting for nearly 60 percent of production. Developing countries account for nearly 95 percent of world production of groundnut (Echekwu and Emeka, 2005).

However, prior to discovery of petroleum, groundnut was a main contributor to Nigerian economy. Then, the "Groundnut pyramids" of Northern Nigeria were iconic tourist attractions and a symbolism of wealth however resource curse eroded the pyramids as agriculture became neglected (Ajibade et al 2023). Groundnut was introduced in Nigeria in 16th century with Northern and Northcentral States of the Country being major producers. Though, groundnut is important considering its multiple uses with market available for it locally and internationally, its production in Nigeria is poor yet it socioeconomic, nutritional and ecological importance cannot be

overemphasized. (Ajayi et al 2018) observed that groundnut production contributes to income generation and family nutrition. Groundnut is considered as women's crop in Africa, because it was originally grown to supplement families' diets with protein. James (2014) noted that in groundnut production, women are involved at all stages of production, processing, marketing and preparation.

Groundnuts are stored as unshelled pods and kernels for different uses but both forms are vulnerable to attack by pests after harvest. The amount of damage inflicted by insect pests during post-harvest processing and storage depends on several factors such as moisture content in product, form in which it is stored, level of maturity at harvest, sanitation of storage space and quality of material itself. In addition, storage structure also influences rate of deterioration through its physical environment. Groundnut can be consumed in various forms (Osei et al., 2013), it can be consumed raw or processed into a paste and oil used for cooking. One of the most popular snacks made from groundnut in Nigeria and many areas of West Africa is groundnut cake often referred to as '*kuli kuli*', a snack produced by frying residue obtained from groundnut oil extraction, similar to its parent material, *kuli kuli* is rich in protein and crude fat. It is often eaten alone as a snack or as a supplement to *garri*, *koko*, *fura*.

The concept, value addition as also been described by Falola et al 2016 as the transformation of raw agricultural produce into consumer-ready food product. It can also be as elaborate as taking produce through an entire value chain (Omotesho et al 2019). Value addition agriculture is a product transformation, aiming to improve existing products (United States Department of Agriculture, 2010). There are several players in groundnut value chain; retailers, assemblers, brokers, whole sellers, middlemen, processors and super market chains. adding value to agricultural products beyond farm gate usually has several times economic impact of agricultural production. Values can be added to groundnut in many ways.

Major value-added products of groundnut are Peanuts which are enriched with health benefiting nutrients and most frequently eaten "nut". Studies show that peanuts,

peanut butter, and peanut oil significantly reduce risk of heart disease. Peanuts, which are a rich source of protein and essential amino acids, can help in preventing malnutrition (Pelto et al., 2017). Groundnut balls popularly called 'Donkwa' by the Northerners and 'Tanfiri' by the Yoruba tribe is a street snack made from dried, roasted and milled maize and groundnut, it contains additional ingredients like sugar, chili pepper or other spice which aids in modifying the taste.

Groundnut is produced in all parts of the state but it is produced in commercial quantities in Edu and Patigi Local Government Areas where women are major producers and processors James (2014) affirms that more than 60% of agricultural production is carried out by women in Nigerian traditional setting. The engagement of women in groundnut value addition help ensure the quality of the product. Processing of groundnut is source of income and employment to a large proportion of rural women in Nigeria. Thus, achievement of Sustainable Millennium Development Goal number three (promotion of gender equality and women empowerment) in Nigeria, requires that a study be conducted to assess rural women participation in Value addition of Groundnut in Ifelodun LGA, Kwara state.

Though some studies have assessed value chain and value addition of some crops (Wangu et al. (2020); Mmbengwa (2018) there is limited research on level of participation in groundnut value addition especially in the study area and it is also possible that groundnut processors face some challenges in value addition. Such challenges need to be identified and met. It is against this backdrop that the study determined the level of participation of women in groundnut value addition in Kwara State, Nigeria. Specifically, the study aimed to: describe the socio-economic characteristics of rural women participating in groundnut value addition in Ifelodun LGA, Kwara state; identify the products of groundnut value addition; examine the level of participation of rural women in groundnut value addition and to identify constraints of rural women participation in groundnut value addition.

