

THE PROVISION AND MAINTENANCE OF FACILITIES FOR VOCATIONAL AGRICULTURE BY PRINCIPALS: IMPLICATION FOR NATIONAL DEVELOPMENT

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Abstract

The study focused on assessing the effectiveness of Principal's administration in provision and maintenance of facilities for Vocational Agriculture in Kogi State. Two research questions and hypothesis were formulated for the study. One hundred and three secondary schools were randomly sampled from the eight educational zones in Kogi State. A total population of two hundred and six science teachers and five hundred and fifteen senior secondary three (SS3) students were selected. A structured questionnaire for the Agricultural Science teachers and students was used for data collection. Mean and t-test statistics was used in analysing the data. Results showed that principals were only effective in the provision of Agricultural inputs, tools and equipment including securing of farm site for the schools. The t-test results also showed that no significant difference exists in the mean rating between the opinions of the two groups of respondents. It is expected that the findings if implemented in secondary schools would help improve the quality of its products which serves as an indicator for sustained growth and national development.

Introduction Background of the Study

Agriculture is the mainstay of the economy of any society. It forms the primary industry, which supplies the human race with food, raw materials, shelter and clothing. In Kogi State and Nigeria in general, it is the backbone of the economy. In support of this, Science Teachers' Association of Nigeria (STAN) (1990), observed that the study of agriculture is important since many of the economic activities and growth of any nation depend solely on it. STAN (1990) further stressed that the happiness of a nation is like a tree-agriculture is the roots, while commerce and industry are its branches and leaves.

In spite of these important roles of agriculture, food production has been on a steady decline in recent years. Onuoha (1988), in agreement with this, stated that the present demand for food products in Nigeria today is seriously on the increase compared to its level of supply. He suggested that this problem can be solved by doubling the level of food production within the following six months using available techniques and resources.

It has also been observed that access to adequate food constitutes the most serious problems for most Nigerian households today. This is traceable to instability in government and economics coupled with lack of involvement of youths in agriculture (Idachaba, 1991).

Majasan (1995), in the same vein observed that youths all over the world must be attracted to it in time to enable them cultivate interest and promote the survival of the nation. He further added that the teaching and learning of vocational agriculture should be made compulsory in schools.

Commenting on the same issue, Ukpabi (1975) and Olayide et al (1981), stated that most of those who produce what Nigerians eat are forty years and over and that this will be disastrous unless the youths, most of whom are in secondary schools, are well trained for proficiency in agriculture. For this purpose, to have a sound vocational agricultural science programme, the federal and state governments have since 1981 made the teaching and learning of vocational agriculture compulsory in secondary schools (Federal Republic of Nigeria (PON), 1981). The success of vocational agricultural programme in secondary schools undoubtedly depends on the principals' effectiveness as heads of such schools.

However, many have observed that the teaching and learning of vocational agriculture in secondary schools in Nigeria in general and Kogi State in particular need much improvement in the area of provision and maintenance facilities for crops (MAMSER, 1989; and Mamman, 1993).

If however, vocational agricultural programme are to continue to prosper and meet the needs of secondary school youths, they must receive the support of secondary school principals.

It is against this background that the study examined the extent of principals' effectiveness in the provision and maintenance of facilities for crop and animal science production programme in secondary schools in Kogi State based on the perception of both agricultural science teachers and students of such schools with a view to establish its implications for national development.

The purpose of this study is to determine and compare perception of Agricultural Science teachers and students of agriculture of the performance of principals on secondary school agriculture. Specifically, the study sought to determine the: -

- 1) Agricultural science teachers assessment of the performance of principals and administration on provision and maintenance of necessary facilities in the teaching and learning of vocational agriculture.
- 2) Agricultural science students' assessment of the performance of principals and administration on provision and maintenance of necessary facilities in the teaching and learning of vocational agriculture.

Research Questions

Based on the purpose of the study, (he following research questions were formulated and addressed.

- 1) What is the secondary school agricultural science teachers rating of the performance of principals in the provision and maintenance of facilities for the teaching and learning of vocational agriculture?
- 2) What is the secondary school agricultural science students rating of the performance of principals in the provision and maintenance of facilities for the teaching and learning of vocational agriculture?

