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Appraising the Extent of Tractor Applications for Crop Production in School Farms in Michael Okpara University of Agriculture, Umudike, Nigeria

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Abstract

Tractor application is an important innovation in agricultural production globally. It ensures that farm operations are carried out within a relatively short time to enhance productivity and with ease. However, the extent of application of tractor by Agricultural Education students in Michael Okpara University of Agriculture, Umudike (MOUAU) farms is yet to be determined. The study therefore, sought to appraise the extent of tractor application for enhancing crop production in school farms in MOUAU. It adopted case study research design. Four research questions and four hypotheses guided the study. The population of the study was 69, made up of 10 lecturers and 59 penultimate students of Agricultural Education of Michael Okpara University of Agriculture Umudike (MOUAU), Nigeria. The entire population was used because it was small and manageable. Questionnaire was used for data collection. The questionnaire was validated by experts in Agricultural Education and Crop Production from MOUAU. The instrument was tested for reliability using Cronbach Alpha reliability method and the test yielded a coefficient of 0.81.The researchers and three research assistants administered and retrieved the questionnaire. Findings indicated among others, activities tractors are needed for crop production, low extent of tractor availability and application. It was recommended among others that, the university should increase tractor application in the school farm by increasing its availability to students.

Keywords: Appraisal, Crop Production, School Farm, Tractor

Introduction

The Federal University of Agriculture, Umudike was established in 13th November, 1992. But, the name was later changed to Michael Okpara University of Agriculture Umudike (MOUAU) in honour of a former Premier of Eastern Region of Nigeria, late Dr. M. I. Okpara (MOUAU, 2023). According to MOUAU (2018), the objectives of the university, as enunciated in Degree 48 of 2ndNovember, 1992 are among others, to: develop and offer Agricultural Education programme leading to the award of Degrees in MOUAU in Nigeria.

Agricultural education is the teaching and learning Agriculture in formal institution of learning, that is primary, secondary and universities for the purpose of acquiring knowledge, skills and attitude in agriculture. Students of Agricultural Education study pedagogical and technical skills to enable them work as teachers or agriculturists on successful completion of the programme (Olaitan, 2017). Agricultural Education prepares individuals for entry and advancement in agricultural occupations and academic progression (Federal Republic of Nigeria (FRN), 2014). One of the resources to implement the agricultural education programme is the school farm.

The school farm is an area of land mapped out by the school for the purpose of teaching and learning of agriculture. According to Okon (2016), the school farm is a land laboratory specifically designed for: imparting agricultural knowledge and managerial skills to students through farm practices, translation of theoretical knowledge into practical skills of production, generation income to the school and impartation of knowledge and skills in different areas of agricultural occupations including crops, animal and fish farming. Like biology, chemistry, physics and other science laboratories, the school farm provides a platform for students to learn

new knowledge and skills in agriculture as well as practice what they have learnt in theoretical instructions in the classroom. School farm has different units such as crop production unit, livestock production unit and fish pond, but the concern of this study is on crop production.

Crop production is the application of relevant resources to grow certain groups of plants for food or other uses. Common examples of plants that are grown in the school farms are cassava, maize, yam, okra, melon, fluted pumpkin and carrot. The crops are grown on experimental basis for the purpose of obtaining food, income generation and for beautifying the school environment. To increase production, crop farmers usually use tractor to increase productivity within a short time and with great yield (Ezhim, Asogwa & Ochu, 2019).

Tractor is a heavy and versatile machine that plays major roles in crop production globally. According to Iwena (2017) tractor provides efficient power for pulling implements that performs tasks in agriculture. The tractor coupled implements are devices that are attached to enable it perform its functions. The implements include, disc plough or moldboards plough, harrow, among others (Kurmar, 2022). The tractor tills the soil with plough, break up soil lumps and level the soil surface with harrow, make ridges with ridgers, plant seeds when coupled with planters, spray seedlings when coupled with sprayer to control weeds or pest infestations (Omodi, 2024). Tractor is also streamlines various farming tasks, such as plowing, planting, and harvesting, leading to increased efficiency and higher crop yield, lowering labour costs and reduce the overall expenses associated with manual labour (Akanni, 2023). Tractor application enable timely completion of farming operations, provides valuable hands-on learning experiences for students interested in agricultural sciences and enhancing their practical skills and knowledge of modern farming techniques (Amoah, 2022; Wanyama, 2021). These aspects

highlight the significance of tractors in enhancing crop production on school farms in Nigeria, but the extent of use varies across the various geo-political zones (Iwena, 2017).

