

Readings in Vocational Education
Book Two

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INADEQUATE IMPLEMENTATION OF APPROPRIATE AGRICULTURAL TECHNOLOGY IN SCHOOLS AND COLLEGE

BY

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INTRODUCTION

The application of systematic and scientific approaches to agricultural practices aiming at achieving relatively high returns can be termed as agricultural technology. It is considered to be appropriate if it produces minimum adverse effect on the resources base/environment. Agriculture technology is incorporated in the schools and colleges curricular and designated as agricultural science. It was introduced to minimize unemployment through the application of vocational skills after leaving schools.

The teaching of agricultural science in schools and colleges terms the traditional farming system as being unscientific, laborious, unproductive and unattractive to Nigerian youths. Surprisingly, it is observed that where farmland is available in schools and colleges each student is instructed to buy or borrow a cutlass for bush clearing, spade for tilling the soil and hoes for weeding. Schools rarely rear animals for teaching and learning of agricultural science. However, where crops and animals are reared there is practically no control measure for pests and diseases. Sometimes, cropping is carried out without rotation, fertilizer application and fertilization without soil testing.

The traditional farming practices are almost applied in schools and colleges resulting in the negative attitude of students towards practical agriculture. Consequently, the agricultural science teacher becomes a police farmer and forces the practices on the reluctant students.

The student negative attitude towards the practical agriculture cannot result in better performance or the implementation of improved agricultural practices in later life since student from 15-17 years themselves for reality testing of self concept

(Denga, 1986).

It is not known to see that students with negative attitude towards subjects or teacher do not learn with the same degree as students with positive attitude. Bliar (1975) reported that if a child has a positive attitude about teachers and like school work, it is almost inevitable that he will be successful and through reinforcement will work harder and achieve almost up to his capacity.

In Nigeria, there is inadequate implementation of appropriate agricultural technology in schools and colleges and therefore the objectives of this paper centred on the following:

To identify the necessary factors affecting the implementation of agricultural or agricultural technology in Nigerian Schools and Colleges and thereby make suggestions for improvement.

To highlight the implications of inadequate agricultural skills by school leavers and agricultural science graduates.

FACTORS AFFECTING THE IMPLEMENTATION OF APPROPRIATE AGRICULTURAL TECHNOLOGIES IN SCHOOLS AND COLLEGES

The ideal practical teaching of improved agriculture science in schools involves the use of appropriate farm power, machineries, equipment, agrochemical, improved biological resources (crops and animals). In addition, a standard laboratory is also required. Today majority of secondary schools do exist without adequate practical demonstration in areas of poultry, piggery, fishery and crop production. However, certain factors are believed to affect their implementations. Among them are:

(1) FINANCIAL CONSTRAINTS

The agricultural demonstration materials are becoming very expensive beginning from the traditional machete to agrochemical. Laboratory equipment may need importation at high cost. Financial hurdles also affect the scantiness of educational research effort and inappropriate research infrastructures. At least ten percent (10%) of the Parent Teachers Association (PTA) fund and Agricultural Student levy on science equipment should be directed to purchase of agricultural equipment, implements and agrochemicals for teaching and demonstration. However, if facilities are provided for teaching and learning it is also expected that with good management

approach the school system can incorporate agricultural science department as one of the sources of revenue either in daily basis (sales of eggs and milk) or periodically (sales of crops products/broilers, fish and culled animals). Credit facilities should also be extended to schools and colleges wishing to establish a model commercial/teaching farms.

(2) TEACHERS' IGNORANCE

A new agricultural technology may appear a nuisance to some teachers particularly when it requires more skilful manpower other than what the teacher knows and can successfully demonstrate. While facilities may be focused as one of the hindrances to the implementation of improved agricultural technology, teachers also feel reluctant to put even the simplest innovations into practice. For instance, the use of leguminous cover crops and adoption of alley cropping. Both have the potential to improve soil fertility and reduce erosion hazards in the tropics. Teachers need to be retrained in areas of new agricultural innovations and this could be achieved through short course in service, workshops and attendance of conferences. Agricultural demonstrations should be employed to implement the agricultural technology taught by the agricultural science teacher while teachers should be allowed to teach specific agricultural area in schools.