Hypothesis

A null hypothesis was formulated as follows:

There is no significant difference between agricultural science teachers' and students' means of their rating of the effectiveness of principals in the provision and maintenance of facilities for the teaching and learning of vocational agriculture.

Methodology

A survey research design was employed for the study. The study was carried out in 2002 and it covered the whole twenty one Local Government Areas and eight educational zones in Kogi State. A total of two hundred and six (206) teachers of agriculture and five hundred and fifteen agricultural science students were randomly selected and used for the study. The procedure for sample selection was as presented in Table I below

Senior secondary students were used for the study because they have had the longest contact among other students in the schools for assessing principals' performance.

Table I: Distribution of the Sample According to Educational Zones

Zone/HQ	LGA	No of Sec. Sch. in the State	No of Sampled Schools	No of Sampled Students	No of Sampled Teachers
A Idah	Idah, Ofu, Ibaji, Igalamela/Odoru	32	15	75	30
B Dekina	Dekina, Bassa	32	15	75	30
C Ankpa	Ankpa, Omala, Olamaboro	34	16	80	32
D Lokoja	Kogi, Kontonkarfi	11	5	25	10
E Okehi	Okehi, Adavi	19	9	45	18

F Okene	Okene, Ogori Magongo,	23	11	55	22
G Kabba	Kabba Bomu ijumu	34	16	80	32
H Isanlu	Yagba East, Mopa Moro, Yagba	35	16	80	32
Total	21	220	103	515	206

Instrument for Data collection

A structured questionnaire was used for data collection. The questionnaire was designed for both Agricultural science teachers and students. The questionnaire for both groups was divided into two parts. Part one comprised of five items and used to collect relevant background information about the respondents. Part two has seventeen (17) items and this was used to provide answers to the research questions.

The questionnaire was constructed on a four point rating scale using 1 (ineffective), 2 (moderately effective), 3 (effective) and 4 (very effective).

Reliability and Validation of the Instrument

The initial draft of the questionnaire items was validated by four experts (i. e two from Agricultural Education Department and the rest two from the Department of Measurement and Evaluation), all from Kogi State College of Education, Ankpa.

In the determination of the internal reliability of the instrument, fifty (50) students and fifteen (15) agricultural science teachers of eight (8) secondary schools in Kogi State were used in the pilot study. The result was computed using Cronbach alpha coefficient. A reliability index of 0.72 was obtained and this was high enough for acceptability.

Administration of the Instrument

A total number of five hundred and fifteen (515) and two hundred and six (206) questionnaires were distributed to the agricultural science students and teachers respectively by the researcher himself. The collection of the completed questionnaire was also done by the researcher.

Method of Data Analysis

The mean and t-test were the techniques used for data analysis. Means were used to answer the research questions. Items of the questionnaire used for answering the research questions employed four point rating scale and was coded as follows: very Effective (4), Effective (3), Moderately Effective (2) and Ineffective (1).

The mean to each item was interpreted using the concept of real limits of numbers. The numerical value of the scale points (response modes) and their respective real limits are as follows.

Table 2: Table Showing the Interpretation of Mean Responses using concept of Real Limits of Numbers

Nominal values of scale points	Real limits	Interpretation of Mean
1	0.50-1.49	Ineffective (IE)
2	1.50-2.49	Moderately Effective (ME)
3	2.50-3.49	Effective (E)
4	3.50-4.00	Very Effective (VE)

Thus based on this principle mean value from 0.50 - 1.49 for example will be interpreted as ineffective and so on. In testing the null hypothesis for the study, a t-test was employed. The hypothesis was tested at 0.05 level of significance.

Decision Rule: - If the calculated t-value is equal to or greater than the table t-value, the null hypothesis was then rejected. If on the other hand, the calculated t-value is less than the table t-value, the null hypothesis was accepted.

Results and Discussion

In general, pattern of results could be seen on Tables 3-4. The tables provided some answers to the questions raised.

Research questions 1 and 2 merged:

What is the teachers and students assessment of the effectiveness (performance) of principals in the provision and maintenance of facilities for the teaching and learning of vocational agriculture?