Researching the specific extent of tractor usage in Nigerian universities may be challenging due to the variability of agricultural practices across different institutions. In MOUAU, the same experience applies. Some students rarely use it because it is very expensive, requires skills of operation which they do not have. The machine destroys soil structure, compacts the soil, contributes to climate change, pollutes the air, depletes the soil fertility and could lead to soil erosion (Kumar, 2017). Ibe (2021) also disclosed that students' preference to manual work over tractors application, high cost of tractors, fear of health hazards of the smoke from tractors were found to frustrate the use of tractor. These factors invariably, could affect research on the extent applications of tractor in the school farm in MOUAU. Therefore, it has become necessary to appraise the extent of tractors use in MOUAU.

Appraising the extent of tractor application is an important activity aimed at assessing the level of tractor use for cropping in the school farm at MOUAU. In the context of this study, it has to do with finding out the importance, availability, level of application and factors hindering tractor applications in MOUAU school farms. This is necessary given the university's position in academic excellence in theoretical and practical agriculture. The exercise is bound to provide information to university management with respect to the funding of the school farm, provision of resources and technical support from various state holders in agriculture. Before this study, there was no empirical study on the subject to guide the university management. The truism has necessitated an empirical study on the subject, hence the study.

Purpose of the Study

The main purpose of the study is to appraise the extent of applications of tractors for enhancing crop production in school farms in Michael Okpara University of Agriculture Umudike, Nigeria. Specifically, the study sought to:

1. Identify important tasks that tractors are needed for crop production in school farms in Michael Okpara University of Agriculture, Umudike,
2. Find out the extent of availability of tractor and implement for crop production in school farm in Michael Okpara University of Agriculture, Umudike,
3. Determine the extent of utilization of tractor and equipment for crop production in the school farms in Michael Okpara University of Agriculture Umudike, and
4. Determine factors that hinder the applications of tractors and equipment for crop production in school farms in Michael Okpara University of Agriculture, Umudike.

Research Questions

The following research questions guided the study:

1. What are the important tasks that tractors are needed for crop production in the school farm in Michael Okpara University of Agriculture, Umudike?
2. What is the extent of availability of tractor for crop production in school farms in Michael Okpara University of Agriculture, Umudike?
3. What is the extent of utilization of tractor and equipment for crop production in the school farms in Michael Okpara University of Agriculture Umudike?
4. What factors hinder the application of tractors and equipment for crop production in school farms in Michael Okpara University of Agriculture, Umudike?

Hypotheses

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

H0$_1$. There will be no significant difference between the mean ratings of lecturers and students of Agricultural Education on important tasks that tractors are needed for crop production in the school farm in Michael Okpara University of Agriculture, Umudike.

H0$_2$: There will be no significant difference between the mean ratings of lecturers and students of Agricultural Education on the extent of availability of tractor for crop production in school farms in Michael Okpara University of Agriculture, Umudike

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

H03. There will be no significant difference between the mean ratings of lecturers and students of Agricultural Education on the extent of utilization of tractor and equipment for crop production in the school farms in Michael Okpara University of Agriculture Umudike

H0$_4$: There will be no significant difference between the mean ratings of lecturers and students of Agricultural Education on factors hinder the application of tractors and equipment for crop production in school farms in Michael Okpara University of Agriculture, Umudike.

