An appraisal of a decade of Nigeria's vocational agricultural education programme in the secondary schools

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AN APPRAISAL OF A DECADE OF NIGERIA'S VOCATIONAL AGRICULTURAL EDUCATION PROGRAMME IN THE SECONDARY SCHOOLS

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ABSTRACT
This chapter appraised the first decade of vocational agricultural education programmes in the Secondary Schools following the introduction of the Nigerian National Policy on education in 1977. In appraising the vocational agricultural education programmes in the decade, attention was focused on its innovative characteristics as well as the shortcomings in the content and implementation at the classroom level. Thereafter, the chapter discussed suggested strategies for improving vocational agricultural education in the Secondary Schools, and it was concluded that vocational agricultural education programmes in the Secondary Schools could be functional if it enables its clientele to find employment in agriculture, opt for it, and be able to raise their living standards.

INTRODUCTION
Vocational Agriculture was introduced in Nigeria's formal education system over a decade ago consequent upon the national policy on education document published in 1977 and revised in 1981. As an innovation in the agricultural education programme, vocational agriculture was fashioned out by knowledgeable Nigerian agricultural educators to suit our needs and the local conditions. In its board content, vocational agriculture in Secondary Schools is to provide learners with necessary experiences to enable them become efficient producers of economic crops and animals.

Unlike the vocational agriculture, agricultural science that was offered in the Secondary Schools prior to the introduction of the former, focused on the discipline and sub-discipline approach to learning. Under the discipline approach to learning, learners were exposed to scientific methods and techniques in agriculture without relating them (methods and techniques) to the world of work. This orientation led to the production of secondary agricultural graduates who possessed implacable theoretical knowledge of what they were taught without the necessary skill mastery of practical tasks involved (Uwadiie, 1993). Consequently, a crop of theorists were produced that were capable of theorizing non-functional concepts, methods and techniques aimed at improving the farmers' production without the relevant psycho-productive skills required on actual jobs. This resulted in a conflict between what was introduced and what was required and accounted for the little progress made in the area of agricultural production.

Following the apparent failure of the agricultural training to meet the yearnings and the aspirations of the Nigerian people, agricultural curriculum review was openly advocated. A proposal was then submitted in 1964 for curriculum modification, not only in agriculture, but in all learning activities provided in the Nigerian school system (Fafunwa, 1991). However, action on the proposed curriculum was delayed by the political crisis of the 1960s in the country until 1969 when the famous curriculum conference was held. From the views expressed in that conference, a new philosophy of not only agricultural education, but general
education, was fashioned to govern the direction of agricultural education, as well as other subject areas from then onwards.

Thereafter, a series of efforts followed culminating in the formulation of the Nigerian National Policy on Education (NPE). The concern of this paper is: How close are we to the fulfilment of our intent to produce practical persons for food production after a decade?

THE GENESIS OF VOCATIONAL AGRICULTURE IN NIGERIA.

Prior to the introduction of the Western type of education by the Missionaries in Nigeria, vocational agriculture existed in form of indigenous non-formal agricultural education. At that time, work skills and habits in agriculture were passed from one generation to the next through apprenticeship system. Fafunwa (1991), and Olaitan (1993) informed that young members of society were left in the care of relatives and other foster parents, who undertook the responsibility of training in vocational agriculture, consisted of observation and imitation in the science and art of determination and improvement of the soil fertility, crop cultivation, harvesting, processing and marketing of agricultural products (Olaitan and Uwadiea, 1993). As children grew older, they were placed on, on-the-job training to reinforce the skills initiated through observation and imitation.

To ensure that the on-the-job training served the purpose for which it was muted, absolute adherence to prevailing work habits and skills were engendered by repeated training and enforcement of strict discipline on actual jobs. Additionally, children were exposed to simple farming chores like mulching of yam-heaps and weeding very early. As they grew older, children learnt more and more complex farming activities with the result that they attained mastership in production agriculture, before they reached full-adulthood. When the youth was seen to be mature, he was granted freedom from family farm work and given land and authority (which was the equivalent of a certificate) to establish his farm (Fafunwa, 1990)

However, with the introduction of Western type of education, the mode of vocational agricultural education changed. Youths interested in farm work were expected to acquire the required skills and work habits for agricultural production through formal agricultural education in the school system. Consequently agricultural science was introduced in the school curriculum (first under the guise of rural science, nature study and more formally in 1963 as agricultural Science) Taylor (1976) reported that the focus of agricultural education was to introduced methods and techniques to the learners theoretically, with little or no psycho-productive skills to back up the theory.

