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Evaluation of technical skills required by youth in palm oil production for self-employment in Cross River State, Nigeria

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Abstract
The study evaluate technical skills required by youth in oil palm production for self-reliance in Cross River State. The study adopted survey research design. Three objective, three research questions and two hypotheses guided the study. The population for the study is 222 comprises of 137 youth (farmers) and 0.85 extension agents. There was no sampling because the researcher was able to manage the population. The instrument for data collection was a structured questionnaire title: Palm oil Production Questionnaire (OPPQ) Questionnaire. The questionnaire was face and content validated by three experts one from the Department of Agricultural Education, one from the Department of Measurement and one from the Department of Agronomy all in Joseph Sarwaun Tarka University, Makurdi, Benue State. To ensure the reliability of the instruments, it was trial tested on 15 Agricultural Extension Agents and 15 Palm oil Processors in Benue State. Cronbach Alpha Coefficient method was used to compute the internal consistency of the instrument which gives a coefficient of 0.89. The questionnaire was administered on a face basis by the researcher with the help of three research assistants' familiar with the study area. The respondent, were required to rate the questionnaire on a four-point scale of Highly Required=4, Required=3, Averagely Required=2 and Not Required=1 respectively. Data collected was analyzed using descriptive statistics. The research questions were answered using mean and standard deviation. The null hypotheses formulated were tested using t-test at 0.05 level of significant. Based on the findings of the study, it was concluded that youth in the study area required skills in planting and post planting operation of palm oil in 11 items and to improve their standard of living, it was discovered that the youth required skills in 17 items in processing and marketing for efficient productivity for self- reliance. All the null hypotheses were rejected. It was therefore recommended that skills required in planning should be incorporated into the programme of entrepreneurship centre for training of youth for better production of palm oil in the area.
Keyword: Evaluation of technical skills, Youth in palm oil production & self-employment

Introduction
The importance and the need for producing indigenous food in developing country like Nigeria cannot be overlooked. Agricultural production will be meaningless if what is produced is not being processed into forms that can be utilized by the consumers. It on this

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note we should have educational resources and equipment for palm oil technology. Palm oil yields an average of ten times greater than alternative seeds like soybean, sunflower and rapeseed. Disciplines like biochemistry, chemical and mechanical engineering to established equipment which would provide the opportunity for large scale fully mechanized processing, resulting in the evolution of a sequence of product of accepted quality for the international edible oil trade.

Hambug (2018) added that global production of oil and fats stood at 160 million tons while palm oil and palm kernel oil were jointly the largest contribution, accounting for 48 million tonnes, or 30% of the total output. However, development in this oil palm production of the economy has not been encouraging due to low production. Nigeria's first position in the oil palm industry was established mainly in response to the industrial raw material needs of the colonial masters (Usoro,2016). Palm oil was among the major tree crops by which Nigeria was known in the late fifties. However, Fawkener (2018) noted that modern processing of oil palm fruit bunches into edible oil is practiced using various methods, which may be grouped into four categories according to their degree of complexity. These are the traditional methods, small-scale mechanical units, medium-scale mills and large industrial mills. Annon (2014), added that small-scale mills are of two kinds which may be based on the hand press and aimed to use the very cheapest locally available material for ancillary equipment, or they may be fully mechanized but of low throughout and simple design, with well-built but uncomplicated components.

This component equipment required technical skills to operate and it on this note Ngbongha et al (2024) described skills as the capacity to carry out a task expertly. The authors further added that skills entail the development of performance capability through the repeated execution of an action. Skill is a present, observable competence to perform a learned psychomotor act. Effective performance of skills requires application of related knowledge and facilitates acquisition of new knowledge (Dooley in Julie et al, 2017). Skill is the habit of acting, thinking and behaving in specific activity in such a way that the process becomes natural to the individual through practice (Ngbongha & Akaa, 2020). In this context, skills refer to the ability of the youths to carry out oil palm production with optimum results. Skills as opine by Wever and Obiyai, (2019) are classified into the following: technical skills, human skills, conceptual skills, Occupational skills, cognitive skills, manipulative/psychomotor skills, communication skills etc. Therefore, skills are essential for a successful production of oil palm by the youth (farmers).

