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Original Article

The Relationship between the Availability of School Farms as an Instructional Resource and Agriculture Curriculum Implementation in Secondary Schools in Bureti Sub-County

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Keywords:

Agriculture Curriculum,
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Secondary Schools.

This study aimed to examine the relationship between the availability of instructional resources and the implementation of the agriculture curriculum in secondary schools in Bureti Sub-County, Kericho County. A descriptive survey research design was employed, targeting a population of 8,897 individuals, including 61 principals, 61 agriculture teachers, and 8,775 agriculture students across 61 public secondary schools. The accessible population included 1,830 agriculture students from form three, 61 principals, and 61 agriculture teachers. A sample of 328 agriculture students, 61 principals, and 61 teachers was selected using stratified proportionate and simple random sampling techniques. Data was collected using structured questionnaires for agriculture teachers, principals, and students. The results indicated that most schools (94.1%) had farms, though the majority (74.4%) had small farm sizes of 0.25 to 2.5 acres. This limited space may constrain the full practical implementation of the agriculture curriculum, which is crucial for effective learning. The farms were primarily used for crop production (66.7%) and teaching (33.3%), with smaller contributions to livestock and tree planting activities. Despite the small scale of many farms, agricultural teaching activities, particularly crop production and livestock management, were actively carried out. Both teachers and principals reported that the theoretical aspects of the syllabus were well covered, while the practical aspects were somewhat less comprehensive, with 23.5% of teachers and 25% of principals reporting challenges in fully covering practical elements. The Pearson correlation coefficient between the size of the school farm and the overall implementation of the agriculture curriculum was -0.380 (p-value = 0.180), indicating a weak negative correlation. While the small size of school farms posed challenges in implementing practical elements of the curriculum, the study suggests the need for more expansive resources to enhance curriculum delivery. Recommendations include increasing farm size and improving resource allocation to support both theoretical and practical teaching.

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INTRODUCTION

Agriculture has long been a cornerstone of Kenya's economy, contributing significantly to employment, food security, and national income. In recognition of this, the government has integrated agriculture education into the secondary school curriculum, aiming to equip students with the necessary skills and knowledge for future employment and to promote sustainable agricultural practices (Kenya Institute of Curriculum Development (KICD), 2020). The inclusion of agricultural education in Kenyan secondary schools is not just a response to the country's agricultural needs, but also a strategic effort to foster economic development through human capital. However, despite the importance placed on agriculture, the effective implementation of the agriculture curriculum in secondary schools has faced numerous challenges. One of the key factors identified as influencing curriculum implementation is the availability of instructional resources, particularly school farms, which are intended to provide practical learning experiences for students (Karani *et al.*, 2021).

The school farm, often considered a practical extension of the classroom, offers an environment where students can apply theoretical knowledge gained in the classroom to real-world agricultural practices. According to Karani *et al.* (2024), hands-on learning in agriculture is crucial because it bridges the gap between theory and practice, ensuring that students not only understand agricultural concepts but also helps students acquire competencies needed in the world of work. School farms, when properly managed, serve as a laboratory

for experimentation, demonstration of agricultural techniques, and enhancement of practical skills that students can later use in farming or agricultural businesses (Prescott *et al.*, 2020). The availability of school farms as instructional resources is a critical aspect of the agricultural curriculum in secondary schools. According to Pillay (2022), many schools face challenges in managing their school farms due to inadequate funding, lack of trained personnel, and insufficient infrastructure. These issues undermine the ability of agricultural education to achieve its intended outcomes, thus hindering the effective implementation of the curriculum. In some cases, schools may have farm spaces but lack the resources to develop them fully, resulting in the underutilization of these areas as practical teaching. In other instances, schools may lack farm spaces altogether, making it difficult to provide students with the hands-on experiences that are central to the agricultural curriculum.

Another significant challenge is the variability in the implementation of agriculture education across schools, largely influenced by the availability of resources, including school farms. While some schools manage to run successful agricultural programs with well-equipped school farms, others, especially in rural areas, struggle due to limited access to such resources (Gikonyo, & Maina, 2018). The study aims to determine how the availability of school farms influences students' learning outcomes, the extent to which practical agriculture is incorporated into the curriculum, and the challenges faced by schools in utilizing these farms.

