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ASSESSMENT OF IMPROVED METHODS OF SHEA-NUT COLLECTION AMONG

SHEA-NUT PICKERS IN NIGER STATE, NIGERIA

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ABSTACT

The study examine the assessment of improved methods of Shea-Nut collection among Shea-Nut pickers in Niger State. Data were collected with the aid of well-structured questionnaire and focus group discussions, analyzed using descriptive statistics such as frequency distribution, mean and standard deviation. A multi- stage sampling technique was used to select a total of the 200 respondents for the study. The result revealed that the 41.50% of the respondents were within age bracket of 31-40 years. However, 92.5% of the sampled respondents were married with non-formal education. In addition, 53.50% of the respondents earn \$50,000.00 as income. Majority (89.00%) of the respondents collect the shear-nut in an opened field. From the estimate of the regression, educational level was significant factor (p<0.05) in determining shea nut collection method. The study concluded that, Shea nut collectors are mainly women, aged and married, with non-formal education. The choice of collection techniques are influenced by occupation and the educational status of the respondents. It is recommended that stakeholders in Shea-nut industry should interact with Nigerian Institute for Oil palm Research (NIFOR) that has the national mandate on Shea tree research and development to produce sufficient quantity of hybrid/improved Shea tree seedling varieties for modern plantation establishments.

Keywords: Assessment, Collection, Communitie, Income and Shear-nut

INTRODUCTION

Shea trees (*Vitellaria paradoxa*) is a perennial crop that is usually found in the wild agroforestry parklands across the semi-arid region of Africa, where annual rainfall ranges from 600 to 1500mm (Enaberue *et al.*, 2011). The tree has been important for the livelihood of rural population for centuries. Almost every part of Shea trees are useful for example, the fruit is eaten, and the leaves are used as fodder for livestock and serve as an ingredient for making alkaline and paint for industrial purposes (Elias and Carney, 2007). African exports of Shea butter have increased to 3200MT in year 2000. Major Shea nut importers in recent years were Belgium, Denmark, Japan, the Netherlands, Sweden and the United Kingdom (FAO, 2005). Nigeria is the leading producer of Shea nut: 355,000MT produced in 1999, 58% of the African production, but 10,000MT lower than in 1996 and 414,000MT in 2005 (FAO, 2005).

Nigeria accounts for 62% of the 600,000 metric tons produce in West Africa. Shea nuts play important socio-economic role in Nigeria in terms of employment and income generation to a significant proportion of rural population especially women who are, directly involved in shea nut collection and butter extraction (Matanmi *et al.*, 2011). Niger state ranked top among the Sheanuts producing states in Nigeria which include Kwara, Nasarrawa, Zamfara, Kaduna, Sokoto, Jigawa, Kano, Plateau, Taraba, Benue, Adamawa, Bauchi, Kebbi, Edo, Yobe and Federal Capital Territory (FCT), Abuja (FCT-FDO, 2006).

In Nigeria, direct cultivation of Shea tree is not common because of slow initial growth. However, farmers preserved Shea trees in the wild forest when cultivating other crops and the Shea







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plantation is restricted to avoid shading of other crops when clearing land for other agricultural activities. The demand has motivated Nigeria and other West Africa countries to go into export of Shea products. Operations like collection of shea nut from the field are still being mostly manually done. There is paucity of information on the use of improved methods of collection to achieve the full potentials of the nuts. The broad objective of the study was to assess the improved methods of Shea-Nut collection among Shea-Nut pickers in Niger State, while the specific objectives are to; i. describes the socioeconomic characteristics of Shea nut collectors in the study area.

ii. examine the use of improved methods of Shea nut collection in the study area.

iii. determine the relationship between the improved methods of collection in the study area.

