



## **ASSESSING FACTORS MILITATING AGAINST AGRICULTURAL-SCIENCE PRACTICAL IN SECONDARY SCHOOLS IN KWARA-STATE, NIGERIA**

Afolabi Kayode Ojo<sup>1</sup>, Oba Abdulkadir Ibrahim<sup>2</sup>

<sup>1</sup>Department of Science Education (Agric. Edu. Unit), University of Ilorin, Ilorin, Nigeria

<sup>2</sup>Department of Vocational and Technical Education, Ahmadu Bello University, Zaria, Nigeria

e-mail: <sup>1</sup>[afolabi.ko@unilorin.edu.ng](mailto:afolabi.ko@unilorin.edu.ng)

*Received: March, 4<sup>th</sup> 2023*

*Revised: March, 26<sup>th</sup> 2024*

*Accepted: April, 20<sup>th</sup> 2024*

### **ABSTRACT**

This study assessed challenges in implementing agricultural science practical in Kwara State secondary schools. Descriptive survey design was adopted, 478 agricultural science teachers were sampled using multistage techniques from a population of 544. Five research questions and null hypotheses were addressed. Data collection involved a self-developed questionnaire, the instrument reliability coefficient yielded (PPMCC) 0.91. Data analysis included frequency count, percentage, mean, and correlation. Findings highlighted barriers like ill-equipped agricultural laboratory (m=3.29), financial issues (m=3.30), and lack of fund to purchase modern equipment (m=3.20). Recommendations include prioritizing recruitment of qualified teachers among others.

**Keywords:** agricultural science, factors militating, practical, secondary school

## INTRODUCTION

Agriculture stands as a fundamental pillar in fulfilling man's essential needs, encompassing sustenance, shelter, and clothing. It serves as the primary wellspring of crucial resources, including food crops, textiles such as silk, and materials for construction, notably wood. Agriculture embodies both an art and a science, involving the cultivation of plants and the rearing of animals to cater to human survival, along with the preparation of these goods for human utilization and disposal (Nlebem, 2018). Scholars like Morya et al. (2016) contend that civilization's beginning traces back to agriculture, marking a transformative shift in human society as nomadic tribes transitioned to settlements. Muhammad-Lawal and Atteh (2016) further emphasize the pivotal role of agriculture as the cornerstone invention that facilitated the evolution of human settlements from familial units to sprawling cities and modern nations such as Nigeria.

Agriculture not only serves as the principal driver of economic activities but also constitutes a significant source of foreign exchange earnings for Nigeria's economy. In the 1960s, agriculture accounted for over 80% of export earnings, employment, and GDP, alongside approximately 65% of tax income (Mayah et al., 2017; Food and Agricultural Organization [FAO], 2023). Presently, while crude oil dominates the real sector at 13%, agriculture's share has diminished to 41% (Central Bank of Nigeria [CBN], 2023). Despite this shift, agriculture remains paramount in terms of employment and its interconnections within the economy, employing two-thirds of Nigeria's labor force (Ajakaiye et al., 2016). Although agriculture now constitutes one-third of GDP, its continued significance as the primary source of employment underlines the necessity for its inclusion across all educational levels in

Nigeria, with secondary education acting as a crucial link between primary and tertiary education (Minde et al., 2015).

The Federal Government of Nigeria, through the National Policy of Education (2013), delineates the objectives of secondary education, emphasizing the preparation of students for societal integration and higher education, provision of a diversified curriculum, impartation of job-specific skills, promotion of Nigerian culture and languages, instillation of a drive for excellence, cultivation of patriotism and national unity, and nurturing morally upright individuals. Agricultural science, as one of the subjects offered at the secondary level, aligns with these objectives. In Nigeria, agricultural science is taught as a vocational elective, aimed at equipping students with theoretical knowledge and practical skills through both classroom instruction and farm activities. Nlebem and Raji (2019) highlight the significance of practical experience on school farms, where each student is allocated a plot for cultivating crops such as maize, cassava, okra, pumpkin, tomato, and yam. This hands-on approach not only imparts field-specific education but also fosters self-reliance and entrepreneurship, enhancing students' employability and income-generating capabilities.