Armed with the theories, the learners were expected to use their initiatives to execute practical tasks in production when the need arises. This orientation in vocational agricultural education led to the production of school graduates, who lacked practical-based skills in agricultural production. As a result, many of those who studied agricultural science at the time became theoretics rather than farmers (Taylor, 1976 and Uwadiea, 1993). This led to the questioning and debate about the relevance of the agricultural education system inherited from Britain to the needs of Nigerian society (Ngeri-Nwagha, 1989). Consequently, efforts to evolve a national policy on education to accommodate a functional and utilitarian agricultural education programme were initiated in 1952 by the education Bill of Western Nigerian.

Under the bill, there were provisions for a free and universal primary school to begin in 1955, and the establishment of the Secondary Modern Schools that were to provide
training of pre-vocational and vocational courses including agriculture (Ngeri-Nwagha, 1989) Due to the organisation and control of the Secondary Modern Schools by voluntary agencies, there were scarcity of funds to run the programmes, and it could not be sustained.

However, at the dawn of independence, there were fresh agitations for curriculum change not only in agricultural science but also in all learning experiences provided in the Nigerian school system. The criticisms about the relevance of the school curriculum to the culture and aspirations of Nigerians spurred another experiment in education in the West. This time around, comprehensive high schools were introduced with aids from USAID and Ford Foundations.

In the comprehensive schools, students were expected to study academic and skill-related subjects like agriculture, domestic science, bricklaying, needlework and carpentry. On successful completion of two years of general education, and three years of specialised education in academic subjects-commercial, technical and agricultural training, pupils sought employment in government and commercial enterprises (Fafunwa, 1991). Similar experiments in agriculture curriculum modification to provide vocational skills were made in the Eastern and Northern Regions but the efforts were not nationally co-ordinated.

Nonetheless, in 1964 a proposal for curriculum modification in all school subjects was submitted to the joint consultative committee on education. This resulted in the 1989 curriculum conference under the leadership of Dr. S.J.Cookey. The recommendations of the conference led to a fresh look at the country's agricultural education policy. To concretise the new orientation, a second conference was convened in 1973 under Chief S.O. Adebo to prepare a blue print based on the 1969 conference. A white paper on the two conferences was published in 1977 as a National Policy on Education (NEP).

*It is stated in the National Policy of Education that*

*In respect to agriculture, government has programme of mass participation in and orientation towards food production..........*

*The curriculum will be geared towards producing practical persons, and the course content will reflect our national needs not just a hypothetical standard..........*

The above quoted policy on agricultural education, provided the basis for the present vocational agriculture this paper seeks to evaluate. But first, what are the innovative characteristics in the curriculum of current vocational agriculture in the secondary schools?

THE INNOVATIVE CHARACTERISTICS IN THE CURRICULUM OF THE PRESENT VOCATIONAL AGRICULTURE IN NIGERIAN SECONDARY SCHOOLS.

Prior to the new National Policy on Education, Nigeria operated an educational system with strong bias in theoretical knowledge without related practical skills. This did not augur well for Nigeria. Consequently, there were agitations that resulted in the formulation of a new National Policy on Education. In agriculture, emphasis in the new policy changed from academic orientation to a more functional and practical type of education. The new policy diversified agricultural curriculum to cater for different talents and roles open to students after graduation (FRN, 1989).
At the secondary level, the content of agriculture is organised into prevocational and vocational agriculture at the Junior and Senior Secondary School levels respectively. Each of these phases takes three years to complete. At the Junior Secondary School level (JSS), practical agriculture is offered as a pre-vocational subject. The content of the curriculum for JSS (FRN 1985) provides that practical agriculture offered in the JSS should:

1. stimulate students' interest in agriculture;
2. enable students to acquire basic knowledge in agriculture;
3. develop basic agricultural skills in students;
4. enable students to integrate knowledge with skills in agriculture;
5. expose students to opportunities in the field of agriculture;
6. prepare students for further studies in agriculture; and
7. prepare students for occupations in agriculture.

Like the practical agriculture offered at the JSS, vocational agriculture studied at the Senior Secondary School (SSS) level, has essentially the same curriculum content and orientation. The objective of agricultural education programme at the SSS is also essentially the same.