MATERIAL AND METHODS

The Study Area

The study was carried out in Niger State. The State was created in 1976 with Minna as the State capital. This State is found in the middle belt region of Nigeria, approximately located between latitude 8.02°N and 10.20°N and longitudes 3.38"E and 7.03°E of equator. The State has a total land area of about 76,363 square kilometers and a projected population of about 4,082,558 People (NPC 2006). Niger State shares international boundary with Republic of Benin, state boundaries with Kebbi and Zamfara in the north, Kaduna and FCT in the east, and Kogi and Kwara in the south. The climate, vegetation and the soil of Niger State as described by (Ayinde *et al.*, 2013), reported that the state experiences two distinct seasons the dry and wet seasons. The predominant ethnic groups are Nupe and Gbagyi. Other tribes are the kamuku, kambari, hausa, Fulani, etc. Farming is the major occupation of the people and trading activities.

Sampling Size and Sampling Technique

A multi- stage sampling technique was used to select sample for the study. In the first stage, out of 25 LGA's of the Niger State, One Local Government Area (LGA) was randomly selected from each of the agricultural zones A, B and C of the State. Three communities from each of the 3 LGAs were randomly selected giving a total of 9 communities. 50% of the Shea nut pickers were selected from the 3 communities in each of the 3 LGA's using simple random sampling technique giving a total of the study.

Analytical Techniques

Descriptive statistics such as frequency distribution, mean, standard deviation was used to achieve the objectives of the study.

RESULTS AND DISCUSSION

Socio-economic Characteristic of the Respondents

The socio-economic characteristics considered in the study include age, sex, marital status, income, household size, occupation and level of education. The result revealed that 41.50% of the respondents were with age bracket of 31-40 years. However, only 4% of respondents fell within age bracket of 51-60 years. This implies that the majority of the respondents were middle aged and active to participate in Shea nut collection. This in line with the findings of Ahmed (2013) who reported that age is a factor that determines the effort of an individual. This factor always affects the quality and quantity of work done. The result further show that both the elderly and youth are also into Shea-nut collection, with the female as the major Shea-nut collectors (81.50%). The results also indicate that 53.5% of the respondents had income of less than 50,000. This may be





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due to respondents choosing to concentrate more on shear-nut collection because that is their major source of income because the nuts provide an important additional income for their families. This is in line with UEBT (2019) who reported that Shea nut is in high demand for skincare, medicines and as a cooking fat, its high demand in recent years, offering people a tangible way to improve their livelihoods.

Also, Table 1 revealed that 92.5% of the respondents were married; this revealed that the level of involvement of married people was generally higher. this finding is similar to that of Ibrahim and Musa (2022) who reported that a higher percentage of shea butter pickers are married and will serves as a source of labour for the pickers who have to travel far to picked shea-nut and as well collect the fire wood. Similarly, 27.50% earn better than the first category from 50,001 - 100,000 due to their involvement in this business while 7.50% of the shea nut collectors earn above 150,000 may be because they have good economic status due to high capability. Apparently, the distribution of respondents in term of their level of education shows that majority (53.00%) of the respondents had non-formal education. This implies that there was higher level of illiteracy that likely brings the disparity in the productivity work force.

| Variable (n=200) | Frequency | Percentage | |
|----------------------|-----------|------------|--|
| Age (Years) | | | |
| 21 - 30 | 49 | 24.50 | |
| 31 - 40 | 83 | 41.50 | |
| 41 - 50 | 60 | 30.00 | |
| 51 - 60 | 8 | 4.00 | |
| Mean | 38 | | |
| Gender | | | |
| Male | 37 | 18.50 | |
| Female | 163 | 81.50 | |
| Income | | | |
| < 50,000 | 107 | 53.50 | |
| 50,001 - 100,000 | 55 | 27.50 | |
| 100,001 - 150,000 | 23 | 11.50 | |
| Above 150,000 | 15 | 7.50 | |
| Level of Education | | | |
| Primary Education | 16 | 8 | |
| Secondary Education | 59 | 29.50 | |
| Tertiary Education | 19 | 9.50 | |
| Non Formal Education | 106 | 53.00 | |
| Marital Status | | | |
| Married | 185 | 92.5 | |
| Single | 4 | 2 | |
| Widow/widower | 6 | 3 | |
| Divorced | 5 | 2.5 | |

|--|

Source: Field Survey, 2022

Shea Nut Collection Method

Table 2 present Shea Nut Collection Method. The result revealed that 89.00% of the respondent collect the shear-nut in an opened field, while 3.50% from establish Orchard of Shear Nut field and 7.50% from both, this could be because they want it to germinate to produce more Shea nut trees. This is in line with VEBT (2019). These women collectors put the nuts in a large basin and then carry it on their heads from point of collection which is some kilometers away to