Practical agricultural science holds significant importance in the study of agriculture and is underscored in the West African Examinations Council (WAEC) syllabus (Haruna et al., 2019). Inclusion of practical agriculture aids students in gaining both theoretical understanding and hands-on skills essential for careers in the agricultural sector. The objectives of agricultural science education in Nigerian secondary schools encompass stimulating interest, imparting fundamental knowledge and practical skills, preparing students for further education, integrating knowledge and skills, and exposing students to opportunities within the

agricultural field (Njura et al., 2020). The status of practical agricultural science in Nigerian secondary schools is reflected in the low performance of Nigerian students in agricultural science external examinations conducted in the West African sub-region. The West African Examinations Council (WAEC) reported that students' performance in agricultural science was generally poor in Nigeria, as stated in the Chief Examiner's Report (2020).

This subpar performance is contrary to expectations from schools offering practical agricultural science, which is envisioned to contribute to the nation's food security needs (Auwal, 2013). Nsa (2013) further observed that the inadequate utilization of relevant instructional materials in teaching agricultural science could be a contributing factor to the poor performance of students in agricultural examinations. Several researchers have underscored the importance of the practical component of the agricultural science curriculum (Igomu & Farauta, 2013; Olajide et al., 2015; Nlebem & Raji, 2019). However, perspectives on the challenges related to the lack of participation in practical agricultural activities vary among researchers (Auwal, 2013; Ikot, 2008). These observations highlight issues concerning both teachers and students that hinder the effective implementation of practical agricultural science, with studies conducted beyond Kwara State.

The primary objective of this study was to evaluate the factors impeding adequate practical agricultural science in secondary schools specifically within Kwara State, Nigeria. The study aimed to: a. Determine the human resource factors hindering adequate agricultural science practical in secondary schools. b. Identify the learners' factors hindering adequate agricultural science practical in secondary

schools. c. Investigate the time-related factors hindering adequate agricultural science practical in secondary schools. d. Examine the financial factors hindering adequate agricultural science practical in secondary schools. e. Determine the infrastructural facilities hindering adequate agricultural science practical in secondary schools.

The research questions and null hypotheses formulated in this study provide a structured framework for investigating the factors influencing the adequacy of practical agricultural science in secondary schools in Kwara State, Nigeria. The research questions serve to: a. Identify specific human resource factors that hinder the implementation of practical agricultural science in secondary schools. b. Examine how learners' characteristics and behaviors affect the effectiveness of agricultural science practical work. c. Investigate the impact of time constraints on the provision of adequate practical agricultural science education. d.

Explore the financial challenges that impede the implementation of practical agricultural science in secondary schools. e. Assess how inadequate infrastructural facilities hinder the delivery of practical agricultural science education. These research questions are crucial for understanding the multifaceted challenges faced in the implementation of practical agricultural science and for developing targeted interventions to address these challenges. The null hypotheses were needed and included in the study to provide a statistical framework for testing the relationships between the identified factors and the adequacy of practical agricultural science education. By testing these hypotheses, the study aims to determine whether there is a significant association

between insufficient human resources, poor learner attitudes, time constraints, financial limitations, inadequate infrastructural facilities, and the provision of adequate practical agricultural science education in secondary schools. The outcomes of these hypothesis tests will provide valuable insights into the factors contributing to the challenges faced in practical agricultural science education and inform potential interventions to improve the quality of education in this field.

## METHODS

This study employed a descriptive survey research design to explore the factors affecting the adequacy of practical agricultural science education in secondary schools in Kwara State. The target population comprised all 544 secondary schools in the state. Multistage sampling techniques were utilized, beginning with the random selection of 10 local government areas (LGAs) from the total of 16 in Kwara State. Subsequently, schools were proportionately selected based on the number of schools in each LGA, and one agricultural teacher per school was chosen. The sample size consisted of 478 agricultural science teachers, in accordance with the Research Advisor (2006) sample frame. A self-developed

questionnaire served as the primary instrument for data collection, comprising 38 items validated by three experts from the Departments of Science Education and Educational Management at the University of Ilorin.