METHODOLOGY

This study employed a descriptive survey research design, which was ideal for examining the relationship between the availability of instructional resources and agriculture curriculum implementation in secondary schools. Descriptive survey design allowed for the observation and measurement of variables without manipulation, offering a detailed account of current practices in agricultural education (Kumar, 2019). The study was conducted in Bureti Sub-County, Kericho County, an agriculturally rich area with 64 secondary schools, including 60 public schools (Kenya National Bureau of Statistics, 2019). The target population included 8,897 individuals, consisting of 61 principals, 61 agriculture teachers, and 8,775 agriculture students. A sample of 328 agriculture students, 61 principals, and 61 teachers was selected using stratified proportionate sampling and simple random sampling from the four wards of the sub-

county. Data was collected using three structured questionnaires: Agriculture Teacher Questionnaire (ATQ), Principal Questionnaire (PQ), and Student Questionnaire (SQ), which provided insights into the availability of instructional resources and curriculum delivery. Data analysis was carried out using SPSS version 25, with descriptive statistics (frequencies, percentages, means) summarizing the data. Pearson's correlation coefficient was used to test the relationships between variables, and hypotheses were tested at a significance level of 0.005, ensuring comprehensive and accurate results.

RESULTS OF THE STUDY

Data on the availability of school farms and implementation of agriculture curriculum was provided by agriculture teachers and principals. The principals and agriculture teachers were asked whether their schools had a farm or not. Their responses are shown in Table 1.

Table 1: Availability of Farms in Schools

Respondent	YES	NO
Agriculture teacher (n = 17)	94.1	5.9
Principal (n = 14)	100.0	-

Table 1 indicates that in agriculture teachers, nearly all (94.1%) of schools had farms, and only a few (5.9%) indicated that they did not have. The responses of the principals support those of the teachers as well (100.0%) of them reported that their

schools had farms. The agriculture teachers were further asked to give an estimate of the size of the school farm in acres. Table 2 gives the size of the school farm in acres.

Table 2: Sizes of School Farms in Acres (n = 14)

Farm size	Frequency	Percentage
0.25 to 2.50	10	71.4
2.51 to 5.00	3	21.4
7.01 to 10.00	1	7.1

The results in Table 2 indicate that the acreage of farms in the majority (71.4%) of schools were between 0.25 and 2.50 acres, while the rest ranged from 2.51 to 5.00 (21.4%) and 7.01 to 10.00 (7.1%) acres. Additional analysis of data showed that the mean size of the farms was 2.24 (SD = 2.67) acres. The high standard deviation implies that there were wide variations in the sizes of the farms; some schools had large farms while others had medium and very small ones. These results reveal that most schools have small farms. This is consistent with the results of a study by (Mulinya & Orodho, 2015)

which showed that increased demand for secondary education due to the 100% transition and subsidized secondary school education policy has led to the expansion of classrooms on the little available land that was initially school farms. Munyasia (2019) also noted that many schools did not have much space to establish agriculture farms.

School farm is an important instructional facility in the teaching and learning of agriculture (Moore, 2017). It provides students with opportunities to learn by doing activities such as land preparations,

irrigation, control of soil erosion, crop and livestock production, different pests and diseases, nursery practices, and even agro-forestry practices. Implementation of an agriculture syllabus may not be effective in schools with small farms and large

numbers of students taking agriculture. The agriculture teachers and principals were requested to indicate the uses of the school farm. Table 3, shows the uses of the school farm according to agriculture teachers.

Table 3: Uses of School Farms According to Agriculture Teachers (n = 17)

Uses	Frequency	Percentage
Teaching only	6	35.3
Food production	5	29.4
Food production and teaching	4	23.5

The results in Table 3 showed that school farms have several uses, the main one being, teaching only (35.3%), food production (29.4%) and teaching

(23.5%). The principals also indicated the uses of school farms in their institutions. The uses are summarized in Table 4.

Table 4: Uses of School Farms According to the Principals (n = 15)

Uses	Frequency	Percentage
Growing crops/vegetables	10	66.7
Teaching (projects, practicals, demonstrations)	5	33.3
Livestock keeping/dairy farming	3	20.0
Tree planting	1	6.7

Results in Table 4 showed that, the school farm was mainly for crops and vegetable production (66.7%), teaching (33.3%) and livestock keeping (20.0%). These results are in harmony with those of the agriculture teachers, the majority (52.9%) of who reported that school farms were used for food production/teaching. These findings showed that only a small area of the syllabus is covered practically on the farm. It means the farm is not given the prominence it deserves as the main resource for agriculture teaching. Focusing on other

uses of the farm rather than considering it as the main teaching resource may hinder the implementation of the agriculture syllabus given that the subject requires a lot of practical work (Karani *et al.*, 2021).