The null hypothesis was that the no socio-economic characteristics of respondents influences level of participation in groundnut value addition

Materials and Methods

This study was done in Kwara State, Nigeria. The state is situated in North Central Nigeria. It lies between longitudes 2° 30'E and 6° 25'E and latitudes 7° 'N and 9°30'N and covers a land area of about 32500km square. The state shares a common boundary with Oyo, Ondo, Osun, Niger and Kogi state, it also has an international border with the republic of Benin (Kwara State Ministry of Information, 2011). Kwara state is made up of sixteen Local Government Areas with Ilorin as the capital. The vegetation is rainforest in some parts of the state and wooded in others. The climate and vegetable pattern coupled with sizeable expanse of arable land make the state well suited for the production of wide varieties of crops with groundnut inclusive. Abdulazeez Muhammad-Lawal, et al 2018. The population for the study comprises all women who participate in groundnut value addition in Kwara State, Nigeria.

Sampling Procedure and Sampling Size

A three-stage sampling procedure was used for the study. The first stage was the random selection of 20% of the LGAs in the state, to give a total of three LGAs. The second stage involved purposive selection of two communities from each of the selected LGAs making a total of six communities. The justification of the selection of the communities was based on the high level of groundnut processing in the selected areas, Abdulazeez Muhammad-Lawal, et al 2018. The last stage involved using snow ball technique, (This was necessary since there was no registered list of the women involved in groundnut value chain). a total of seventeen (17) respondents were selected from each community arriving at a total of one hundred and two respondents (102) was used for the study.

Data Analysis

The instrument for data collection was a well-structured interview scheduled. The instrument was divided into four sections based on the objectives of the research a) The first section dealt with the socio-economic characteristics of the respondents. b) The second section identified the value addition products derived from groundnut (c) The third section assessed the level of rural

women participation in groundnut value addition while d) The fourth section examined the constraints in groundnut value addition. The data obtained were analyzed with descriptive statistics, frequencies, percentages, mean and standard deviation. Also, inferential statistics such as Pearson Product Moment Correlation was also used. The Pearson Product Moment Correlation was used to examine the relationship between some socioeconomic characteristics of the respondents and level of participation of farmers in groundnut value addition.

The equation for the model is written as follows;

$$r = \frac{\sum XY - (\sum X)(\frac{\sum y}{N})}{\sqrt{\left(\sum X^2 - \frac{(\sum X)^2}{N}\right) \left(\sum Y^2 - \frac{(\sum Y)^2}{N}\right)}}$$

- Where: X = Dependent variables (Level of participation)
- X² = Square of score on independent variables
- Y = Independent variable (Socio-economic characteristics of respondents)
- Y² = Square of score independent variables
- XY = Product of X and Y
- ∑ = summation of sores
- N = Number of Raw sores
- √ = Square root

Results and Discussion

Socio-economic Characteristics of the Respondents

Table 1 shows the results of the socio-economic characteristics of the respondents. The largest age group is 41-50 years, while the mean age of is 42.2 years, with a standard deviation of 13.0. This suggests that the participants are relatively spread out across different age ranges. Literature supports that woman in this age group are often engaged in agricultural and rural activities due to their experience and maturity (Ajayi 2014). About 67.6% were married with a mean household size of 6 persons with a standard deviation of 2.8. This is in agreement with Kayode et al (2020), larger household sizes are common in rural areas and influence division of labor among family members.

Results on Table 1 also showed that the educational background of the respondents varies. On average, participants have spent 6.2 years in school, with a standard deviation of 1.1, suggesting that there is some variation in educational attainment. This variance in educational background can influence the participants' access to information, their adoption of improved processing techniques, and their ability to engage with modern technologies related to groundnut value addition. The rural women have diverse levels of experience in groundnut processing with an average experience of 12.2 years. This indicates that there is a significant amount of expertise within the group. Experience is a key determinant of product quality and innovation in value-added processing, and it can positively impact the adoption of new techniques and the development of unique products (Kayode et al 2021).