Table 3: Teachers' and Students' Rating of the Principals Performance in the Provision and Maintenance of facilities for Vocational Agricultural Education Programmes

N₁ =

S/NO	Principals' Responsibility Areas	Teachers' Mean X ₁	Students' Mean X ₂	Grand X ₃	Remarks
1	Erect animal pens	1.23	1.37	1.30	IE
2	Buy feeds for animals in pens	1.33	1.36	1.35	IE
3	Provide chemicals and disinfectant to control outbreak in pens.	1.34	1.38	1.36	IE
4	Provide feeding troughs	1.45	1.25	1.35	IE
5	Supply water fountains in animal pens	1.44	1.25	1.35	IE
6	Provide electrical bulbs in pens	1.35	1.40	1.38	IE
7	Make available improved animal breeds in pens	1.39	1.29	1.34	IE

8	Provide durable cages and other equipment livestock pens	1.39	1.25	1.32	IE
9	Provide tools and equipment (e.g. hoes, cutlasses, ridgers)	3.50	2.66	3.08	E
10	Provide farm inputs (e. g fertilisers, seeds, chemicals etc)	3.50	2.56	2.81	E
11	Facilitate regular repairs of farm structure	1.41	-1.30	1.36	IE
12	Fence the college farm	1.28	1.34	1.31	IE
13	Provide store for farm tools and equipment	1.31	1.29	1.30	IE
14	Build and equip agricultural science laboratory	1.27	1.23	1.23	IE
15	Provide store for harvested products	1.44	1.31	1.38	IE
16	Secure farm site/or the school	3.17	3.02	3.10	E
17	Initiate regular and prompt repair of farm tools, machineries and implements	1.48	1.41	1.45	IE

Note: N₁ = Number of agric. science teachers. N₂ = Number of agric. science students.

From Table 3 above, it could be observed that all the seventeen (17) obtained grand mean values ranging from 1.23 to 3.10. Items 9,10 and 16 recorded grand mean value of 3.08,2.31 and 3.10 in the rating by agricultural science teachers and agricultural science students. These can all be interpreted as effective performance in the decision. On the other hand, in both rating categories, the rest fourteen (14) items recorded grand mean values ranging between 1.23 - 1.45 and this correspond to ineffective performance on the part of the principals in such items.

The analysis has shown that the agricultural science teachers and students found the principals effective in three (3) items, and ineffective in fourteen (14) as regards provision and maintenance of facilities.

Hypothesis

There is no significance between agricultural science teachers' and students' means of their rating of the effectiveness of principals in the provision and maintenance of facilities for the teaching and learning of vocational agriculture.

The answer to this can be represented on Table 4 below.

Table 4: T-test on the Means of the Rating of Agricultural Science Teachers and Students on the Effectiveness of Principals in the Provision and Maintenance of Facilities for Vocational Agriculture

Variables	N	Mean value	Standard Deviation	t-cal	t-val	df	P	Remarks
Agric. science teachers	206	1.68	0.65	0.342	1.960	719	0.05	Not Sign.

Agric science students	(515)	1.51	0.50					
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The Table above shows that the mean for agricultural science teachers is 1.68 and standard deviation of 0.65 and that of the agricultural science students to be 1.51 and standard deviation of 0.58. It also shows a calculated t-value of 0.342 at a degree of freedom of 719. The result further shows that the calculated t-value of 0.342 is less than the table t-value of 1.960, indicating the result is not significant by the researcher is then upheld.

Teachers and students assessment shows that the principals were effective in:

1. (a) Providing tools and equipment (c. g. hoes, cutlass, ridges etc);
 (b) Providing farm inputs (e. g fertilizers, improve chemicals etc);
 (c) Securing farm site for the school, and ineffective in areas like;
2. (a) erecting animal pens.
 (b) Buying of feeds for use in animals pens;
 (c) Providing chemicals and disinfection to control outbreak in pens;
 (d) Providing feeding troughs;
 (e) Supplying water and fountains in animal pens;
 (f) Providing electrical bulbs in pens;
 (g) Making available improved animals breeds in pens;
 (h) Providing durable cages in animal pens;
 (i) Facilitating regular repair of farm structures;
 (j) Fencing the college farm;
 (k) Providing store for farm tools and harvested products;
 (l) Building agricultural science laboratory; and
 (in) Initiating regular and prompt repair of farm tools, machineries and implements.
3. The principals paid more attention to the provision of materials for crop science production than that of animal science.
4. No significant difference exists between the ratings of agricultural science teachers and students on principals¹ performance in the provision and maintenance of facilities.