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

Methodology

The study adopted a case study research design. The design was necessary to get a detailed account of in-depth knowledge about tractor application in MOUAU school farms (McCombes, 2022). The study was carried out in the Agricultural Education unit of the Department of Agricultural and Vocational Education of the Michael Okpara University of Agriculture, Umudike in Abia, Nigeria. Umudike is about 10 kilometers to Umuahia, the Abia state capital. The population of the study was 69, made up of all the 10 lecturers, except the researcher and 59 final year undergraduate students of Agricultural Education, 2022/2023 session. The entire population of 69 was used, as the population was small and manageable. Questionnaire was the instrument for data collection**.** It consists of sections A, B, C, D and E. Section A was used to provide information on the personal characteristics of the respondents. While, sections B, C, D and E were developed into items to answer research questions. Each item in section B and E have a four point response scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with corresponding value 4, 3, 2 and 1. Also each item in section C and D have a four point response scale of Very High Extent (VHE), High Extent (HE), Low Extent (LE), and Very Low Extent (VLE) with corresponding value 4, 3, 2 and 1**.** The questionnaire was validated by three experts in Agricultural Education, crop production and Measurement and Evaluation in Michael Okpara University of Agriculture, Umudike. Cronbach Alpha method was used to test the reliability of the instrument, and the test yielded a coefficient of 0.81. A total of 67 copies of the questionnaire were administered by the researcher and three research assistants and all retrieved on completion. Decisions made on cut-off point for research questions 1 and 4 were based on mean value of 2.50 and above, while below was disagreed. Any item with mean value 2.50 or above was regarded as agreed, while any item below 2.50 was disagreed. For research 2 and 3, decision was based on real limit of the mean range as follows: an item with mean responses of 3.50-4.00 is Very High Extent, 2.50-3.49 is High Extent, and 1.50-2.49 is Low Extent, while 0.50-1.49 is Very Low Extent. For hypotheses tested, the hypotheses of no significant difference was accepted when the t-calculated value was less than the table value at 0.05 level of significance, but rejected when t-cal value was greater than t-test value.

Results

Research Question 1: What are the important tasks that tractors are needed for crop production in school farms in Michael Okpara University of Agriculture, Umudike?

Table 1: Mean responses of respondents on important tasks that tractors are needed for crop production in school farms in Michael Okpara University of Agriculture Umudike (N=69).

SN	Areas where tractors are needed for crop production	X̄	SD	Remarks
1	Teaching of crop production.	3.30	0.75	Agree
2	Land clearing.	3.53	0.51	Agree
3	Tillage.	3.15	0.80	Agree
4	Harrowing.	3.15	0.63	Agree
5	Planting of crops.	2.13	0.51	Disagree
6	Weeding.	3.23	0.72	Agree
7	Spraying of herbicides.	3.07	0.54	Agree
8	Spraying of pesticides.	3.15	0.80	Agree
9	Harvesting of crops.	3.00	0.70	Agree
10	Haulage of farm produce.	3.44	0.56	Agree

Key: X̄ = Mean, SD=Standard Deviation, N=Number of Respondents.

Table 1 reveals that the mean responses of the respondents on all the items except 5 are above the cut-off point of 2.50. This means that the respondents agreed that the items are areas where tractors were used for crop production in school farm in MOUAU. The Table also disclosed that item 5 was below the cut-off point of 2.50; which means that tractors were not used for planting of crop in school farms in MOUAU.

Research Question 2: What is the extent of availability of tractors and implement for crop production in school farms in Michael Okpara University of Agriculture, Umudike?

Table 2: Mean results of the responses of lecturers and students on the extent of availability of tractors and implement for crop production in schools farms in MOUAU (N=69).

S/N	Extent of availability of tractor & implements	X	SD	Remarks
11	Tractor	1.04	0.68	Very Low Extent
12	Disc plough	2.22	0.11	Low Extent
13	Mould board plough	2.13	0.62	Low Extent
14	Cultivator	2.08	0.87	Low Extent
15	Harrow	2.03	0.68	Low Extent
16	Ridger	2.11	0.72	Low Extent
17	Harvester	1.02	0.63	Very Low Extent
18	Carrier	1.12	0.55	Low Extent
	Grand Mean	1.71	0.61	Low Extent

Key: X =Mean of respondents, SD = Standard Deviation of Respondents, N=Number of Respondents.

Table 2 reveals that the mean values of the items 11 and 17 ranged from 1.04 to 1.02 which falls within the real limit of numbers range of 0.50 to 1.49. This indicated very low extent responses. The result also revealed that the mean values of the items 12, 13, 14, 15, 16 and 18 ranged between 2.03 and 2.22 which is within the real limit of numbers range of 1.50 to 2.49. This indicated low extent responses. The grand mean of 1.71 which also falls within the real limit range 1.50 and 2.49 affirmed that respondents agreed that the extent of availability of tractor is low. The grand standard deviation of 0.61 implies that the responses of the respondents are low extent and close to the mean and each other.