As shown in Table 1, the average income among participants is ₦50,000 (.55.3 USD) , with a relatively low standard deviation of 0.7. This suggests a low level of income distribution among the surveyed women, it's crucial to understand the variations in income and the potential factors contributing to income disparities. The distribution of income among rural women involved in groundnut value addition sheds light on their economic status and empowerment within the value chain. The income distribution findings resonate with the research by Barrett et al (2001), who underscore the significance of income diversification beyond agriculture in enhancing household well-being. This suggests that while many participants (41.2%) earn less than ₦50,000, income sources might be pivotal for improving their economic resilience and livelihoods.

Table 1: Distribution of the respondents by their socio-economic characteristics. (N=102)

Variables	Frequency	Percentage (%)	Mean	Standard Deviation
Age (years)				
21-30	17	16.7	42.2 years	13.0
31-40	23	22.5		
41-50	38	37.3		
51-60	24	23.5		

Marital status				
Single	15	14.7		
Married	69	67.6		
Separated	2	2.0		
Divorced	2	2.0		
Widowed	14	13.7		
Household size (person)				
1-5	40	39.2	6 persons	2.8
6-10	52	51.0		
11-15	10	9.8		
Years spent in school (years)				
Non formal education	29	28.4		
1-6	26	25.5	6.2 years	1.1
7-12	32	31.4		
≥ 13	15	14.7		
Groundnut processing experience (years)				
1-10	48	47.1	12.2 years	1.5
11-20	40	39.2		
21-30	14	13.7		
Income (₦)/production				
< 50000	42	41.2	₦50,000	0.7
50001-70000	41	40.2		
≥70001	19	18.6		

Source: Field survey, 2023. *Multiple responses

Level of Participation in Groundnut Value Addition

Results presented in Table 2 shows a significant proportion of participants, constituting 56.9% of respondents, reported being actively engaged in the production of groundnut cake with a mean score of 3.05, The prominence of groundnut cake (*kulikuli*) as the most frequently engaged product aligns with the findings of Oyekale et al. (2017), who observed that *kulikuli* was widely consumed and a popular snack among

Nigerian households The high participation frequency could be attributed to its cultural significance and relatively straightforward processing techniques, as noted by Usman et al. (2020). Next in ranking of participation is Roasted Groundnut (*Epa Yiyen*) with a mean score of 2.83 highlights a notable level of involvement, indicating a consistent interest in roasted groundnut production. Roasted groundnuts seem to hold a significant position in the participants' repertoire of groundnut value addition activities. The mean score of 2.83 reflects a consistent and strong interest. This aligns with findings by Onyeagocha et al. (2018), Umuhoza et al. (2019) and Aremu et al. (2017). indicating that roasted groundnuts are a common and preferred snack among Nigerian households. This result is followed by Groundnut Balls (*Tanfiri/donkwa*) as presented in Table 2, respondents are actively involved in groundnut ball production "Very Often," ranking it third in terms of frequency of engagement with a mean score of 2.48 underscores a substantial participation level, emphasizing the popularity and consistency of groundnut ball production. The notable participation in groundnut ball production correlates with the research of Ismail and Adeoye (2018), Alamu et al. (2018), who highlighted the significance of groundnut balls as a convenient, nutritious, and culturally cherished snack which is widely enjoyed in Nigeria.

