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Keywords: Calcareous mudstone; Soil properties; Taxonomic Classification; Nutrients

Introduction

Calcareous mudstone is a sedimentary rock and consolidated product of calcareous sands, limy mud and crushed shells (Anatala, 1996). It is composed of carbonates in the form of aragonite, calcite and dolomite. The mudstone formations have been referred to as River Shale group or the oldest marine carbonate sequence which are mostly impervious shale with

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Income Generating Economic Activities Among Raphia Palm Farmers in Delta State Nigeria

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Abstract

The engagement of economic activities through raphia palm production has provided jobs qualified teeming youths. The study identified socio-economic characteristics of the respondents, involvement in raphia palm income generating economic activities; perceived most income generating economic sources, and constraints militating against involvement in raphia palm income generating economic activities. A multistage sampling procedure was used to select 150 respondents. A well-structured questionnaire was employed in data collection while descriptive statistics was used to analyse the data. The result revealed that most (97.40%) of the respondents were men with an average age of 44.47 years. They were mostly involved in income generating economic activities such as wine preservation ($\bar{x} = 1.79$), Local gin (alcohol) production ($\bar{x} = 1.75$) and palm wine tapping ($\bar{x} = 1.71$). Local gin production ($\bar{x} = 3.48$), wine preservation ($\bar{x} = 3.46$), palm wine tapping ($\bar{x} = 3.32$) and edible worm production ($\bar{x} = 3.23$) were the most perceived income generating economic sources. Inadequate fund ($\bar{x} = 3.76$), unavailability of modern processing technologies ($\bar{x} = 3.62$) and lack of access to land ($\bar{x} = 3.62$) were the major constraints militating against farmers involvement in raphia palm income generating economic activities. It is therefore recommends that government should promote and develop those identified income generating economic sources in order to serves as a veritable source for creating employment for its teeming unemployed youths.

Key words: Economic activities, farmers, Income Raphia palm.

Background of the study

The Raphia palm is essentially indigenous to the freshwater coastal swamps and wetland of the tropical rainforest zone of West Africa which provide the high annual rainfall, high ambient temperatures, very high relative humidity and long sunshine hours for its optimal growth (Otedoh, 1977). In Nigeria, raphia palms are found growing especially in the coastal fresh water swamps areas, other low-lying areas, wetlands and river flood plains of Delta, Bayelsa, Rivers, Akwa-Ibom, Cross River and Ondo States as well as along the plains of rivers in other parts of Nigeria, especially Lagos, Ogun, Anambra, Imo and Abia States (Enonuya, 2013).

The typical raphia palm is a tall, elegant palm with erect stem, often up to 6 metres tall, bearing large leaves in the plant kingdom. The trunk or stem of raphia palm (i.e raphia *hookeri*), matures in 5-7 years and bears several large leaves but eventually produces a single terminal inflorescence axis which gives rise to between 2-10 inflorescences or flower-bearing structures. If the initial emerging bud is not tapped for sap palm wine production, the palm then flowers, bears fruits and die after three and half years of maturity (Enonuya, 2013).

The Nigerian Institute for Oil Palm Research (NIFOR) was mandated in 1970 to carry out research into raphia palm so as

to provide the management techniques for cultivation and utilization of the product. According to NIFOR, (1985) *Raphia hookeri* variety is of more superior than other varieties in terms of highest quantity of palm sap produce in the fresh water swamp. With the development of improved management techniques for *Raphia* production, the cultivation of *Raphia hookeri* is on the increase (Ndon, 2003).

Although, the palm has been shown to be of tremendous benefit to mankind, there has been little or no conscious effort to domesticate the plant or cultivate it in large plantations. Lack of adequate knowledge about the usefulness and technology on how it can be domesticated as well as inadequate awareness of the economics importance of the raphia palm has contributed to the neglect of the palm (Onwubuya *et al*, 1991).

However, according to Ismail and Enonuya, (2013), there is a growing awareness of the benefit of raphia palm to the rural communities where it grows. *Raphia* exploitation and utilization have yielded direct and immediate micro level benefits to economically disadvantaged rural communities in Nigeria Enonuya, (2011). Over the years, the level of the importance of raphia palm as a resource to the rural communities was not fully appreciated. Some of the reasons for this include lack of acknowledgement of the productive aspect of raphia palm as a forest resource; lack of information regarding its available palm wine yield; qualities, preparation and utilization; as well as lack of consideration of its potential value of the national economy (FAO, 2007).

Therefore attention should be given to

this resource because of population increase, worsening economic climate change and the inability of developing countries such as Nigeria to afford imports.

In the current dispensation of economic recession, many households are searching for alternatives to their regular sources of income while others are searching for complementary activities. It is therefore, necessary to substantiate the economic importance of raphia palm with empirical data.