Participants responded to questionnaire items on a four-point Likert scale, ranging from Strongly Agree (SA) with a value of 4 points, to Strongly Disagree (SD) with a value of 1 point. To ensure the reliability of the instrument, a test-retest method was employed, involving 20 agricultural science teachers not included in the sample, over a two-week interval. The reliability coefficient, determined using the Pearson Product Moment Correlation Coefficient (PPMCC), yielded a coefficient of 0.91, indicating high reliability. Data collected were analysed using various statistical methods, including frequency count and percentage to describe the distribution of responses, mean to assess the central tendency of responses, and Pearson-Product Moment Correlation (PPMC) to explore relationships between variables. This comprehensive analytical approach enabled a thorough examination of the factors influencing the adequacy of practical agricultural science education in secondary schools in Kwara State.

## RESULTS AND DISCUSSION

### Results

**Table 1.** Demographic Data of Respondents

<b>Gender</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	269	56.28
Female	209	43.72
Total	478	100.00
<b>Academic Qualifications</b>		
PhD	22	4.60
M.Ed	33	6.90
MSc.	56	11.72
PGDE	78	16.32
B.Ed./BSc (Ed.)	194	40.59
HND	42	8.79
NCE	41	8.58
OND	12	2.51
Total	478	100.00
<b>Years of Teaching Experience</b>		
1-5years	125	26.15
6-10years	162	33.89
10years and above	191	39.96
<b>Total</b>	<b>478</b>	<b>100.00</b>

Table 1 shows that 269 (56.28%) male respondents participated in the study, while there were 209 (43.72%) female respondents. Furthermore, 194 (40.59%) respondents had B.Ed./B.Sc. (Ed.) and 78 (16.32%) of the respondents had PGDE. Also, 22 (4.60%) had Ph. D, 56(11.7%) had MSc, 33 (6.90%) had M.Ed., 42(8.79%) had HND, 41(8.58%) had NCE and 12 (2.51%) had OND. This shows that most of the

respondents are qualified to teach agricultural science in secondary schools. Finally, on teaching experience, majority of respondents 191(39.96%) had 10years and above teaching experience, followed by 6-10years with 162 (33.89) respondents, the least experienced respondents are 1-5years with 125 (26.15). This implies that most of the teachers were highly experienced.

**Table 2.** Human Resource Factor Militating Against Adequate Agricultural Science Practical Work in Secondary Schools

S/N	Items	SA	A	D	SD	Mean	STD
1.	Insufficient agricultural science teachers resulting in single teacher taking many classes	230	201	19	28	3.33	0.81
2.	Unqualified teachers lacking in knowledge of agricultural science and its practical work	179	233	35	31	3.19	0.81
3.	Inability of teachers to enforce discipline among students thereby resulting in truancy during practical activities	159	224	73	22	3.11	0.80
4.	Agricultural teachers' lack of skills and competence in some agricultural practical activities.	158	263	46	11	3.19	0.70
5.	Unwillingness of agricultural science teachers to teach using crude farm equipment and tools	174	201	82	21	3.11	0.84
6.	Teacher lack of confidence on the choice of appropriate teaching methods for agricultural science practical	134	229	99	16	3.01	0.78
7.	Agricultural science teacher's inability to operate or manipulate relevant farm equipment.	175	230	63	10	3.19	0.74
8.	Lack of competence in sourcing for external resource persons to occasionally train students in some practical activities	148	241	74	15	3.09	0.76
9.	Absence of farm technologists/personnel to undertake agricultural science practical when teachers have taught the theory aspect.	147	252	58	21	3.16	0.69

Table 2 presents the responses of agricultural science teachers on the human resources factors hindering adequate agricultural science practical in secondary schools. The results showed that all items were seen by teachers as hindrances, including a shortage of teachers, unqualified teachers, and lack of skills and competence

among teachers. Other factors were the unwillingness to teach practical using crude tools, lack of confidence in teaching methods, inability to operate farm equipment, and absence of farm technologists/personnel in supporting agricultural science practical in secondary schools.