Research Question 3: What is the extent of application of tractor and implement for crop production in the school farm in Michael Okpara University of Agriculture Umudike?

Table 3: Mean responses of respondents on extent of application of tractors and implement for crop production in school farms in Michael Okpara University of Agriculture Umudike (N=69).

S/N	Information items:	X	SD	Remarks
19	Agricultural Education lecturers provide tractors as teaching aids in school farms.	1.11	0.77	Very Low Extent
20	Agricultural Education students clear their plots with plows in the school farm before tillage. They also:	3.15	0.40	Low Extent
21	plough their plots in the school farm with tractors and equipment.	2.07	0.66	Low Extent
22	use cultivators to work in the school farm,	3.38	0.77	Low Extent
23	harrow their plots with harrows after cultivation.	2.22	0.75	Low Extent
24	make ridges with ploughs in the school farm.	1.32	0.45	Low Extent
25	plant crops in the school farm using tractors.	1.13	0.73	Very Low Extent
26	spray herbicides or pesticides in their farm using tractors.	1.85	0.74	Very Low Extent
27	harvest crops with tractors at maturity.	1.08	0.63	Very Low Extent
28	use tractors to transport farm produce to store or market.	2.02	0.72	Low Extent
	Grand Mean	2.32	0.69	Low Extent

Key: X =Mean of respondents, SD = Standard Deviation of Respondents, N=Number of Respondents.

Table 3 reveals that the mean values of the items 1, 7, 8 and 9 ranged from 1.08 to 1.13 which falls within the real limit of numbers range of 0.50 to 1.49. This indicated very low extent responses. The Table also reveals that the mean values of the items 2, 3, 4, 5 6, and 10 ranged between 2.02 and 2.32 which is within the real limit of numbers range of 1.50 to 2.49. This indicated low extent responses. The grand mean of 2.32 which also falls within the real limit range 1.50 and 2.49 affirmed that respondents agreed that the extent of application of tractors for crop production in school farms in Michael Okpara University of Agriculture Umudike by Agricultural Education students is low. The grand standard deviation of 0.67 implies that the responses of the respondents are low extent and close to the mean and each other.

Research Question 4: What factors hinder the applications of tractors for crop production in school farm in Michael Okpara University of Agriculture, Umudike?

Table 4: Mean responses of respondents on factors that hinder the application of tractors for crop production in school farms in Michael Okpara University of Agriculture Umudike (N=69).

SN	Factors hindering the application of tractors	$\bar{X}$	SD	Remarks
30	Tractor and tractor accessories are very expensive.	3.42	0.75	Agree
31	Tractor requires skilled personnel to operate it.	2.83	0.51	Agree
32	Tractor application in the farm could destroy the soil structure. It could:	3.76	0.80	Agree
33	cause the compaction of the soil.	3.02	0.63	Agree
34	pollutes the air.	2.63	0.51	Agree
35	depletes the soil fertility.	3.16	0.72	Agree
36	lead to soil erosion.	2.97	0.54	Agree
37	requires technical skills which students do not have.	3.25	0.80	Agree

38	Poor funding of Agricultural Education programmes affect the provision of tractors.	3.00	0.70	Agree

Key: X = Mean, SD=Standard Deviation, N=Number of Respondents

Table 4 shows that the mean values of all the 9 items were above the cut-off point of 2.50. This means that the respondents agreed that they are factors hindering the application of tractors for crop production in school farms in MOUAU.

Hypotheses

Hypothesis 1: There is no significant difference between the mean ratings of lecturers and students of Agricultural Education on important areas where tractors were used for crop production in school farms in Michael Okpara University of Agriculture, Umudike.

Table 5: t-test result of the mean ratings of lecturers and students of Agricultural Education on important areas where tractors were used for crop production in school farms in Michael Okpara University of Agriculture, Umudike.