Youths constitute the major human resource for agriculture and technology innovation in every country (Nwachukwu, 2018). They are one of the greatest assets and major catalyst for change that any nation can mobilize for its national development through participation in agriculture (Valerie, 2019). According to National Population Commission (NPC, 2013), Nigerian youth was estimated to be almost half of her population and encapsulates youth as individuals between 15 and 35 years of age. Bahaman et al. (2015) and Alao et al. (2014) refers to youth as men and women that are young with the abundance of energy and strength both mentally and physically. They possess both positive and negative attributes, which predominantly distinguish them from the adults. They are the most exuberant, the sharpest in memory, the most talented, the most innovative and the healthiest in most societies (Alabi and Famakinwa, 2016). Yet, they remain the bedrock on which every nation's development thrives. According to Aphunu and Atoma as cited in Thomas and Eforuoku (2016), noted that the farming population in Nigeria is aging and is becoming practically impossible for this aged generation dominating agricultural sector to deliver the expected productivity that will

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meet the food needs of the ever growing population. To enhance increase production in palm oil the youth need to acquired skills that will enable them engage to be self-reliance. Self-reliance according to William and Mathias (2014) is the ability to do something by oneself without relying on others. It is also a process of working based on one's own decision-making (Johan, 2016) It's a combination of hard work and strong determined mind. The identification and acquisition of these required skills when put into used will provide an opportunity for the youth to be self-reliance in Oil palm production and at the same time boost their level of income.

Statement of Problem

The rate of deterioration in palm oil production to rural migration of youths to urban area has created a concern to researcher looking for the causes and a solution to the problem. Preliminary investigation shows that youth's labour in palm oil production has no skills, and as such leads to non-availability of able bodied labourers for production and processing which in turn reduces production capacity. Another problem is bruising and damage on the fruit from the harvesting time to the processing in order to avoid obtaining low oil in free fatty acid from ripe fruits. The fall in export quantities of palm oil when compared with what obtained early in this century could be attributed to low production of the product as a result of the civil war and the discovery of petrol in the country. The increase in population, which raised consumption pattern of agricultural products in the country and the decrease in local industries has also lead to low production of palm oil.

It was also observed that majority of the youth in the study area are not aware that palm oil production can provide job thereby increasing their level of income as such continue to depend on government pay job that is not readily available. Therefore, if the youth will identify these skills and put them to use it will assist in reducing the rate of unemployment in the study area.

Purpose of the Study

The main objective of the study is to evaluate the technical skills required by youths in palm oil production in Cross River State, Nigeria. Specifically, the study seeks to:

1. Determine skills required by youths in planning for palm oil production in Cross River State.
2. Identify skills required by youths in planting and post planting of oil palm in Cross River State.
3. Evaluate skills required by youths in processing and marketing of palm oil in Cross River State.

Research Questions

1. What are the skills required by youths in planning for palm oil production in Cross River State?
2. What are the skills required by youths in planting and post planting of oil palm in Cross River State?
3. What are the skills required by youths in processing and marketing of palm oil in Cross River State?

Research Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

1. There is no significant difference in the mean rating of palm oil processors and extension agents on skills required by youths in planning for palm oil production.
2. There is no significant difference in the mean rating of oil palm processors and extension agents' o skills required by youths in processing and marketing of oil palm.

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METHODOLOGY

Research survey design was used for the study. The population for the study is 222 respondents. This consists of 137 registered palm oil processors (Farmers) and 85 extension agents, (Cross River State Agriculture and Rural Empowerment Scheme, 2024) sample size for this study was 222. There was no sampling because the researcher was able to manage the population. The instrument for data collection was a structured questionnaire titled "Oil Palm Production Questionnaire (OPPQ)" developed by the researcher through literature review and in line with the objectives of the study. The instrument was validated by three experts, one from the Department of Agricultural Education, one from the Department of Measurement and Evaluation and one from the Department of Agronomy all in Joseph Sarwaun Tarka University, Makurdi, Benue State. The instrument was trial tested on 15 Agricultural Extension Agents and 15 Palm Oil Processors in Benue State. Cronbach Alpha Coefficient method was used to compute the internal consistency of the instrument which gives a coefficient of 0.89.

The questionnaire was administered on a face basis by the researcher and three research assistants who are graduates of Agriculture and are familiar with the study area. The respondent, were required to rate the questionnaire on a four-point scale of Highly Required=4, Required=3, Averagely Required=2 and Not Required=1 respectively. Decision rule was that any statement having a mean of 2.50 and above was considered required while the mean score rating of below 2.50 was considered as not Required. Data collected was analysed by descriptive and inferential statistics. The research questions were answered using mean and standard deviation. The null hypotheses formulated were tested using t-test at 0.05 level of significant.