**Table 3.** Attitude of Learners as a Factor Militating Against Adequate Agricultural Science Practical in Secondary Schools

S/N	Statements	SA	A	D	SD	Mean	STD
1	Lack of interest in agriculture resulting in poor attitude makes student absent themselves from agricultural science practical	163	245	56	14	3.17	0.74
2	Laziness and apathy for manual labour prevent students from attending agricultural science practical	138	266	64	10	3.11	0.70
3	Pressure from parents on students to study other professions prevent them from howing the right attitude towards agricultural science practical	178	225	62	13	3.20	0.74
4	Students' taking role models from other professions makes them unserious with agricultural science practical	150	245	80	3	3.13	0.70
5	Students 'lack of knowledge about the prospects in agricultural science discourage them from attending agricultural science practical	168	248	56	6	3.22	0.67
6	Students' unwillingness to use simple farm equipment and tools demotivate them from attending agricultural science practical	122	235	102	19	2.98	0.77
7	Students 'perception of school farm as avenue for punishment scare them from agricultural science practical	181	204	71	22	3.15	0.83
8	Students 'perception of agriculture as poor man's job demotivates them from attending agricultural science practical	152	248	54	24	3.12	0.78
9	Students 'mentality of studying agricultural science to pass during examinations demotivate them from attending practical agricultural practical.	149	249	69	11	3.13	0.73

Table 3 shows how learners' factors hinder adequate agricultural science practical work in secondary schools. The results suggest that learners' lack of interest, laziness, pressure from parents, perception of

agriculture as a poor man's job, and mentality of studying agricultural science just to pass exams all contribute to poor attendance and motivation for practical agricultural science work with mean scores of over 3.0.

**Table 4.** Time as a Factors Militating Against Adequate Agricultural Science Practical Work in Secondary Schools

S/N	Statements	SA	A	D	SD	Mean	STD
1	Duration for agricultural science is not usually sufficient to cover the practical aspect	215	221	36	8	3.47	2.02
2	Number of periods for agricultural science practical is usually not sufficient to cover practical sessions	158	270	45	5	3.21	0.65
3	Time allocation for agricultural science as a subject on the timetable does not give room for effective practical	170	213	77	18	3.12	0.81
4	Periods for agricultural science practical are sometimes not allocated on the timetable	171	201	89	17	3.10	0.82
5	Periods for agricultural science practical are sometimes used by other subject teachers to teach their respective subjects	84	222	123	49	2.73	0.88
6	Duration of agricultural science practical work does not usually give room for proper evaluation during practical session	142	238	86	12	3.08	0.75
7	Unconducive (afternoon) periods allocated for practical work is not the best time for teaching agricultural science practical activities in the school.	160	233	75	10	3.16	0.73

Table 4 shows how time factors affect adequate agricultural science practical in secondary schools. All items had mean values above 2.5, with the most significant hindrances being the insufficient duration and number of periods for agricultural science practical, unsuitable afternoon periods, and inadequate time allocation for

agricultural science on the timetable. The study highlights time constraints significantly affect the quality of practical agricultural science in secondary schools in Kwara State, Nigeria. All the constraints identified has reduced effectiveness of teaching agricultural science practical in secondary schools.

**Table 5.** Financial Factor Militating against Adequate Agricultural Science Practical in Secondary Schools

S/N	Statements	SA	A	D	SD	Mean	STD
1	High cost of agricultural equipment and input impede proper agricultural science practical	154	278	44	2	3.21	0.62
2	High cost of equipment maintenance makes it difficult to repair damaged equipment for agricultural science practical	153	270	49	6	3.20	0.64
3	Lack of funds for improvisation of locally available materials affects the quality of agricultural science practical	206	222	40	10	3.30	0.71
4	Lack of funds for the purchase of modern processing equipment resulting into wastage of farm produce and discourage agricultural science practical	167	253	48	10	3.20	0.70
5	Inadequate fund to employ labourers to carry out certain agricultural operations/ practices prevent adequate agricultural science practical	200	212	59	7	3.26	0.73
6	High cost of laboratory equipment reduces the quality of practical agricultural science practical	155	263	49	11	3.19	0.67
7	Lack of commitment from PTA to assist the school with the purchase of farm equipment discourage adequate agricultural science practical	172	234	67	5	3.20	0.71

Table 5 in the study identifies financial constraints as a major factor hindering adequate agricultural science practical in secondary schools in Kwara State, with all the means above the 2.5 benchmark for decision. The financial factors that were identified include inadequate funds

for procuring improvised materials, high cost of agro-inputs and farm equipment, inadequate fund to employ labourers to carry out certain agricultural operations/ practices, and lack of sponsors from the community to assist the school with the purchase of farm equipment.