Based on the structure, objectives and content of vocational agricultural education in the new policy on education (popularly known as the 6-3-3-4 system of education), it is clear that far-reaching innovative measures were introduced to correct the inadequacies in the former agricultural education system in the Secondary School. Some innovative characteristics in the current vocational agriculture are:

1. Restructuring and extension of the duration of agricultural training in the Secondary School from five years to six years.
2. The integrations of academic and practical skills in agricultural production. At the JSS level, practical agriculture is taught in a manner that will expose the child to both the theory and practice of agriculture early in life. The implication of this early exposure to agriculture is that after three years of the JSS education, a student chooses agriculture on the basis of his interest and aptitude in farming. Where a child has neither the interest/aptitude in agriculture, nor the orientation to pursue further studies, he enters the labour market as an apprentice in his chosen skills. At the SSS, the agricultural experiences are said to be oriented towards training for a vocation in agriculture.
3. Widening and enriching agricultural curriculum: As stated before, vocational agricultural curriculum in the Secondary Schools is enlarged to cover protection and economics of crops and animals. Unlike agricultural sciences, taught in the former school system, provision is made in the current curriculum for practical experiences in farm structures, maintenance of farm machinery, storage of agricultural produce, farm records, career exploration in agriculture, and the production of common economic crops and animals. To further enrich the learning process, guided discover and learning-by-doing methods of teaching is advocated for. This is to ensure that students got actual work experience before graduation.
4. Other innovative measures in vocational agriculture programme are increased emphasis on continuous assessment (CA) and guidance and counselling (C&C) in agricultural education. Under the CA approach to education, there is a departure from basing students' progress on one final examination. The new orientation has enthroned continuous assessment
based on a variety of evaluation techniques. Students are also assisted to take vocational decision based on their interests and abilities.

After ten years of operating the innovative measure in agricultural education, how close have we come to the fulfilment of the stated objectives in the education policy with regards to vocational agriculture?

**SHORTCOMINGS IN THE CONTENT AND IMPLEMENTATION OF THE VOCATIONAL AGRICULTURAL EDUCATION PROGRAMME IN THE SECONDARY SCHOOLS.**

The general shortcomings in the content and implementation of vocational agriculture curriculum in the Secondary Schools within the last decade are highlighted below:-

1. **Curriculum Development and Content:**
   The focus of any educational programme in vocational agriculture is the provision of educational experiences that show a clear-cut relationship between what is studied and its relevance to the occupational needs of those who enrolled in the programme. For a vocational agriculture programme to meet the occupational needs of the learners, time and efforts must be expended to itemized list of tasks a worker performs, and the things about which he knows relative to the occupation prior to curriculum development in the area.

   In Nigerian vocational agricultural education, however, vocational agriculture curriculum contents in the Secondary Schools were developed hurriedly based on social pressures and subject matter disciplines without due considerations given to the needs of the agricultural sectors where the learners will ultimately work. The net effect is that the supposedly vocational agricultural education programme offered in the secondary schools has neither the orientation nor the content to prepare its graduates for entry level skills in agriculture, let alone, the skills that can increase production.

2. **Evaluation of Learning Outcomes.**
   Evaluation is an indispensable part of life. This is because throughout the wakeful hours of the day, man spends a substantial part of his time and energy evaluating what goes on either within or around him. Man assesses every walk of life with a view to determining the success or otherwise of his desired goal (Oranu, 1982). In the school system, evaluation is necessary to guide instruction, improve programme effectiveness, organisation/management and monitor students' performance. Furthermore, evaluation is as important as clearly stated objectives in serving as a guide to effective instruction.

   In addition to the general values of evaluation in the school system, a functional evaluation in vocation agriculture education programme in the Secondary School is expected to serve as a pivot for producing competent production-oriented graduates of Senior Secondary School who will serve as future farmers in Nigeria. The role of producing future farmers is possible only if the teachers of vocational agricultural education programmes in Secondary Schools knows that a worthwhile evaluation in the expected vocational agriculture must identify and measure relevant psycho-productive skills that can move the Nigerian agriculture forward and not theoretical constructs.

   At the present, however, vocational agriculture in the Secondary Schools seem to lack the farmer orientation as vocational agriculture teachers are still utilizing cognitive indicators instead of psycho-productive indicators in assessing and certifying Senior Secondary School graduates of vocational agriculture. Consequently, as Olaitan and
Uwadiae (1983) observed, teachers have tended to concentrate on imparting cognitive knowledge to the detriment of the much desired psycho-productive skills. Thus, there is a critical need for a re-orientation of evaluation procedure from types of thinking habits to types of doing habits. This is a major strategy for ensuring that vocational agriculture in the current system of education departs appreciably from the white-collar-job orientation bequeathed to the nation by the grammar school structure.