The teachers and students were further asked to indicate agriculture teaching-learning activities that are carried out in the school farms. Table 5 presents the teaching activities carried out on the school farm according to agriculture teachers.

Table 5: Agriculture Teaching Activities Carried Out in School Farms (n = 17)

Teaching activities on the school farm	Frequency	Percentage
Crop/vegetable production (land preparation, planting, weeding, fertilizer application, irrigation)	11	64.7
Livestock/dairy production (breeds, feeding, fodder, milking)	9	52.9
Tree-planting/agro-forestry	2	11.8
Beekeeping	2	11.8
Rabbit keeping	2	11.8
Soil and water conservation	1	5.9
Soil tests (PH, texture, structure)	1	5.9
Farm structures	1	5.9
Pests and disease control	1	5.9

The teachers indicated that the main teaching activities in the school farms were crops/vegetables (64.7%) and livestock (52.9%) production. Other activities carried out on the farms were tree-

planting/agroforestry (11.8%), bee (11.8%) and rabbit (11.8%) keeping. Table 5 results are in harmony with those of the Principals pointing out the main uses of the school farm crop production mainly

vegetables. Bee, rabbit keeping and pest and disease control are the least done. This implies that most schools do vegetable production which is a small part of the syllabus being covered. The students also

indicated the main agriculture learning activities that are carried out in school farms. The learning activities are presented in Table 6.

Table 6: Agriculture Learning Activities Carried Out in School Farms (253)

Learning activities in school farms	Frequency	Percentage
Growing crops (clearing land, digging, planting, weeding, pest and disease control, harvesting)	168	66.4
Livestock keeping (breeds, dairy animals, poultry, feeding, milking, parasites and disease control)	118	46.6
Rabbit/Beekeeping	45	17.8
Nurseries/tree planting	31	12.3
Soil and water conservation	27	10.8
Construction of farm structures	16	6.3
Farm record keeping	11	4.3

Table 6 indicates the students' responses on learning activities that they engaged in school farms (66.4%) of them said they grow crops/vegetables (46.6%) do livestock production and (17.8%) do rabbit and beekeeping. The other learning activities included managing tree nurseries (12.3%), and soil and water conservation (10.8%). Analysis of data from both the teachers and students showed that several teaching-learning activities go on in school farms. This is consistent with the observations of Onwumere *et al.* (2016) who noted that many activities are carried out in school farms during the teaching-learning process. (Rehman *et al.*, 2016) argue that activities done by the students on farms enhance the retention

of knowledge, as they learn about crops and livestock production. If all the agriculture learning activities mentioned are carried out in all the schools then agriculture implementation could be effective.

Tables 7 and 8 indicate data on implementation of the curriculum as provided by the agriculture teachers, principals and students. Three dimensions of implementation of a curriculum were examined, namely; planning, organizing instructions, content delivery and assessment. The teachers and principals were first asked whether schools were able to cover both the theoretical and practical aspects of the curriculum.

Table 7: Coverage of the Theoretical and Practical Aspects of Agriculture Syllabus

Aspect of curriculum	Agriculture teacher n = 17		Principal n = 12	
	Yes	No	Yes	No
Theoretical	94.1	5.9	100.0	-
Practical	76.5	23.5	75.0	25.0

The results in Table 7 show that the majority of the agriculture teachers (94.1%) and all (100.0%) principals were of the view that instructors cover theoretical aspects of the agriculture syllabus. Regarding coverage of the practical aspects of the agriculture syllabus, the majority of both the teachers (76.5%) and principals (75.0%) felt that it was well covered. These findings show that theoretical aspects of the agriculture syllabus are adequately covered during its implementation. These findings do not contradict those of (Manyasi, 2019) who noted that many schools do not even have

space to establish agriculture farms hence teaching agriculture is purely theoretical.