**Table 6.** Infrastructural Facilities Militating Against Adequate Agricultural Science Practical in Secondary Schools

S/N	Statements	SA	A	D	SD	Mean	STD
1	Ill-equipped agricultural laboratory reduces the quality of agricultural science practical	197	224	41	16	3.29	0.71
2	Lack of agricultural stores for storing agricultural produce reduce the effectiveness of agricultural science practical	189	234	43	12	3.28	0.68
3	Inadequate farm land especially in cities for school farm prevent adequate agricultural science practical	182	231	51	14	3.25	0.71
4	Unavailability of school library where further findings can be made on practical do not pave way for proper agricultural science practical	142	203	110	23	3.01	0.82
5	Inadequate facilities for animals' production such as poultry, livestock pens, apiary, fish ponds and snailly reduce teaching of agricultural science practical	132	192	126	28	2.94	0.85

Table 6 indicates that ill-equipped agricultural laboratories, inadequate farm land, school library and facilities for animal production are factors militating against adequate agricultural science practical. The

mean values for these items range from 2.94 to 3.29. This implies that infrastructural factors pose significant challenges to agricultural science practical in secondary schools in Kwara state.

**Table 7.** Relationship Between Insufficient Human Resources and Adequate Agricultural Science Practical Training

Human Resources		Adequacy	
Human Resources	Pearson	1	-.950**
	Correlation		
	Sig. (2-tailed)		.000
	N	478	478
Adequacy	Pearson	-	1
	Correlation	.950**	
	Sig. (2-tailed)	.000	
	N	478	478

\*\*. Correlation is significant at the 0.01 level (2-tailed).

H0<sub>1</sub>- There is no significant relationship between insufficient human resources and adequate agricultural science practical secondary schools.

Table 7 shows the result of Pearson Product Moment Correlation (PPMC) which indicated that there was a significant correlation between insufficient human resources and adequate agricultural science practical in secondary schools ( $r_{(478)} = -.950$ ;  $p < 0.05$ ), thus, hypothesis 1 is rejected. This implies that insufficient human resources limit adequate agricultural science practical, hence, relationship exist negatively.

**Table 8.** Relationship Between Attitude of Learners and Adequate Agricultural Science Practical Training

Attitude of Learners		Adequacy	
Attitude of Learners	Pearson	1	-.945**
	Correlation		
	Sig. (2-tailed)		.000
	N	478	478
Adequacy	Pearson	-.945**	1
	Correlation		
	Sig. (2-tailed)	.000	
	N	478	478

\*\*. Correlation is significant at the 0.01 level (2-tailed).

H0<sub>2</sub>- There is no significant relationship between poor attitude of learners and adequate agricultural science practical in secondary schools.

Table 8 shows the result of Pearson Product Moment Correlation (PPMC) which indicated that there was a significant correlation between poor attitude of learners and adequate agricultural science practical in secondary schools ( $r_{(478)} = -.95$ );  $p < 0.05$ ), thus, hypothesis 2 is rejected. This

implies that poor attitude of learners has negative impact in adequate agricultural science practical, hence, relationship exist negatively.

**Table 9.** Relationship Between Time Constraint and Adequate Agricultural Science Practical

		<b>Time Constraint</b>	<b>Adequacy</b>
<b>Time Constraint</b>	Pearson Correlation	1	-.914**
	Sig. (2-tailed)		.000
	N	478	478
<b>Adequacy</b>	Pearson Correlation	-.914**	1
	Sig. (2-tailed)	.000	
	N	478	478

\*\*, Correlation is significant at the 0.01 level (2-tailed).

H0<sub>3</sub>- There is no significant relationship between time constraint and adequate agricultural science practical in secondary schools.

Table 9 shows the result of Pearson Product Moment Correlation (PPMC) which indicated that there was a significant correlation between time constraint and adequate agricultural science practical in secondary schools ( $r_{(478)} = -.914$ ;  $p < 0.05$ ), thus, hypothesis 3 is rejected. This implies time constraint affects adequate agricultural science practical in secondary school in Kwara State, hence, relationship exist negatively.