(3) ATTITUDE OF HEADS OF SCHOOLS/COLLEGES TOWARDS AGRICULTURAL TECHNOLOGY

While Chemistry laboratory may receive adequate recognition for improvement, little attention is paid to agricultural development by some heads of schools and colleges. Most heads of schools and colleges may believe that their grandparents practised traditional farming method and yet there was hardly the incidence of crisis. They tend to give priority to conventional subjects leading to the award of certificates in law, medicine and architecture. In addition, they usually provide immediate alternatives at low cost making the application of technology apparently unimportant for instance, the use of manual labour by students to complete nearly all the farming operations without assessing the implications on the general attitudes of the students involved. The heads of Schools and Colleges require intensive orientation that vocational teaching and learning can only become effective with the availability and functionality of the teaching and demonstration aids. Heads of Schools

and Colleges should organise field trips so that the students and the teachers can assess the real implementation and the enterprising power of agricultural technology.

(4) **INADEQUATE COMMITMENT BY GOVERNMENT**

The poor implementation of appropriate agricultural technology in the areas of crops and animals production is due to inadequate commitment by Government in the direct funding, establishment and supervision of agricultural projects in schools and colleges. To vocationalize the school system, adequate and continuous commitment by Government becomes necessary. A little percentage (< 5%) of monthly subvention to Colleges of Education and Polytechnics should be directed into profitable agricultural investment for instance fishery, piggery, poultry and crop productions.

It is now the time for schools and colleges to run commercial farms to feed its immediate community. A trial should be on animals that can bring forth quick returns and on high economic crops that best thrive in ones environment.

(5) **LACK OF SUPERVISION AND ACCREDITATION**

The vocational subjects unlike conventional ones should be accredited not only in tertiary institutions but also in Secondary Schools. Meanwhile, it is observed that Schools are allowed to mount agricultural science as a vocational subject without proper preparation and readiness to administer appropriate agricultural technology to students. In Colleges and Polytechnics, after provision of facilities for accreditation the system seems to collapse for inadequate or no supply of the departmental needs for teaching. There should exist a national team of supervision and inspection to ensure the availability of materials for agricultural teaching and learning in schools and Colleges since the learners are trained to be dependence on their vocational skills.

IMPLICATIONS OF INADEQUATE AGRICULTURAL SKILLS

In agricultural education, one must give account of his stewardship in the labour market in terms of practical demonstration, productivity and effectiveness. Inadequate preparation of students in schools and colleges has the following socio-economic implications.

(1) **UNPRODUCTIVE AGRICULTURAL OFFICERS IN GOVERNMENT ESTABLISHMENT.**

Poor and delinquent instructional supervision cannot produce qualitative education (Denga, 1991). Therefore the Government and the society should not expect to reap abundantly what was not sowed properly. Unskilled agricultural officers or teachers must remain unproductive either in Government or private services.

(2) **SELF EMPLOYMENT SUFFERS**

It was believed that youth unemployment could be solved through vocational education. Unfortunately, both agricultural graduates and school leavers are not aspired like Lawyers and Doctors in the establishment of private business as a professional pride and means of livelihood. Non-availability of capital resources is always used as a scapegoat to justify a claim dependency on white collar job by school leavers and agricultural graduates. However, the fear of risk bearing in agro-business due to unskilled knowledge of agricultural technology might be one of the reasons for unemployed school leavers and agricultural graduates in Nigeria today.

(3) **CONSERVATIVE AGRICULTURAL PRACTICES**

The unskilled agricultural science teachers and their products are in the increase and cannot meet the modern technological changes and hence remain conservative. In agricultural, conservatism constitute low agricultural output and therefore remains anti-agricultural development.

CONCLUSION

It is observed that inadequate funds, lack of accreditation, supervision and inspection, lack of Government commitment, inadequate implements and laboratory equipment are the major factors affecting the adequate implementation of appropriate agricultural technology in schools and colleges. Teachers also form the habits of imparting impressive on-station agricultural findings without practical demonstration. This approach results in the production of school leavers, agricultural science teachers and graduates who cannot face the numerous technological challenges in agricultural development and hence remain unproductive.

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