Objectives of the Study

The major objective of the study was to identify respondents' level of involvement in raphia palm income generating activities. The specific objectives were to:

1. describe the socio-economic characteristics of respondents in the study area;
2. examine respondents level of involvement in raphia palm income generating economic activities;
3. assess respondents' perceived most income generating economic sources;
4. identify the constraints to involvement in raphia palm income generating economic activities

Methodology

Delta State is an oil and agricultural producing State in Nigeria. The capital city is Asaba, which located at the Northern end of the State. The State is situated in the region known as the South-South geo-political zone with a population

of 4,098,291 (NPC, 2006).

The State lies approximately between longitude 500 and 601 East, Latitude 500 and 601 North of the Equator. It is bounded in the North and West by Edo State, the East by Anambra, Imo, and Rivers states, Southeast by Bayelsa State, and on the Southern flank is the Bright of Benin which covers about 160 kilometres of the State coastline. Rainfall is heavy all over the State and the major cash crops grown in the state include raphia palm, oil palm and rubber (Delta State Government, 2017).

A multistage sampling procedure was employed in this study. In the first stage, five Raphia palm producing Local Government Areas (LGAs) in Delta were purposively selected for the study based on the production capacities. The LGAs include; Ethiope East, Ethiope West, Okpe, Sapele, and Ughelli South. This was followed by purposive selection of three communities from each of the selected LGAs because of the high rate of raphia palm processing activities in the areas. From each selected communities, ten respondents were randomly selected thus making a total number of one hundred and fifty (150) respondents selected for the study. Primary data collected through well-structured questionnaires were analyzed by the use of descriptive statistics such as percentage, frequency count, and mean scores.

Results and Discussion

Socio-economic characteristics of respondents

Majority (60.7%) of the raphia farmers is between the ages of 40 – 59 with an average age of 44.47 years (Table 1). It can be

inferred that majority of the respondents were still within the active age of production. This finding agrees with the findings of Ojemade (2016), who reported that farmers in the Southern Nigeria are within the economically active age of below 60 years. Majority (72.7%) of the respondents were males which indicate that raphia palm production and its related activities are predominately dominated by male. This finding also agrees with the findings of Ojemade (2016), who reported that agricultural production in the Southern Nigeria is dominated by the male gender. Table 1 further revealed that majority (79.3%) of the respondents had either or both primary and secondary school education. This suggests that the respondents are fairly educated in the study area. This is in consonance with the findings of Bishop (2014), who reported that farmers in the Southern Nigeria have average years of schooling of 12 years. In addition, it revealed that 50.7% of the respondents are using communal plantations for their economic activities whilst 27.3% of them used family plantations for the same reasons. This suggests that raphia palm farm ownership by individuals might be constrained by the predominant land tenure system in the study area which is communal. This to a great extent might negatively affect the quantity as well as the quality of raphia palm products produced in the study area.

Involvement in Income Generating Economic Activities in raphia palm production

Table 2 revealed that respondents were mostly involved in raphia palm income

Table1: Distribution of respondents according to socio-economic characteristics

Variable	Frequency (F)	Percentage (%)	Mean
Sex			
Male	109	72.7	
Female	41	27.3	
Age (years)			44.47
Less than 30	11	7.3	
30 - 39	38	25.3	
40 - 49	45	30	
40 - 59	46	30.7	
Above 60	10	6.7	
Educational level			
No formal	26	17.3	
Primary	60	40	
Secondary	59	39.3	
Tertiary	5	3.3	
Farm ownership			
Self	11	7.3	
Family	41	27.3	
Rent/hired	22	14.7	
Communal	76	50.7	

Source: Field Survey, 2017.

generating economic activities such as wine preservation ($\bar{X} = 1.79$), local gin (alcohol) production ($\bar{X} = 1.75$), palm wine tapping ($\bar{X} = 1.71$), fish trap making ($\bar{X} = 1.61$), and edible worm production ($\bar{X} = 1.57$). The Table also revealed that production of raphia palm seedlings ($\bar{X} = 0.99$) is the least economic activity that

the respondents were involved in. It can be inferred from the result that prospective investors should invest in aforementioned economic activities such as wine preservation, local gin production, palm wine tapping, fish trap making and edible worm since it was found to be the most income generating activities.

Table 2: Distribution of respondents according to involvement in income generating economic activities in raphia palm production

Activities	Total Weighted Score	Mean ($\bar{X}$)
Wine preservation	268	1.79
Local gin production	262	1.75
Palm wine tapping	256	1.71
Fish trap making	242	1.61
Edible worm production	235	1.57
Mat production	210	1.40
Raphia cultivation	196	1.31
Rope making	210	1.40
Basket production	210	1.40
Thatch production	180	1.20
Production of raphia palm seedlings	148	0.99
Fiber production	210	1.40
Bags, shoes, caps/hats production	159	1.06

Yes = 2; No =1

Source: Field Survey, 2017.