**Table 10.** Relationship Between Financial Constraint and Adequate Agricultural Science Practical

		<b>Financial Constraint</b>	<b>Adequacy</b>
<b>Financial Constraint</b>	Pearson Correlation	1	-.946**
	Sig. (2-tailed)		.000
	N	478	478
<b>Adequacy</b>	Pearson Correlation	-.946**	1
	Sig. (2-tailed)	.000	
	N	478	478

\*, Correlation is significant at the 0.01 level (2-tailed).

H0<sub>4</sub>- There is no significant relationship between financial constraint and adequate agricultural science practical in secondary schools.

Table 10 shows the result of Pearson Product Moment Correlation (PPMC) which indicated that there was a significant correlation between financial constraint and adequate agricultural science practical in secondary schools ( $r_{(478)} = -.946$ ;  $p < 0.05$ ), thus, hypothesis 4 is rejected. This implies financial constraint hinders adequate agricultural science practical in secondary schools in Kwara State, hence, relationship exist negatively.

**Table 11.** Relationship Between Insufficient Infrastructure and Adequate Agricultural Science Practical

		<b>Insufficient Infrastructure</b>	<b>Adequacy</b>
<b>Insufficient Infrastructure</b>	Pearson Correlation	1	-.695**
	Sig. (2-tailed)		.000
	N	478	478
<b>Adequacy</b>	Pearson Correlation	-.695**	1
	Sig. (2-tailed)	.000	
	N	478	478

\*\*. Correlation is significant at the 0.01 level (2-tailed).

H05- There is no significant relationship between infrastructural facilities and adequate agricultural science practical in secondary schools.

Table 11 shows the result of Pearson Product Moment Correlation (PPMC) which indicated that there was a significant correlation between infrastructural facilities and adequate agricultural science practical in secondary schools ( $r(478) = -.695$ );  $p < 0.05$ ), thus, hypothesis 5 is rejected. This implies infrastructural facilities impede agricultural science practical in secondary schools in Kwara State, hence, relationship exist negatively.

## DISCUSSION

Finding of research question one and null hypothesis one shows that human resources factors were found to be a major hindrance to effective agricultural science practical work in secondary schools in Kwara State, Nigeria. This is in line with Piwowar-Sulej (2021) who stated that human resources are second to none in any practical oriented programme as the human resources helps to coordinate all other non-human resources to provide direction on best way to achieve stated objectives. The findings also agree with Darko, Offei-Ansah, Shouqi and Jun-ping (2015) who reported that agricultural science teachers that are well motivated, professionally trained and not lazy play a significant role in achieving adequate practical on the field. The findings of research question two and null hypothesis two indicate that the poor attitude of learners is a significant factor hindering effective agricultural science practical in secondary schools. This agrees with the findings of Yahya (2019) who stated that learners'

involvement and support is crucial for the success of any project and without their full commitment, the use of all other resources becomes futile. The finding also agrees with study conducted by Darko, Offei-Ansah, Shouqi and Jun-ping (2015) who found that many students do not have interest in Agricultural Science as a result of poor or negative attitude towards agricultural science. Which was principally due to their wrong perception about Agricultural science as not a well-paid job and also farmers do not have prestige. However, the finding has contrary view with that of Kidane and Worth (2013) who found a favourable attitude of students towards farming and studying agricultural science in the secondary schools. Also, Njoroge and Orodho (2014) asserted that senior high school students have a positive attitude and interest towards Agriculture science.

The findings of research question three and null hypothesis three shows that one of the most important factors affecting

the quality of practical agricultural science is the insufficient duration for practical, with a mean of 3.47.