A set of 20 closed-ended items in the teachers' questionnaire were used to measure curriculum implementation. The teachers' responses to the items were scored based on a five-point scale, Poor (1), Average (2), Good (3), Very Good (4), Excellent (5). The means of the scores were calculated and transformed into the curriculum implementation overall mean as shown in Table 8.

Table 8: Mean Scores of Items on Curriculum Implementation (n = 17)

Curriculum implementation activity	N	Mean	SD
Preparation of schemes of work	17	4.24	1.09
Preparation of Lesson plans	17	3.94	1.20
Time allocation for teaching-learning activities during lessons	16	3.75	1.24
Classroom organization (sitting, movement)	15	3.87	1.19
Mobilizing instructional materials	17	3.29	0.92
Storage of Instructional materials	17	3.29	1.16
Lesson Introduction	17	4.12	1.17
Effective communication (using language that is within students' level of understanding) when delivering content	17	4.24	1.15
Using a blend of teaching methods	16	3.94	1.00
Continuously capturing students' attention during a lesson	17	4.18	0.88
Motivating learners	17	4.00	1.12
Reinforcing students' efforts (praise when they answer questions correctly)	16	4.19	0.83
Evaluating what has been covered during a lesson	17	4.12	0.93
Summarizing/concluding a lesson	16	4.44	0.89
Evaluate learning using direct and indirect methods of assessment	17	3.88	0.93
Ensuring tests have an adequate number of tasks/items (for high reliability)	17	3.94	0.97
Complimenting formal student assessment with informal assessment strategies such as observation and questioning	17	3.71	0.99
Provide students with assessment results so that they can use them to evaluate progress	17	3.82	0.73
Adjusting mode of teaching based on assessment results	17	3.71	0.85
Covering the section of the agriculture syllabus for Form 3s	17	3.76	0.97
Curriculum implementation overall mean score	17	3.85	0.82

An examination of the responses revealed that the item's mean scores were high as they ranged between 3.29 (SD = 1.16) and 4.44 (SD = 0.89) given that they were out of 5. Items like summarizing/concluding a lesson (M = 4.44, SD = 0.89) and effective communication (using language that is within students' level of understanding) when delivering content (M = 4.24, SD = 1.15) posted high mean scores. Similarly, reinforcing students' efforts (M = 4.19, SD = 0.83) and continuously capturing students' attention during lessons (M = 4.18, SD = 0.88) also posted high mean scores. The high item means scores imply that teachers performed these activities well during curriculum implementation.

The item mean score of some of the items like mobilizing (M = 3.29, SD = 0.92) and storage (M = 3.29, SD = 1.16) of instructional materials were moderate. Items such as complimenting formal

student assessment with informal assessment strategies, observation and questioning (M = 3.71, SD = 0.99) and adjusting mode of teaching based on assessment results (M = 3.71, SD = 0.85) also recorded moderate mean scores. This means that the performance of these activities during the implementation of the agriculture syllabus was average. Table 9 revealed that the implementation of the agriculture syllabus was rated good by the teachers given that its overall mean score was M = 3.85 (SD = 0.82) out of 5.

Principals were also requested to rate teachers' implementation of the agriculture syllabus using indicators such as planning and organizing instruction, content delivery, assessment and overall coverage of the subject's curriculum. A three-point scale, Poor (1), Average (2) and Good (3) scale was used during the rating.

Table 9: Principals Rating of Teachers' Implementation of the Agriculture Curriculum

Area	N	Poor	Average	Good
Planning and organizing for instruction	14	-	21.4	78.6
Content delivery	14	-	7.1	92.9
Assessment	13	-	23.1	76.9
Overall coverage of the syllabus	14	-	14.3	85.7

The results indicated that the majority of principals rated agriculture teachers as good in planning and organization for instruction (78.6%), content delivery (92.9%) and assessment of learners (76.9%). The results imply that according to the principals, the teachers' implementation of the agriculture syllabus was good.

The students were also asked to rate teachers' implementation of the agriculture curriculum using a set of six indicators. The rating was done using a five-point scale, Poor (PO), Average (AV), Good (GO), Very Good (VG), and Excellent (EX). Table 11 presents the rating of teachers by the students.