Groundnut Oil (*Ororo*) is another value addition product of groundnut which is frequently engaged in by the rural women with a mean score of 2.39. This result resonates with the findings of Lawal et al. (2019), who highlighted the nutritional benefits and economic importance of groundnut oil. Groundnut oil's ranking as the fourth most preferred activity emphasizes its role as both a staple and income-generating product. The rural women also add value to groundnut by producing other products such as boiled groundnut MS=2.09 this result aligns with the observations of Afolabi et al. (2020), who recognized boiled groundnut as a common and cherished snack. The ranking as the fifth most preferred activity highlights the cultural significance of boiled groundnut in local consumption patterns. next to it is, groundnut candy with

M.S =1.94. It is worth noting that moderate engagement in groundnut candy production aligns with studies by Otitoju et al. (2019), who highlighted the commercial and nutritional significance of groundnut candy in Nigerian communities. This result also aligns with the observations of Okorie et al. (2017), who highlighted groundnut candy's popularity as a readily available and affordable snack. The results reflect the continued significance of groundnut candy in local snacking habits, despite its lower-place ranking., groundnut sauce MS=1.75. This limited involvement in groundnut sauce production corresponds with Agomo et al. (2019), who noted that groundnut sauce was more commonly associated with specific dishes rather than standalone products. After groundnut sauce is Peanut Brittle (*Epa ara igi*) with a mean score of MS=1.67, this limited engagement in peanut brittle production aligns with research by Makanjuola et al. (2013), who identified peanut brittle as a less common but still recognized snack. With a mean score of 1.67, peanut brittle demonstrates consistent engagement among rural women. The eighth-place ranking aligns with the findings of Ariyani et al. (2019), who highlighted the potential of peanut brittle as a source of income for women and the result underscores peanut brittle's role as a value-added snack option, contributing to rural women's economic well-being.

Also, Peanut Butter (*Epa Bota*) with a mean score of 1.25 holds a moderate position in participants' choices for value-added product creation, the moderate engagement in peanut butter production is supported by studies like Warra et al. (2017), who highlighted peanut butter's nutritional value and its role in dietary diversification. Furthermore, this result aligns with the observations of Dara et al. (2020), who recognized peanut butter as a nutritious and versatile product. Peanut butter's ranking underscores its potential to contribute to nutritional diver. Peanut Burger The mean score of 1.24 signifies a lower level of participation, suggesting that peanut burger is among the less frequently chosen value-added products. Peanut burger holds a modest role in the participants' range of value-added product preferences, the limited involvement in peanut burger production aligns with the findings of Ajayi et al. (2015), who noted that peanut burger was relatively less common compared to other groundnut-based snacks. Furthermore, the lower-place ranking reflects the specific appeal of peanut

burger, possibly in line with the findings of Adetunji et al. (2019) regarding snack innovation.

This result implies that respondents have preference in participating in groundnut value chain products and it showcases the distinct levels of involvement participants exhibit across various groundnut value-added products. Groundnut cake (kulikuli) stands out as the most frequently engaged product, followed by roasted groundnut (Epa Yiyani) and groundnut balls (Tanfiri/Donkwa). The results provide insights into the participants' preferences and interests in different groundnut value-added products, emphasizing the diverse array of products they engage with and the varying degrees of their involvement.

TABLE 2: LEVEL OF PARTICIPATION IN GROUNDNUT VALUE ADDITION

Groundnut Value Addition	Not Done F(%)	Rarely F(%)	Often F(%)	Very Often F(%)	Mean score	Rank
Groundnut cake (kulikuli)	20 (19.6)	13 (12.7)	10 (9.8)	58 (56.9)	3.05	1 st
Roasted groundnut (Epa Yiyani)	9 (8.8)	32 (31.4)	28 (27.5)	33 (32.4)	2.83	2 ⁿ d
Groundnut balls (Tanfiri/Donkwa)	34 (33.3)	16 (15.7)	21 (20.6)	31 (30.4)	2.48	3 ^r d
Groundnut Oil (Ororo)	27 (26.5)	27 (26.5)	29 (28.4)	19 (18.6)	2.39	4 th
Boiled groundnut (Epa sise)	52 (51.0)	12 (11.8)	15 (14.7)	23 (22.5)	2.09	5 th
Groundnut Candy (Sisi Pelebe)	54 (52.9)	17 (16.7)	14 (13.7)	17 (16.7)	1.94	6 th
Groundnut Sauce (Obe Epa)	99 (97.1)	3 (2.9)			1.75	7 th
Peanut brittle (Epa ara igi)	88 (86.3)	11 (10.8)	3 (2.9)		1.67	8 th
Peanut Butter (Epa bota)	87 (85.3)	8 (7.8)	4 (3.9)	3 (2.9)	1.25	9 th
Peanut Burger	87 (85.3)	8 (7.8)	5 (4.9)	2 (2.0)	1.24	10 th

Source: Field Survey, 2023.