This concurs with the findings of (Nsa, Ikot and Udo, 2013) that the time that it takes for the requisite materials to be delivered for teaching and learning of practical Agriculture Science leaves much to be desired and this affects teaching and learning. The findings also agreed with Ojimba, Kalio, Nwaoburu, Alabi (2018) who found that secondary school teachers with professional qualifications such as B. Ed., B. Sc and Post Graduate Diploma in Education (PGDE) play a crucial role in effective delivery of Agricultural Science practical curriculum. Also, the findings of research question four and null hypothesis four shows that financial constraints significantly affect the quality of agricultural science practical in secondary schools, making it difficult to effectively carry out agricultural science practical in secondary schools. This result corroborates with that of Wootoyitidde (2010) who observed that some secondary schools in Rakai District of Uganda lack funds for agricultural science practical. It further stated that even where funds were available, they were not adequate for agricultural science practical. Similarly, Olajide et al., (2015) posits that inadequate fund to run practical education have reduced the effectiveness of undertaking practical education in subjects like agriculture.

The findings of research question five and null hypothesis five shows that inadequate infrastructural facilities are major hindrances to effective agricultural science practical. This finding is in line with Olajide et al., (2015) who stated that inadequate infrastructural facilities is part of the factors affecting effective teaching of Agricultural Science practical in Nigeria. This is also in line with the findings of Modebelu and Nwakpadolu, (2013) who found that inadequate tools and equipment are major

problem of teaching practical agriculture in Ghana.

## CONCLUSION

In conclusion, this study highlights the various challenges that hinder the effective implementation of agricultural science practical in secondary schools in Kwara State, Nigeria. Some of the challenges identified include inadequate human resources, negative attitudes of learners, limited time and financial resources, and inadequate infrastructure. This study could be concluded that adequate agricultural science practical in secondary schools will lead to acquisition of relevant skills in complementing theoretical work for improving students' interest and general performance in agricultural science examinations. The following recommendations have been made according to the findings of this study: a. The government should prioritize the recruitment of qualified and experienced agricultural science teachers to teach agricultural science practical in secondary schools. b. The Ministry of Education should create awareness on the importance of agriculture in national development and encourage agricultural science teachers to motivate students to develop a positive attitude towards agricultural science practical. c. School administrators and curriculum developers should allocate sufficient time and duration for teaching agricultural science practical in schools. d. The government and community development associations should provide adequate support to secondary schools by making available adequate land and fund for effective teaching of agricultural science practical. e. The government or school proprietors should invest in relevant infrastructural facilities to enhance adequate teaching of agricultural science practical, thereby increasing students' interest and

involvement in practical work in secondary schools.

## REFERENCES

- Ajakaiye, O., Jerome, A. T., Nabena, D., & Alaba, O. A. (2016). Understanding the relationship between growth and employment in Nigeria. *International Journal of Development*, 2(1)60-68.
- Auwal, A. (2013). Effects of teaching method on retention of agricultural science knowledge in senior secondary schools of Bauchi Local Government Area, Nigeria. *International Journal of Science and Technology Education Research*, 4(4), 63-69.
- Central Bank of Nigeria (CBN) (2023). Statical Bulletin (Online) Retrieved From <https://www.cbn.gov.ng/documents/statbulletin>
- Darko, R. O., Offei-Ansah, C., Shouqi Y. & Jun-ping, L. (2015). Challenges in teaching and learning of agricultural science in selected public senior high schools in the Cape Coast Metropolis. *Agricultural Science, Science and Education Centre of North America*, 3(1), 13-20.
- Federal republic of Nigeria. (2013). National Policy on Education. Abuja, Nigeria: Federal Ministry of Education.
- Food and Agriculture Organization of the United Nations (2023). *Nigeria at a glance / FAO in Nigeria*. Retrieved February 11, 2023, from <https://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en/>
- Haruna, I. O., Asogwa, V. C., & Ezhim, I. A. (2019). *Challenges and enhancement of youth participation in agricultural education for sustainable food security*. *African Educational Research Journal*, 7(4);174-182, <https://doi.org/10.30918/AERJ.74.19.028>
- Igomu, C. A & Farauta K. G. (2013) Implementation of agricultural science curriculum in Taraba state school system: Imperatives for students' occupational skills acquisition. *Journal of Education and Practice*, (4)15, 1-7 . [www.iiste.org](http://www.iiste.org)
- Kidane, T. T., & Worth, S. H. (2013). Attitude of students in the formal education sector towards agricultural education and training in South Africa. *Journal of Human Ecology*, 44(1), 53- 63.
- Mayah, E., Mariotti, C., Mere, E., & Okwudili O. C. (2017). *Inequality in Nigeria: Exploring the drivers*. [www.oxfam.org](http://www.oxfam.org)
- Minde, I., Terblanche, S., Bashaasha, B., Madakadze, I. C., Snyder, J., & Mugisha, A. (2015). Challenges for agricultural education and training (AET) institutions in preparing growing student populations for productive careers in the agri-food system. *Journal of Agribusiness in Developing and Emerging Economies*, 5(2), 137–169. <https://doi.org/10.1108/JADEE-02-2015-0011>
- Modebelu, M. N., & Nwagpadolu, G. M. (2013). Effective Teaching and Learning of Agricultural Science for Food Security and National Sustainability. *Journal of Educational and Social Research*, 3(4)16-27. <https://doi.org/10.5901/JESR.2013>