Table 10: Students' Rating of Agriculture Teachers' Implementation of the Subject's Curriculum

Curriculum implementation activity	N	EX	VG	GO	AV	PO
Planning of lessons	237	62.9	14.8	11.4	8.4	2.5
Organizing lessons (sitting arrangement, availability of learning materials)	244	42.6	27.9	15.6	10.7	3.3
Delivering lesson content (lesson introduction, using language that is within students' level of understanding, continuously capturing students' attention during a lesson, incorporating practicals, summarizing/concluding a lesson etc)	243	59.3	17.7	15.2	7.4	0.4
Assessing students through tests/practicals /assignments	248	45.2	24.2	16.1	6.9	7.7
Providing students with tests/assignment results so that they can use them to evaluate their academic progress	248	52.4	16.5	15.3	11.3	4.4
Covering sections (form 3) of the agriculture curriculum within the stipulated timeline	244	42.6	20.5	17.6	10.2	9.0

Table 10 showed that the majority of the students rated planning (62.9%), organizing (42.6%) and content delivery (59.3%) as good. Similarly, the majority of the students rated assessment (45.2%), provision of test results (52.4%) and syllabus coverage (42.6%) as good. The rating by the students is an indication that agriculture teachers implement the syllabus well.

The results of the implementation of the agriculture syllabus by the agriculture teachers, principals and students reveal that it was well implemented. These findings concur with those of Hidayat and Patras (2024) who observed that teachers, especially those with high levels of self-efficacy were more meticulous in planning and organizing for

instruction. The good implementation of the syllabus could be due to the qualification of the teachers, most of who had the requirement to be a secondary school teacher. Trained and experienced teachers have higher levels of knowledge and pedagogical skills and the ability to understand, manage and communicate with learners. These attributes affect syllabus implementation activities such as planning content delivery and learner assessment.

Teachers were also asked to highlight the main challenges they faced when implementing the agriculture curriculum. Table 11, presents the challenges faced by teachers during the implementation of the agriculture syllabus.

Table 11: Challenges Encountered by Teachers when Implementing Agriculture Curriculum (n = 17)

Challenge	Frequency	Percentage
Inadequate resources (workshop, tools, equipment, machinery)	11	64.7
Slow learners leading to late syllabus coverage	2	11.8
Large classes	1	5.9
Negative attitudes towards agriculture	1	5.9

The main challenges reported by the teachers were inadequate resources (64.7%) and late coverage of the syllabus due to slow learners (11.8%). A few teachers complained of large classes (5.9%) and negative attitudes towards agriculture (5.9%). These results are in tandem with those of a study by Makoye (2014) who acknowledged the importance of instructional resources in the teaching-learning of agriculture. However, it was noted that the availability of resources was a challenge in many schools. These findings concur with those of Ongaga (2020) who established that resources vital for teaching and learning agriculture such as agriculture laboratories/workshops, tools and machinery were not available in most schools. In situations where they were available, they were not used for instruction.

These results are in agreement with those of Mutegi et al. (2014) majority of the teachers in the inquiry

felt that the agriculture syllabus was too wide as a result they did not cover it adequately. This challenge was exuberated by involvement in co-curriculum activities such as sports, music festivals and drama festivals which occurred during normal learning time. These findings support those of (Livingstone, 2018) which showed that several students had negative attitudes towards agriculture. The study attributed the observation to the theoretical approach of implementing the syllabus lack of agricultural activities and poor performance. These findings have implications for the implementation of the agriculture syllabus. Teachers should be cognizant of these challenges in their endeavour to enhance the implementation of the agriculture syllabus.

The agriculture Teachers were further requested to suggest strategies which can be used to improve the implementation of agriculture curriculum in schools.

Table 12: Strategies for Improving Implementation of the Agriculture Curriculum (n = 17)

Suggestion	Frequency	Percentage
Acquisition of agriculture instructional resources from (MOEST or parents or donors)	7	41.2
Allocate more time for agriculture/timely coverage of the syllabus	2	11.8
Review syllabus	2	11.8
Motivate students	2	11.8

The suggestions made by the teachers were the provision of instructional resources (41.2%), allocation of more time for agriculture (11.8%), review of the syllabus (11.8%), and student motivation (11.8%). These findings are in concurrence with those of Nyagah (2019) who recommended the mobilization of agriculture resources, since schools perform well in national examinations when instructional resources are available (Nyagah, 2019). (Deming *et al.*, 2019) assert that the availability of resources such as farms enables learners to participate in agricultural projects outside regular school activities and gain the requisite knowledge and skills. These results are in tandem with the recommendations of Mutegi et al.