Respondents	N	X	SD	DF	t-cal	t-tab	Decision
Lecturers	10	3.61	0.24	67	0.78	2.13	
Students	59	3.39	0.42				NS

Key: X = Mean, SD=Standard Deviation, NS=Not Significant

Table 5 shows that t-cal value of 0.78 was less than t-tab value of 2.13 at 0.05 level of significance and 67 degrees of freedom. Since the t-calculated value is less than the t-table value of 2.13, the null hypotheses was accepted. Therefore, there was no significant difference between the mean ratings of lecturers and students on important areas where tractors are needed in crop production for crop production in school farms in Michael Okpara University of Agriculture, Umudike.

Hypothesis 2: There will be no significant difference between the mean ratings of lecturers and students of Agricultural Education on the extent of availability of tractors and implements for crop production in schools farms in MOUAU**.**

Table 6: t-test result of the mean ratings of lecturers and students of Agricultural Education on the extent of availability of tractors and implements for crop production in schools farms in MOUAU.

Respondents	**N**	**$\bar{X}$**	**SD**	**DF**	**t-cal**	**t-tab**	**Decision**
Lecturers	10	3.52	0.72	67	0.72	2.13	
Students	59	2.90	0..15				NS

Key: X = Mean, SD=Standard Deviation, NS=Not Significant

Table 6 showed that t-cal value of 0.72 was less than t-tab value of 2.13 at 0.05 level of significance and 67 degrees of freedom. Since the t-calculated value is less than the table value of 2.13, the null hypotheses was accepted. Therefore, there was no significant difference between the mean ratings of lecturers and students on the extent of availability of tractors and implements for crop production in schools farms in MOUAU.

Discussion of Findings

The results of study made revelations as that in Table 1 indicated that teaching of crop production, land clearing, tillage, harrowing, planting of crops, weeding, spraying of herbicides, spraying of pesticides, harvesting of crops, and haulage of farm produce are important areas where tractors and implements were used for crop production in school farms in Michael Okpara University of Agriculture Umudike. These findings agree with Kurmar (2022) who said that the tractor tills the soil, harrow the ploughed land, make ridges and so on. The findings

also confirm the opinion of Iwena (2017) that tractor provides efficient power for pulling implements that performs tasks in agriculture.

The result in Table 2 disclosed that respondents agreed that tractors and implements are to low extent available for crop production in schools farms in MOUAU. They specifically agreed that tractor and harvester are to a very low extent available for crop production, while disc plough, mould board plough, cultivator, and harrow are to a low extent available for crop production. These results agree with Kumar (2017) that some individuals do not use tractor for crop production because it is very expensive, depletes the soil fertility and could lead to soil erosion. The result is also in agreement with Ibe (2021) who found that students' preference of tractor to manual work and high cost of tractor affect its availability. The implications of these results are that these could reduce the availability and applications of tractor in the school farm.

Again, the result disclosed that respondents agreed that tractor is to a low extent applied for crop production in school farms in Michael Okpara University of Agriculture Umudike by Agricultural Education students. The result implied that tractors is rarely used by Agricultural Education students for crop production in school farms in Michael Okpara University of Agriculture Umudike. The results are in conformity with Kumar (2017), who opined that some students rarely use tractor in school farm for crop production because it is very expensive and they lack the skills of operation. The results also confirm the submission of Iwen (2017), that in Nigeria, the extent of use of tractor varies across the various geo-political zones. This implies that even among students, tractor application is to low extent because of their peculiar problems.

Finally, the findings of the study revealed factors that hinder the application of tractors for crop production in school farms in Michael Okpara University of Agriculture Umudike. They

include: tractor and tractor accessories are very expensive, tractor requires skilled personnel to operate it, tractor application for cropping could destroy the soil structure, tractor application causes the compaction of the soil, tractor application depletes the soil and the application of tractor could cause soil erosion. These findings agree with Ibe (2021), who disclosed that students' preference to manual work over tractors application and high cost of tractors as some of the factors that reduce the applications of tractor in the school farm.

The result further found out that there was no significant difference between the mean ratings of lecturers and students on important areas where tractors are needed for crop production in school farms in Michael Okpara University of Agriculture, Umudike and the extent of availability of tractors and implements for crop production in schools farms in MOUAU.