- Morya, J., Singh, M., & Gour, C. L. (2016). Information needs of the farmers about groundnut production technology. *Plant Archives*, 16(1), 115-118.
- Muhammad-Lawal, A., & Atte, O. A. (2016). An analysis of agricultural production in Nigeria. *African Journal of General Agriculture*, 2(1), 1-6.
- Njoroge, K. T., & Orodho, J. A. (2014). Secondary school students' perception towards agricultural science in public secondary schools in Nairobi County, Kenya. *Journal of Humanities and Social Science*, 19(7), 30-36.
- Njura, H. J., Kubai, K. I., Taaliu, S. T., & Shem Khakame, K. (2020). The Relationship between Agricultural Teaching Approaches and Food Security in Kenya. *Education Research International*, 2(1), 20-31. <https://doi.org/10.1155/2020/8847864>
- Nlebem, B. S. (2018). *Introduction to Principles of Vocational Agricultural Education*. Port Harcourt: Chi's Publications, Diobu.
- Nlebem, B. S., & Raji W. I. (2019). Impact of agricultural cooperative society on farmers' productivity and rural transformation in Etche Local Government Area of Rivers State. *Global Scientific Journal*, 7(11), 353-367.
- Nsa, S.O., Ikot, A. S., & Udo, M.F. (2013). Instructional materials utilization and students' performance in practical Agriculture. *Journal and Education Research and Reviews*, 1(4), 49-54.
- Ojimba P.T, Kalio A.E, Nwaoburu O and Alali J.E (2018). Teachers' Roles in Students Academic Performance in Agricultural Science in Secondary Schools in Emohua Local Government Area of Rivers State, Nigeria. *Direct Research Journal of Agriculture and Food Science*, 6 (12), 334 – 354.
- Olajide, Odoma, M., Okechukwu, Iyare, & Okhaimoh, K. I. (2015). Problems of Teaching Agricultural Practical in Secondary Schools in Delta State, Nigeria. *International Journal of Innovative Education Research*, 3(2), 7-12. Retrieved February 13, 2023, from [www.seahipaj.org](http://www.seahipaj.org)
- Piowar-Sulej K. (2021). Human resources development as an element of sustainable HRM - with the focus on production engineers. *Jean Clean Production*, 1(1), 2-12. doi: 10.1016/j.jclepro.2020.124008.
- Shabiralyani, G., Shahzad Hasan, K., Hamad, N., Iqbal, N., University Faisalabad, G., Pakistan, P., & Ghazi Khan, D. (2015). *Journal of Education and Practice*, 6(19), 19-30. [www.iiste.org](http://www.iiste.org)
- WAEC (2020). *Chief examiner's reports*. Retrieved from: [www.waecdirect.org](http://www.waecdirect.org), [www.waeconline.org.ng](http://www.waeconline.org.ng) 12/2/2023.
- Wootoyitidde, J.H. (2010). *The effect of funding on practical teaching of Agriculture in selected Senior Secondary Schools in Rakai District, Uganda (Unpublished Dissertation)*. Makerere University, Uganda.
- Yahya, M. M., Suero M. C. & Olifage C. R. (2019). Investigating Students' Attitude towards Learning Mathematics. *International Electronic Journal of Mathematics Education*, 14(1), 207–231. <https://doi.org/10.29333/iejme/3997>