Constraints to Rural Women involvement in groundnut value addition

Results presented in Table 3 shows that 85.3% of respondents with a mean score of 2.84 reported that poor access to credit was a serious constraint, to groundnut value addition. This finding aligns with research by Chete et al. (2017), who emphasized that limited access to credit impedes the growth of small-scale agribusinesses. Poor extension service delivery is another major constraint with a mean score of 2.76, this is an indicating that some rural women face challenges in accessing valuable information and guidance. This aligns with findings by Davis et al. (2018), emphasize the pivotal role of effective extension services in disseminating knowledge and improving rural women's skills. Next to this constraint is high cost of input with a mean score of 2.47, this finding underscores the need for considering cost-effective solutions to enhance participation. High input costs align with findings by Alemu and Ludi (2016), who highlighted that input affordability influences the feasibility of agro-processing activities. Low Profit Margin was also considered as a major constraint by the groundnut women processors with a mean score of 2.23, tis highlight the need for addressing profit-related challenges. Low profit margins resonate with research by Mayoux (2018) which illuminated the impact of low returns on rural women's willingness to invest in value addition activities. Also, Inadequate manpower has been identified as a serious constraint with a mean score of 2.14. This is supported by the report of Dzanku et al. (2017) which recognized labor availability as a determining factor in the scale of agro-processing activities.

This result is an indication that in spite of the women processors participation in ground nut value chain, they are been restricted are been limited with a lot of challenges.

Table 3: Distribution of the respondents by the constraints facing women in Groundnut value addition.

Constraints	Very serious F(%)	Serious F(%)	Not Serious F(%)	Mean score	Rank
Poor access to loans	87 (85.3)	14 (13.7)	1 (1.0)	2.84	1st

Poor extension service delivery	88 (86.3)	4 (3.9)	10 (9.8)	2.76	2nd
High cost of input	57 (955.9)	36 (35.3)	9 (8.8)	2.47	3rd
Low profit margin	42 (41.2)	41 (40.2)	19 (18.6)	2.23	4th
Lack of manpower	42 (41.2)	32 (31.4)	28 (27.5)	2.14	6th
Transportation	34 (33.3)	47 (46.1)	21 (20.6)	2.13	7th
Inadequate processing equipment	18 (17.6)	85 (53.9)	29 (28.4)	1.89	8th
Unstable Electricity	21 (20.6)	44 (43.1)	36 (35.3)	1.85	9th
Seasonal market demand for products	44 (43.1)	30 (29.4)	44 (43.1)	1.84	10th
Lack of processing shed	11 (10.8)	46 (45.1)	45 (44.1)	1.67	11th

Source: Field Survey, 2023.

Hypothesis Testing

Results as present in Table 5 indicates that the relationship between age and participation in groundnut value addition activities is statistically significant, with an r-value of -0.230 and a p-value of 0.030. The negative r-value of -0.230 suggests a modest inverse correlation between age and participation in groundnut value addition. This implies that as the age of rural women increases, their level of engagement in groundnut value addition activities tends to decrease. The observed negative correlation between age and participation aligns with the notion that younger individuals are often more inclined towards embracing new and innovative practices. Younger generations may perceive groundnut value addition as a means to enhance their economic status, leading to greater participation. This result aligns with Kusakari, & Gondo, (2021) and Mafini, & Mafini, (2020), who explored the participation of women in agricultural activities in Nigeria. it was discovered that younger women are more likely to engage in value addition activities due to their openness to change and willingness to diversify income sources and also. Younger women were found to be more motivated to adopt new practices. Also, household size and participation in groundnut value addition activities is statistically

significant, with an r-value of 0.341 and a p-value of 0.042. In simpler terms, larger households might have a greater pool of individuals available to engage in value addition activities, this could lead to increased participation as tasks can be distributed among household members. This correlation echoes the findings of Ademola et al. (2017), indicating that larger households often venture into value addition to diversify their income streams.