Results of Findings

Question 1: What are the skills required by youths in planning for palm oil production?

Table 1:

Mean Rating on the skills required by youths in planning for palm oil production in Cross River State (N=137, 85)

S/N	Item Statement	Mean	SD	Remark
1	Ability to choice a suitable Site	3.23	.725	Required
2	Land Preparation	3.36	.683	Required
3	Marking or pegging out	3.42	.609	Required
4	Ability to considered the nature of the land (topography)	3.45	.567	Required
5	Ability to identify the nature of soil	3.50	.510	Required
6	Ability to considered the availability of inputs	3.49	.535	Required
7	Ability to identify the sources of labour	3.47	.500	Required
8	Cleaning of site	3.46	.543	Required

The table above shows that all the items are required in planning for palm oil production such as ability to identify the nature of soil with the highest mean score of 3.50 for required to a mean score of 3.23 which represent (ability to choice a suitable Site) and standard deviation of .500 to .725 respectively.

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Table 2*:*

t-Test Results of Respondents on skills required by youths in planning for palm oil production (N=137, 85)

Variables	N	Mean	Std	Df	Sig	Alpha Value	Remark
Farmers	137	3.388	0.602	220	.000	0.05	S
Ext. agents	85	3.486	0.537				

Keys: N= Number of respondents, Std = Standard deviation, df = degree of freedom, Sig. = P-value; S = Significant.

The table above present t-test on the mean rating of skills required by youth in planning for palm oil production in Cross River State. The result shows that the p-value (sig) is .000 which is less than alpha value 0.05 (at 220 degree of freedom) indicating that the test is statistically significant hence there is a significant difference in the mean ratings of respondents of agricultural Extension Agents and youths (farmers) on the skills required in planning for palm oil production in Cross River State, the hypothesis was therefore rejected.

Question 2: What are the skills required by youths in planting and post planting of oil palm?

Table 3:

Mean Rating on the skills required by youths in planting and post planting of oil palm in Cross River State (N=137, 85).

S/N	Item Statement	Mean	SD	Remark
1	Excavate planting holes with shovel.	3.42	.564	Required
2	Cut the poly bag and place the palm upright in the hole without disturbing soil and root mass	3.14	.912	Required
3	Transplanting	3.34	.731	Required
4	Fill the hole with soil and firmly consolidate the soil at the base of the seedling	3.22	.831	Required
5	Weeding	3.39	.695	Required
6	Pruning	3.20	.881	Required
7	Field Inspection	3.18	.782	Required
8	Fire Tracing	3.34	.779	Required
9	Pest Control	3.45	.696	Required
10	Harvesting	3.33	.664	Required
11	Weighing/Quartering	3.36	.553	Required

Table 3 indicated that the following such as excavate planting holes with shovel, cut the poly bag and place the palm upright in the hole without disturbing soil and root mass, fill the hole with soil and firmly consolidate the soil at the base of the seedling, pruning, pest Control, harvesting and many more are required in planting and post planting of oil palm in Cross River State with a mean score of 3.45 to 3.14 for required and a standard deviation of .553 to .912 as shown on the table above.

Table 4:

t-Test Results of Respondents on skills required by youths in planting and post planting of oil palm (N=137, 85).

Variables	N	Mean	Std	Df	Sig	Alpha Value	Remark
Farmers	137	3.205	0.810	220	.000	0.05	S
Ext. agents	85	3.485	0.735				

Keys: N= Number of respondents, Std = Standard deviation, df = degree of freedom, Sig. = P-value; S = Significant.

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Table 4 present t-test on the mean rating of skills required by youth in planting and post planting palm oil production in Cross River State. The result reveal that the p-value (sig) is .000 which is less than alpha value 0.05 (at 220 degree of freedom) showing that the test is statistically significant hence there is a significant difference in the mean ratings of respondents of agricultural Extension Agents and youths (farmers) on the skills required in planting and post planting of palm oil production in Cross River State, the hypothesis was therefore rejected.

Question 3: What are the skills required by youths in processing and marketing of palm oil?

Table 5:

Mean Rating on the skills required by youths in processing and marketing of palm oil in Cross River State (N=137, 85).