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homes. The nuts they leave behind as result of distance, which are plentiful, are allowed to germinate and develop into new Shea trees. This might also be due to Willingness to adopt improved technology. This is in line with Garba (2023) who reported that adoption of improved technology is a major stage and is one of the greatest challenges facing the Shea nut farmers in the study area.

| Table 2: S | Shea nut | collection | method |
|------------|----------|------------|--------|
|------------|----------|------------|--------|

| Collection Method | Frequency | Percentage |
|--------------------------------------|-----------|------------|
| Open Field | 178 | 89.00 |
| Establish Orchard of Shear Nut Field | 7 | 3.50 |
| Both Method | 15 | 7.50 |
| Total | 200 | 100.00 |

Source: Field Survey, 2022

Reason for the Choice of Technology Available

Table 3 shows that majority (44.50%) of the respondents' reason for the choice of technology available was due to continence and 24.50% reported that, it is the only available technology. However, 19.00% of the respondents used equipment availability, 7% were satisfactory output and 5% end users choice. This is in agreement with Oyakhilomen *et al.* (2020) farmers who might be reluctant to adopt extension advice delivered to them via technology, but also by extension agents might be reluctant to use such technology to provide extension advice to farmers.

| Technology Available | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Continence | 89 | 44.50 |
| The Only Available Technology | 49 | 24.50 |
| Equipment Available | 38 | 19.00 |
| Satisfactory Output | 14 | 7.00 |
| End User Choice | 10 | 5.00 |
| Total | 200 | 100.00 |

Table 3: Reason for the choice of technology available

Source: Field Survey, 2022

Determinants of Shear nut Collection Method

From the estimate of the regression analysis it was revealed that 43% variation in the choice of Shea nut collection method used by respondents was explain by the independent variables included in the model. However the result show that occupation and educational level were positive and significant (p<0.05) in determining the choice of Shea nut collection method. Collection experience is also significant factor (p<0.01) in determining Shea nut collection method lack of knowledge on the technical know-how of the machines and its utilization which can be attributed to their not using modern processing technologies. However, Age was not significant factor. This suggests that, this is likely assisting them in understanding the objective of Shea nut collection.

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| Variable | В | S.E | t | Sig. |
|-----------------------|---------------|----------|----------|------|
| (Constant) | 3.138 | .439 | 7.142 | .000 |
| Age | 004 | .007 | 563 | .574 |
| Gender | .243 | .164 | 1.481 | .140 |
| Occupation | .516 | .053 | 9.772*** | .000 |
| Education | .145 | .050 | 2.896*** | .004 |
| Marital Status | .069 | .075 | 921 | .358 |
| House Hold size | .023 | .049 | 474 | .636 |
| Collection Experience | .103 | .058 | 1.776* | .076 |
| | Observation = | 200 | | |
| | F(7, 193) = | 20.60*** | | |
| | $R^2 =$ | 0.430 | | |

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Source: Field survey data 2022

Conclusion and Recommendations

The study concluded that, Shea nut collectors are mainly women, aged and married, with no formal education and have farming as their primary occupation. The choice of collection techniques are influenced by occupation and the educational status of the respondents. It is recommended that stakeholders in Shea-nut industry should interact with Nigerian Institute for Oil palm Research (NIFOR) that has the national mandate on Shea tree research and development to produce sufficient quantity of hybrid/improved Shea tree seedling varieties for modern plantation establishments. Also, enforcement of the legislation on indiscriminate cutting down of Shea tree should be enhanced as a way of protecting the Shea trees for economic purposes.

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