(2014), which vouched for a review of the syllabus as it was considered by teachers to be too wide.

Hypothesis Testing:

There is no statistically significant relationship between the availability of school farms and agriculture curriculum implementation in secondary schools in Bureti sub-county. The relationship between the availability of school farms and the implementation of an agriculture curriculum was determined using Pearson's correlations test. This involved relating the availability of school farms expressed in terms of size in acres and

implementation of agriculture curriculum overall mean scores. Table 13, presents the results.

Table 13: Pearson's Correlations Test Results Relating Availability of School Farm and Implementation of Agriculture Curriculum

Scale	Implementation of the curriculum's overall mean score	
Size of the school farm	Pearson Correlation	-.380
	p-value	.180
	N	14

The results indicate a negative relationship ($r = -.380$) between school farm size and the implementation of an agriculture curriculum. The negative relationship suggests that schools with big farms tend to utilize them for other things instead of concentrating on using them for the implementation of agriculture syllabus. The results further indicate that the relationship between the two variables is not statistically significant ($r(12) = -.380, p = .180$). These results imply that farm size does not affect the implementation of the agriculture curriculum. These findings support the first hypothesis which states that the relationship between the availability of school farms and the implementation of agriculture curriculum is not statistically significant. The hypothesis was thus accepted. The results of Pearson's correlation test posted a statistically insignificant relationship between the availability of school farms and the implementation of the agriculture syllabus. These findings are in harmony with those of Lambert *et al.* (2018) who observed that the availability of school farms was not related to effective teaching of agriculture if barriers to successful school farms such as its condition, farm tools, finances and teachers' ability to manage and engage all students are present. The results are also in harmony with those of a study by Onyendi (2019) which revealed that the majority of schools did not have farms and related facilities. The few schools that had farm facilities rarely used them for teaching and learning. The study concluded that school farming was not related to the implementation of agricultural activities in schools.

However, these findings contradict those of Machisu *et al.* (2022) which established that school farms significantly influenced the teaching of agriculture and academic performance in the subject. Similarly, Onwumere *et al.* (2016) found that school farms had

a positive influence on the teaching of agricultural science in senior secondary schools. The availability of school farms makes implementation of the agriculture syllabus easy as they make the subject meaningful and enjoyable to both teachers and learners.

The results imply that there are other factors, not the availability of school farms that affect the implementation of secondary school agriculture syllabus. However, these findings showed an insignificant relationship between the availability of school farms and the implementation of agriculture syllabus, its role in the teaching and learning of the subject cannot be ignored. Aholi *et al.* (2019) argue that the implementation of an agriculture curriculum in secondary schools requires land for practical work on farms for effective learning and acquisition of knowledge and skills. (Nilson, 2016) contends that learners understand agriculture content better and achieve expected outcomes, only if they are actively involved in the learning process by engaging in farm activities.

CONCLUSIONS

The study highlights several key insights regarding the availability and use of school farms for agriculture teaching and learning in secondary schools. The findings suggest that the majority of schools have access to farm resources, though the size of these farms varies considerably, with most being relatively small. Despite this, the school farms are still utilized for a variety of activities, including crop and vegetable production, livestock keeping, and teaching practical agricultural skills. However, the use of these farms for education is somewhat limited, with only a small portion of the curriculum being effectively covered through hands-on activities. While both theoretical and practical

aspects of the agriculture syllabus are being taught, the practical components are not as comprehensively covered as the theoretical content, largely due to constraints such as limited farm space and resources. The study also found that teachers generally follow sound teaching practices, including effective communication and lesson organization, though there are areas for improvement, particularly in the mobilization and storage of instructional materials.

Recommendations

Schools should enhance their agricultural infrastructure by expanding and improving the size and quality of school farms to accommodate more comprehensive practical learning activities. This could involve securing additional resources and funding for farm expansion and the procurement of necessary tools and equipment. Teachers should receive further training on the effective use of limited resources, and schools should adopt strategies to better integrate practical lessons into the curriculum. Additionally, creating partnerships with local agricultural organizations could provide external support and expertise. Schools should also focus on improving the management and storage of instructional materials to facilitate a more effective teaching environment. These measures would enhance the overall quality of agricultural education and foster students' practical skills for future agricultural endeavours.

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