Table 5 shows that the relationship between groundnut processing experience and participation in groundnut value addition activities is statistically significant, with an r-value of 0.122 and a p-value of 0.034. This can be explained as rural women with more experience in groundnut processing are likely to have acquired valuable skills and insights related to value addition activities, and this accumulated expertise could motivate them to actively participate. Women with significant processing experience might possess higher levels of confidence in their abilities, thereby feeling more motivated to engage in value addition activities. This resonates with recent study by Adepoju, & Agbonlahor, (2020), who explored the role of experience in cassava processing and its impact on women's engagement in Nigeria. Implication of this is that the significant relationship between groundnut processing experience and participation underscores the value of skill acquisition and expertise. It was noted in Table 5 that household involvement and participation result is also significant, with an r-value of 0.334 and a p-value of 0.032. Active household involvement implies that multiple family members collaborate in value addition activities. This shared effort can contribute to increased participation as well as efficient task completion, and when household members contribute to value addition, resources such as time, labor, and equipment can be shared, enhancing the overall engagement. This aligns with recent studies by Adekunle & Fatuase, (2021) explored the impact of household involvement on women's participation in agricultural value addition in Nigeria. Furthermore, Results in Table 5 reveals that the relationship between annual income and participation in groundnut value addition is statistically significant, with an r-value of 0.176 and a p-value of 0.019. This implies that a higher annual income might provide women with more financial resources to invest in groundnut value addition activities. This resonates with

findings by Onyango & Ogutu, (2019), who investigated the role of income in women's participation in value addition in Kenya. In addition. The results in Table 5 reveals that engagement in specific value-added products exhibits varying degrees of significance in relation to women's participation in groundnut value addition. Each product's r-value and p-value contribute to understanding the nuanced dynamics of women's preferences and participation. Groundnut cake (kulikuli) with a mean score of 3.05 indicates that rural women frequently engage in producing groundnut cake, the high mean score and rank (1st) indicate that groundnut cake production is the most actively pursued value-added activity among the surveyed women. Therefore, the r-value of 0.143 indicates a positive but relatively weak correlation between engaging in groundnut cake production and women's participation. The p-value of 0.045 is below the conventional threshold of 0.05, suggesting that the relationship is statistically significant. Therefore, women who actively participate in groundnut cake (kulikuli) production are likely to demonstrate higher engagement in groundnut value addition overall. Groundnut cake (kulikuli) production holds significance in rural women's participation. This traditional value-added product might have cultural importance and contribute to both household consumption and potential income generation.

Table 5: PPMC result showing the relationship between the socio-economic characteristics of the respondents and the level of participation in groundnut value addition.

Variable	r-value	p-value	Remark
Age	-0.230	0.030	Significant
Household size	0.341	0.042	Significant
Processing experience	0.122	0.034	Significant
Nature of work	0.098	0.029	Significant
Household involvement	0.334	0.032	Significant

Annual Income	0.176	0.019	Significant
Value added product	0.143	0.045	Significant

Source: Field survey, 2023

Conclusion and Recommendations

Based on the findings from the study, it can be concluded that groundnut has many value added products and the level of participation in groundnut value addition is high among women processors is high despite low income realized from the activity. Participation in groundnut value addition is constrained by poor access to credit, high cost of input, inadequate capital for expansion, poor extension service delivery and low profit margin. Factors that significantly influence participation of women in groundnut value addition were age, household size, alternative occupation, years of processing experience, household involvement, annual income, and the value-added product.

It is therefore recommended that in order to ensure food security in society, policymakers must consider value addition hitches in addition to production and also concerns women should have access to better extension services and financial support from government and relevant stakeholders. Extension services should be provided to women in groundnut value addition on new techniques available and other products that can be derived from groundnut. Special programs and trainings can be organized to help improve their methods.

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