3. **Delivery System:**

At present, there seem to be no clear evidence that there is a difference between the delivery system of vocational agriculture and its antecedent (Agricultural Science) that was offered in the grammar school. This position about the delivery system is informed by the fact that most teachers of vocational agriculture in the Secondary Schools still use the traditional chalk-and-black board approach of teaching. Also, teachers prepare for vocational agriculture lessons, much the same way as before, by reading prescribed textbooks with the view to regurgitating same for pupils to copy and cram.

Consequently, the recommended guided discovery approach and learning-by-doing which are innovations in the delivery system in the present vocational agriculture are left on paper. Furthermore, there seems to be no evidence in the schools to indicate that desirable exploratory activities like visits to agro-industries, utilization of guest lecturers, field trips and excursions are effectively carried out.

4. **Learning Environment and Instructional Materials:**

In teaching-learning process the teaching materials and learning environment rank second after innate capabilities of the learner in ensuring success in the educability of the child. Teaching materials and learning environment are essential because they set the stage that facilitate the teaching-learning process.

In the present agricultural education programmes where preparation for agricultural vocations is the focus, agricultural inputs and materials such as improved seeds, breeds of livestock, fertilizers, rakes, feeders, watering troughs, tractors, hoes etc are required by teachers to teach the skills necessary to establish and run agro-businesses. In addition, teachers are expected to use a variety of teaching aids such as picture, diagrams, agricultural films, slides and maps etc to enrich their teaching.

However, under the current vocational agriculture implementation disposition, the aforementioned teaching aids and learning environment are not available. Instead teachers are expected to perform "miracles" and produce graduated who would possess required skills and knowledge for vocationalizing Nigerian agriculture since teacher training programmes for the present crops of vocational agriculture educators lack the expected "miracles" the production of agricultural education programmes seem to lack the practical -based skills, that the trainees will be expected to put into practice after graduation.

It follows that for the present vocational agriculture to produce graduates that will meet the practical challenges of production agriculture, there is need for the provision of these learning materials as a major strategy for re-orienting current vocational agricultural education from its present status to a more functional and dynamic industry.
5. **Poor staffing:**

Another problem area in the current vocational agricultural education programmes in Nigeria is staffing. Teachers who are occupationally qualified and competent in their subject-matter area contribute immensely to the success of any educational programme (Adeife, 1993). This is also true of vocational agriculture teachers. Competent teachers are required in adequate quantity to guide and direct learning. As a result, the presence of competent teachers will have a direct bearing on students' performance. Consequently, quality psycho-productive skills can only be expected where there is a reasonable staff/student ratio of competent teachers. This required ratio of competent teachers is missing in vocational agriculture in the Secondary Schools. This explains the reason for the poor quality of Senior Secondary School graduates of vocational agriculture.

6. **Inadequate Financing of Vocational Agriculture.**

Unlike general education, a sound policy on vocational agriculture can only be realised through financial provision for students' agricultural projects, seeds, implements, fertilizers and herbicides etc. Also, funds are needed for field trips, excursions agro exhibitions, as well as the procurement of machinery, tools and other training materials.

Therefore, it is necessary that funds be provided if vocational agriculture programmes are to shift from the current theoretical orientation that it is drifting towards. For new, it is not apparent that the firebrigade approach should not relent in her efforts at providing the needed funds until vocational programmes can be community-funded.

7. **Continuous Assessment.**

There are observed shortcomings in the implementation of continuous assessment in the current programmes of vocational agricultural education. These lapses are in the areas of fairness, justice and objectivity on the part of teachers, frequency and quality of tests, format for reporting assessment performance, areas of emphasis in the assessment and boredom on the part of the student. Also as of now, the percentage that continuous assessment contributes to the final grade in the Senior Secondary School Certificate Examination seems to be on paper. Similarly, the quality of continuous assessment tests are also examination oriented.

Therefore, it is desirable to seek satisfactory solutions to these problems to justify government's decision to incorporate continuous assessment into evaluation procedures in the vocational agricultural programmes of the Secondary Schools.