S/N	Item Statement	Mean	SD	Remark
1	Bunch Threshing	3.42	.564	Required
2	Separation of Nuts from the fruit	3.14	.912	Required
3	Sterilization	3.34	.731	Required
4	Stripping	3.22	.831	Required
5	Digestion	3.39	.695	Required
6	oil extraction	3.20	.881	Required
7	Clarification	3.18	.782	Required
8	kernel extraction	3.34	.779	Required
9	Drying	3.45	.696	Required
10	Nut cracking	3.33	.664	Required
11	Grading and bagging	3.36	.553	Required
12	Know your competitors	3.36	.683	Required
13	Street vendor marketing strategy	3.42	.609	Required
14	Marketing in whole sale	3.45	.567	Required
15	Reduction of cost to allow for more patronage	3.34	.731	Required
16	Selling in small quantity to encourage more buyers	3.22	.831	Required
17	Keeping of sale record	3.39	.695	Required

Table 5 reveal that the followings which include: Bunch threshing, separation of nuts from the fruit, sterilization, grading and bagging, know your competitors, marketing in whole sale, selling in small quantity to encourage more buyers and so on are required in processing and marketing of oil palm in Cross River State with the highest mean score of 3.45 to 3.14 and a standard deviation of .881 to .553 respectively.

DISCUSSION OF FINDINGS

The findings in table 1 reveals that there are eight skills required by youth (farmers) in palm oil production which include: Ability to choice a suitable Site, land preparation, marking or pegging out, ability to considered the nature of the land (topography), ability to identify the nature of soil, ability to considered the availability of inputs, ability to identify the sources of labour and cleaning of site. The result in table 2 shows that there is a significant difference in the mean ratings of respondents of agricultural Extension Agents and youths (farmers) on the skills required in planning for palm oil production in Cross River State. This was in agreement with Tang and Teoh (2019) who found out that the choice of a suitable site and land preparation is one the fundamental skill requirement for any farmer to succeed in planning for palm oil production. The author added that other factors such as nature of the topography, pegging, nature of the soil, input availability, source of labour and many more are necessary skills to be considered to enhance a well define planning. On the other hand, Alabi and Famakinwa observed that for the production to take place the youth (farmer) must

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put those skills into practice and follow it strictly to the end for better result. The production of palm oil is not limited to acquisition of skills but actions taken to ensure production take place (Thomas and Eforuohu,2016). The author further explain that the youth should be encouraged by providing the necessary input needed for the success of the palm oil production.

The findings of table 3 shows that eleven items such as excavate planting holes with shovel, cut the poly bag and place the palm upright in the hole without disturbing soil and root mass, fill the hole with soil and firmly consolidate the soil at the base of the seedling, pruning, pest Control, harvesting and many more are required in planting and post planting of oil palm. The result in table 4 indicated that there is a significant difference in the mean ratings of respondents of agricultural Extension Agents and youths (farmers) on the skills required in planting and post planting of palm oil production in Cross River State. This is in line with Valerie, (2019) who opine that to ensure adequate growth and maturity of an oil palm proper care must be apply such as pruning, pest control, clearing and many more. In addition, Alao et al (2014) observed that the above skills are not only required but proper application of these skills on the fill is what bring result. The author added that the youth (farmers) should be equipped with require equipment to operate with else the essence of the skills will be counterproductive because skills acquired not used can be forgotten.

Table 5 shows that all the items are required processing and marketing of oil palm in the study area. According to Adesiji, et al (2016) observed that lack of modern processing equipment is the prime challenge facing oil palm processing activities in Nigeria. The author added that most youth (farmers) who acquired the knowledge does not have the required equipment to practice as such contribute to low in production of oil palm. While in the other hand Ezenwa et al, (2018) opine that most youth are not well trained on the process for example education brings about enlightenment, and equip processors with the practical steps to undertake oil palm processing. Educated processors will be more eager to get more trainings on the use of sophisticated machines and technologies in oil palm processing that will maximize their output and earn them higher profit. The author added that education will likely enhance the adoption of modern farming and processing practices, thereby enhancing the efficiency of the farmers/processors. Processing alone does not bring income to the farmer as a means of self-reliance but ability to carry out marketing processes successful which form the final stage of the production (Usoro, 2016).

Conclusion

Based on the findings of the study, the researcher concluded that:

The Youth required skills in 8 items in planning, 11 items in planting and post planting and 17 items in processing and marketing for efficient productivity for self- reliance in Cross River State.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The skills required in planning should be incorporated into the programme of entrepreneurship centre for training of youth for better production of palm oil in the area.
2. Private individuals in the sector should also assist by organizing workshop for youth (farmers) in planting and post planting of palm oil as this would help improved their income.
3. The findings should be made available to stakeholder in the state who would ensure that the processing and marketing channels of palm oil and distribution are put into practice to enhance good sale.

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