Discussions

The findings in Tables 2 and 3 revealed that principals effectively attended to the provision of tools and equipment; farm inputs and securing of farm site for agricultural science programmes. The respondents

in agreement with Agwubike (1981), stated that it is the responsibility of the principals of schools, as the heads of such institutions to make sure that the necessary space, materials and other facilities be provided for an effective productive and result oriented agricultural education.

In another dimension, principals were ineffective in rendering the services of erecting animals' pens, buying feeds for animals; providing feeding troughs, electrical bulbs, improved animal breeds, durable cages, store for farm tools, equipment and harvested products; building of agricultural science laboratory; fencing of the college farms and initiating regular repairs of farm tools, machineries and implements.

The reason for this may be attributed to the fact that most of these projects are capital intensive and no subvention whatsoever was in contrast with Ibitoye (1990), who stressed that principals of schools should assist in providing store or room where improved materials, and other concrete instructional materials such as models, specimens, tools, equipment, textbooks, laboratory materials are stored. He further added that principals in addition to these responsibilities should secure land for agricultural practice and the farm too should be fenced to prevent the entry of marauders and other predatory animals. Supporting this, Ukeje (1971) and Adeosu (1986) emphatically stated that the provision and maintenance of basic infrastructure, equipment and other facilities are the burdens of school principals. It is observed by the researcher that it would help students explore the world of work and discover their aptitude if principals can really pattern their plight in the provision and maintenance of facilities for vocational agriculture.

Implications of the Study

Based on the findings and discussions of this study, the following implications emerged:

Principals were effective in the provision and maintenance of tools and equipment (hoes, cutlass, ridgers etc), farm inputs (fertilizers, improved seeds, chemicals etc) and securing farm site for the school. This has shown that principals encouraged crop farming in the schools. This effort made teachers of vocational agriculture to develop professional competency (skills) in crop production. The effect of this also led to the production of graduates who can be involved in the establishment of crops' farms which would make food crops available for the inhabitants of Kogi State in particular and Nigeria in general.

Principal's inability to provide and maintain facilities for animal science hindered agricultural science teachers from handling teaching in that aspect effectively.

This would invariably lead to poor performance of students in this aspect of vocational agriculture in senior secondary school examination. This state too has led to the reduction in the number of experts (graduates) in animal science in the state as youths intending to go for further study in agriculture only specialise in the crop science aspect. Another resultant effect of this was that youths lack skill proficiency in animal science making them to neglect the establishment of animal husbandry. When this is allowed to continue, the protein level in the diet of the inhabitants of Kogi State would be jeopardised.

In another dimension, the ineffectiveness of principals in encouraging the establishment of agricultural science laboratories hindered the agricultural science teachers from teaching practicals effectively. Lack of practical has led to mass failure of students in vocational agriculture in secondary schools in Kogi State. Students' interest and zeal in the course would be killed as they are theoretically inclined. Practically, students are not proficient making manpower availability in the agricultural sector a persistent problem. A situation like this with time will definitely hamper the development and the sustainable growth and development of Kogi State in particular and Nigeria in general.

Conclusion

Based on the assessment of agricultural science teachers and students, principals have not effectively performed their expected roles in the provision and maintenance of facilities for vocational agriculture. This state of affairs if not controlled with time will affect the overall development of the state (Kogi) in particular and Nigeria in general in the manpower availability and food supply.

Recommendations

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

- 1) Principals of secondary schools because of their central and important roles towards the success of

- vocational agricultural science programme of their schools should be constantly supervised and instructed by the education department to be alive, devoted and dedicated to the performance of their duties.
- 2) School principals should also be made to attend professional seminars, workshops and conferences on vocational agriculture as this will aid their encouragement for the programmes in the area of provision and maintenance of useful facilities and equipment.
 - 3) School principals should encourage agricultural science teachers in the improvisation of vocational agricultural education materials as this will help in reducing the dependency on sophisticated and expensive agricultural equipment and tools.
 - 4) State government with the assistance of the federal government should make available enough subvention allocation to school principals for use in the execution of secondary school vocational agricultural programmes.
 - 5) School principals should seek for financial and material assistance from voluntary and non-voluntary organisations including individuals for use in the development of vocational agricultural programmes in their schools.

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