**SUGGESTED STRATEGIES FOR IMPROVING VOCATIONAL AGRICULTURAL EDUCATION IN THE SECONDARY SCHOOLS.**

In order to avert the observed shortcomings of vocational agriculture in Nigerian Secondary Schools, the following strategies should be adopted:-

1. There should be a review of the current vocational agricultural curricula in the Secondary Schools. In reviewing the curriculum, emphasis should be placed on the inclusion of learning experiences that will prepare students for production agriculture. The production-centered approach to teaching-learning of agriculture in Nigerian schools and colleges is the foundation that is lacking in graduates to revolutionalize Nigerian agriculture. The proposed curriculum should be based on job analysis. This should identify manipulative and cognitive tasks which a worker demonstrates in doing his work. Drawing the new
curriculum on the basis of job analysis will help teachers become aware of the teachable content about agricultural jobs that are lacking at the moment. This will no doubt, help the teachers to recognise and appreciate the teaching methods that would be ideal for teaching vocational agriculture in the Secondary Schools.

2. Current Evaluation procedure in vocational agriculture in the Secondary Schools should be revisited. The present situation whereby vocational agriculture examination questions are largely based on evaluation of the cognitive domain is undesirable. Vocational agriculture is skill-oriented. This implies that any sound vocational agricultural education programme should have the acquisition and evaluation of psycho-productive skills as the basis for its teaching-learning skills. Evaluators of vocational agricultural education programme still use norm-referenced cognitive grades that distribute students' scores through a normal curve of distinction, credit passes and fail as yardstick for certification. This is out of place. What will ensure the utilitarian aims of the vocational agriculture in the Secondary Schools stipulated in the National Policy on Education is the evaluation procedure Wonlansky (1984) called competency-based evaluation.

3. There should be shift in the current pattern of instruction, where lecture method is universally adopted by Secondary School teachers, for every content in the vocational agricultural education programme in Nigeria. The shift in the pattern of instruction should focus on the integration of classwork, and directed or supervised practice in agriculture on the content dealt with in the classroom. This must not be forgotten. If a segment of instruction focuses on farming, there should be supervised practice in farming. If the instruction is on non farm agricultural occupation, there should be instruction and supervised practice in the non farm occupation. According to Binkly (1966), getting theory and practice experience together makes for quality in vocational education programmes that requires psycho-productive skills.

4. There should be increased provision of funds/instructional materials. For now, funds and instructional materials are in short supply in schools offering vocational agriculture. The excuses often adduced for the lapses in the provision of funds and materials for teaching vocational agriculture by school administrators, is the prevailing economic crisis occasioned by global economic recession.

While it could be true to accept that the present economic crisis has imposes some limitations on every segment of the Nigerian society, it seem unfair to blame the near-absence of teaching aids and funds for agricultural programmes in the Secondary Schools to economic recession alone. The authorities seem to be uncommitted to funding vocational agriculture in schools. Also, the number of Secondary Schools to be equipped/funded in the country do not help matters. It could be a good alternative to rationalised the number of Secondary Schools with a view to reducing them to viable ones. It is better to have fewer well equipped and properly funded schools where students will be provided with a regular supply of breeds of livestock, animal feeds, improved seeds, fertilizers, herbicides and pesticides for practice than having many that are ill-equipped for training of would-be farmers in Nigeria.

CONCLUSION.

This paper has x-rayed the Nigerian agricultural education programme at the Secondary School level. It identified area of strengths and weaknesses that must be eliminated to pave for a functional vocational agriculture in the Secondary Schools. Foremost among the discussed pitfalls are faulty curriculum contents, evaluation procedure, and
delivery system, shortage of recommended inputs and material, poor staffing, inadequate financing and ineffective continuous assessment procedures. On the bases of these and other limitations, identified in the paper, recommendations have been made.

From the appraisal, it is clear that the future of vocational agriculture in Nigeria is bright. The stage of development in vocational agricultural education recorded so far is normal. We have witnessed the development of vocational agricultural education system in the country from informal apprenticeship system via a white-collar-job oriented system to the presented work-centered vocational agriculture. It is hoped that if the identified constraints on vocational agriculture in the Secondary Schools are removed, coupled with a pragmatic orientation towards training for efficiency in psycho-productive skills, there would be a positive changes in the teaching of agriculture in the country. This change will produce a new crop of enlightened farmers rather than theorists. As Olaitan and Uwadie (1993) observed, as agricultural education becomes more effective, more and more people will find employment in agriculture, opt for agricultural occupation and be able raise their standard of living.
REFERENCES