Conclusion

This study appraised the extent of application of tractor for enhancing crop production in school farms in Michael Okpara University of Agriculture, Umudike. It established empirically: important areas where tractors were used for crop production in the school farm, the extent of availability of tractor for crop production in the school farm, the extent of utilization of tractor and equipment for crop production and factors hindering the application of tractors and equipment for crop production in school farms in Michael Okpara University of Agriculture, Umudike. The study made some suggestions.

The study had therefore provided information on this subject which was not available before the study, and therefore filled this gap. The study has contributed to knowledge and provided platform for further studies in related areas.

Recommendations

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

1. Michael Okpara University of Agriculture, Umudike should identify important areas where it needs tractors for crop production in the school farms and strive to supply them.
2. The university should collaborate with tractor-manufacturing companies or ministries to reduce the costs of accessing tractors.
3. It should also seek the assistance of alumni, philanthropist and other non-governmental agencies to help in the procurement of tractor as well as to organize training programmes to train students and lecturers on tractor applications.

References

Akanni, D.I. (2023). Impact of tractor mechanization on crop production efficiency: Evidence from school farms in Nigeria. *Agricultural Mechanization in Asia, Africa and Latin America, 54(1), 15-24.*

Amoah, B. (2022). Economic analysis of tractor usage in crop production on school farms: A case study in Ghana. *Journal of Agricultural Economics, 73(3), 721-735*

Ezhim, I. A.; Asogwa, V. C. & Ochu, A. O. (2019). Mechanisms for ensuring food security and sustainable environment through youths' participation in agriculture education. Sustainability, agriculture, food and environmental research, 7(4), 281-296

Favour, A.O. (20th January, 2022). Value education: A remedy to reducing insecurities and promoting sustainable development in Nigeria. https//: www.researchgate.net/publication

Federal Republic of Nigeria (2014). *National policy on education.* Lagos: NERDC printing press.

Global terrorism index (2019). Measuring the impact of terrorism. Institute for economics and peace. Google.com/amp/s/www.cfr

Ibe, V. O.S.O. (2021). Challenges and coping strategies in utilizing e-teaching by agricultural education lecturers in south-east universities in Nigeria, *Journal of Agricultural Education Teachers Association of Nigeria*, 5(1), 120-125.,

Iwen, O. A. (2017). Essential agricultural science for senior secondary schools. Tonad Publishers Ltd.

Kumar, N. (2022), What are the uses of tractor in agriculture? http:// www. Quora.com>what-are-

McCombes, S. (2022, May 8), What is a case study? Definition, examples and methods.www. scribbr.cssom/methodology/case-study/9

Michael Okpara University of Agricultural, Umudike (2018). *Students handbook.* Naphtali prints.

Michael Okpara University of Agricultural, Umudike (2030). *MOUAU @ 30: Pearl jubilee celebration (1993-2023).* Rojoint Communication Services

Olaitan, S. O. (2017). Policy initiatives for making agricultural education effective in the diversification of the economy of the nation. *Journal of the Agricultural Education Teachers' Association of Nigeria, 1(1),8-15.*

Onuka, A.U. (2016). Identification and analysis of stress factors among teachers of agriculture in Abia state. *Journal of the Nigerian Society for Psychosocial Research, 6 (*2), 1-9.

Okon, C. (2016). Insecurity of school farms and teaching of agricultural subjects in secondary schools in Akwa Ibom State. *The Intuition, 7(1),* 9676 - 9692 55.

Favour, A.O. (20th January, 2022). Value education: A remedy to reducing insecurities and promoting sustainable development in Nigeria. http: www.researchgate.net/publication

Nwakudu, G.N. & Taagalo, V.J. (2020). Strategies for curbing insecurity and managing education for internally displaced persons in Nigeria. The Journal of the society for Psychosocial Research of Nigeria, 10(1), 1-11

Wanyama, J.M. (2021). The role of tractors in ensuring timely agricultural operations: Lessons from school farms in Kenya. Agricultural Engineering International: *CIGR Journal, 23(1), 135-143.*

Omondi, F.O. (2024). Integrating tractor usage into agricultural education: A case study of school farms in Uganda. *International Journal of Agricultural Education and Extension, 10(1), 12-24.*