Respondents' Perceived most Income Generating Economic Sources in Raphia Palm Production

Table 3 revealed that local gin production ($\bar{X} = 3.48$), wine preservation ($\bar{X} = 3.46$) and palm wine tapping ($\bar{X} = 3.32$) were the most perceived income generating economic sources by the respondents in the study area. Others perceived most income generating economic sources include edible worm production ($\bar{X} = 3.27$), fish trap making ($\bar{X} = 3.23$), mat production ($\bar{X} = 3.10$), basket production ($\bar{X} = 3.09$) and rope production ($\bar{X} = 3.02$). The Table also revealed that fiber production ($\bar{X} = 2.36$) and Bags, shoes, caps/hats production ($\bar{X} = 2.10$) were the least perceived income generating economic sources by the

respondents in the study area.

Constraints to Involvement in Raphia Palm Income Generating Economic Activities

Table 4 presents the constraints to involvement in raphia palm income generating economic activities. 3.76) ranked 1st was a very serious constraint militating against respondents involvement in raphia palm income generating economic activities. This agrees with the findings of Ubokudom and Okorji (2014) who posited that lack of access to credit facilities was the most serious constraint to raphia palm wine production in Akwa Ibom State, Nigeria. Another very serious constraint identified

Table 3: Distribution of respondents according to Perceived most income generating economic sources in raphia palm production

Income Generating Economic source	Total Weighted Mean Score (Σfx)	Weighted Mean Score ($\bar{X}$)
Local gin production	522	3.48
Wine preservation	519	3.46
Palm wine tapping	499	3.32
Edible worm production	491	3.27
Fish trap making	485	3.23
Mat production	466	3.10
Basket production	464	3.09
Rope production	453	3.02
Raphia cultivation	441	2.94
Thatch production	438	2.92
Production of raphia palm Seedlings	358	2.38
Fiber production	354	2.36
Bags, shoes, caps/hats production	315	2.10

Source: Field Survey, 2017

was unavailability of modern processing technologies ($\bar{X} = 3.62$) ranked 2nd. Lack of access to land ($\bar{X} = 3.57$) ranked 3rd was another very serious constraint identified. This is also in line with the report of Ubokudom and Okorji (2014) that land tenure system was adjudged a constraint by 95% of the respondents in their study. This was to be expected because raphia palm tree is a perennial crop that may not be planted in a rented land. High cost of labour ($\bar{X} = 3.48$) ranked 4th and high cost of inputs ($\bar{X} = 3.45$) ranked 5th were also identified as serious constraints affecting farmers involvement in income generating economic activities in the study area. This

agrees with the findings of Adakaren (2014) who reported that Lack/poor availability of labour/input supply seriously affects Raphia Palm wine marketing in South-South Nigeria. High perishability of products ($\bar{X} = 3.40$) ranked 6th, was also a very serious constraints militating against income generating economic activities in raphia palm production. This is an indication that lack of storage facilities is a very serious constraint faced by the respondents in the study area. In the same vein, ineffective extension services ($\bar{X} = 3.10$) ranked 7th was identified as a serious constraint militating against income generating

Table 4: Constraints to Involvement in Raphia Palm Income Generating Economic Activities

Constraints	Total Weighted mean score (Σfx)	Mean score(X)	Ranking
Inadequate fund	564	3.76	1st
Unavailability of modern processing technologies	543	3.62	2nd
Lack of access to land	536	3.57	3rd
High cost of labour	522	3.48	4th
High cost of input	517	3.45	5th
High perishability of products	510	3.40	6th
Ineffective extension services	465	3.10	7th
Poor support from government	446	2.97	8th
Non-membership of farmers association	405	2.70	9th
Lack of information on raphia palm production techniques	386	2.57	10th
Unavailability of improved seed/seedlings	352	2.35	11th

Source: Field survey, 2017

economic activities. This might be attributed to the fact that extension personnel are usually poorly mobilized both in terms of wages and logistics in Nigeria; hence they are usually handicapped to properly discharge their duties. Non-membership of farmers association ($X = 2.70$) and lack of information on raphia palm production techniques ($X = 2.57$) were others identified constraints militating against farmers involvement in raphia palm income generating economic activities.

Conclusion

Most of the respondents were male, fairly educated and in their active productive age. They were mostly involved in raphia palm income generating economic activities such

as wine preservation, local gin (alcohol) production and palm wine tapping. Most perceived income generating economic sources include local gin production, wine preservation, palm wine tapping and edible worm production. However, they are constrained in engaging in the most perceived raphia palm income generating economic activities by inadequate fund, unavailability of modern processing technologies and lack of access to land. Others include high cost of labour and inputs, high perishability of products and ineffective of extension services.

Recommendations

Based on the findings of this study, it is recommended that;

1. Government should provide

financial assistance to raphia palm farmers through micro credit facilities.

2. Government agencies saddled with the responsibility of regulating the land tenure system should come up with favourable policies for access to land.
3. Relevant research institutes such as Nigerian Institute for Oil Research (NIFOR) Benin City should make technologies readily available and at affordable price.
4. Farmers should form functional cooperative associations in order to easily access credit facilities that are made available by federal and state government.

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