AN ASSESSMENT OF THE CURRICULUM OF LEVENTIS FOUNDATION (NIGERIA) AGRICULTURAL SCHOOLS (LFNAS) PROGRAMME

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Abstract
The Leventis Foundation established Agricultural schools in Nigeria to train youths to develop the nation in the area of mechanized food production. This work assesses the curriculum of the schools to ascertain its suitability for meeting the goals of the Programme. Primary data/information were gathered from responses to questionnaires administered to 247 trainees and 30 trainers of the three operational LFNAS making up the population of the study and from observation schedule. Secondary information/data were sourced from a manual. The findings of the study were discussed in relation to the objective of the study.

Introduction

Small-scale farming is the bedrock of food production in Nigeria, yet the drudgery, low yields and low profits associated with such farming are driving young people away from such methods of food production and contributing to urban migration. The remaining farming population

is ageing and becoming increasingly incapable of producing enough food for the teeming population in the country. The situation threatens a potential food crisis. The vocational training curriculum considered in this article is a response to such a critical challenge, while the article itself presents a study seeking to assess the extent to which the curriculum tries to meet the challenges effectively.

According to Federal Republic of Nigeria, FRN (2004: 6-7), the philosophy of education as stated in Nigerian National Policy of Education (NPE) rests on the belief that:

a. Education is an instrument for national development. To this end, the formulation of ideas, their integration for national development and the interaction of persons and ideas are all aspects of education.

b. Education fosters the worth and development of the individuals for each individual's sake, and for the general development of the society.

d. There is the need for functional education for the promotion of progressive, united Nigeria. To this end, school programmes need to be relevant, practical and comprehensive; while interest and ability should determine the individual's direction in education.

For education to meet these laudable national development goals, it must not only be academic, but also vocational. Paragraph 2(a) Section 5 of the national policy describes vocational education as "that form of education obtained at technical colleges." Such colleges are equivalent to secondary schools, but designated to prepare individuals to acquire practical skills, basic scientific knowledge and attitudes required by craftspersons and technicians at sub-professional level. Two of the goals of this level of education are:

> *to provide the technical knowledge and vocational skills necessary for agricultural, commercial and economic development*

> *and*
>
> *to give training and impart the necessary skills to individuals who shall be self-reliant economically.*

The policy at Paragraph 121 Section 13 (FRN 2004) invites all those who may want to assist the government to achieve its laudable goals, by stating that:

> *Government's ultimate goal is to make education free at all levels. The financing of education is a joint responsibility of the Federal, State and Local governments and the private sector. Government is thus welcoming and encourages the participation of local government individuals and other co-operate bodies or organizations.*

One of the organizations heeding the government call for the development of the country is the Leventis Foundation (Nigeria) (LFN). The Foundation was set up by Chief A.G. Leventis (1902-1978) to assist educational, cultural and other charitable causes while specifying West Africa and Nigeria in particular as a major beneficiary. "The Leventis Foundation Nigeria" got registered as a charitable company limited by guarantee in April 1988. Since inception, the foundation has been very active in the area of Agricultural schools among other charitable programmes. The school programme actually took off in 1987 with two schools while a third one was established eleven years after and a fourth within another span of two years.

According to The Leventis Foundation (Nigeria) (1999: 10), the main objective of the school programme is to train young Nigerian small-scale farmers in:

a. more efficient farm management, including the maintenance and repair of simple agricultural tools and equipment;
b. improving soil fertility on sustainable basis and adopting appropriate high-yielding crops and efficient livestock production practices;

c. valid alternatives to the current practice of shifting cultivation of farmland possible by the adoption of proper crop-rotation and agro-forestry practices;
d. healthy nutrition practices, processing of major food commodities, family planning, first aid techniques, and handling of textiles.

The schools are based in communities and it is the belief of the Foundation that the examples set by the trainees will lead to positive impact on the practices of farming in the villages which will encourage other young (boys and girls) to embrace farming, thus contributing to the nation's self-sufficiency in food production. The LFN Limited/GTE (2003) recognizes the fact that small-scale farming produces over 90% of the food consumed in the country and about 60% of raw-materials to agro-industries in West Africa. The Foundation also believes that it is the agricultural education, LFNAS type among others, and the knowledge of improved technologies arising from research findings that are contributing to a steady shift to small-scale farming extending to market-oriented agriculture.

In some countries in Europe, the vocational schools use teaching methods that are different from the types used in general education (Colloids, 2004). The methods chosen are those that are better suited for the needs of different groups of students. Colloids (2004) also pointed out that it is also generally recognized that schools are better suited to provide broad theoretical knowledge, whereas firms are better equipped to provide specialized and practical training.

The American Vocational Education Association defined Vocational Education as the type of education designed to develop skills, abilities, understandings, attitudes, work habits and appreciation needed by workers to enter and make progress in employment on a useful and productive basis (Colloids, 2004). Adedoja (1998), particularly describes Vocational and Technical Education (VTE) as a total experience of an individual whereby the student learns successfully how to engage in general occupations, acquire knowledge of the fundamental principle guiding the practices essential for skills development as part of such education. Such education does not

merely rely on imitation, observation or incidental participation, but more organized instruction. The teachings of Agricultural Science or Home Economics are examples of such subjects at the secondary school levels. Vocational education, no doubt is a specialized education that is different from general education.

In vocational training, the trainees acquire marketable, enterprising skills. The training helps the trainees to develop right habits of doing things and thinking through repetitive training in varieties of experiences in the occupation. The training is carried out in a way that gives the trainee a productive ability with which he/she can secure employment or be self-employed (Longe and Adedeji, 2000).

If vocational education must equip the trainees with practical skills and scientific understanding of the skills, then the curriculum of such educational institution should conform to this. Curriculum refers to some sets of programme of studies which may be referred to as subjects or course content or set of learning experiences. According to Onwuka (2005), these learning experiences may be physical or mental, overt or covert and in which case some guidance will be provided. The guidance is usually provided by those who have been trained and/or are more experienced.

Central to the attainment of the goals and objectives of the Leventis Foundation (Nigeria) Agricultural Schools (LFNAS) is the curriculum. It encapsulates the strategy, methodology, theoretical thrust, and practical orientation proposed to achieve the objective of training innovative, self-reliant, career-driven young Nigerian small farmers. The adopted strategy is the training of young farmers or people from a farming background on improved farming methods, based on improved planning and management of technically sound and economically viable farm operations. It is hoped that the trained farmers will go back to their own farms or join family farming enterprises through which they can improve on the operations of their farming neighbours.

The Aims of the Study

The study sets to assess the curriculum of the LFNAS, to ascertain the extent to which the objectives of the school's programme are being achieved through the curriculum. It is also the interest of the investigator to see if the LFNAS curriculum is an appropriate response or not to improvement in national food production.

Study questions

The study specifically sought to find answers to the following questions:

i. What are the contents of the modules of the LFNAS?
ii. What are the observed modules of the courses taught in the LFNAS programme?
iii. What is the operational structure of the training period of the LFNAS?
iv. How appropriate is the duration of the LFNAS programme?
v. What are the strategies put in place by the school through which the trainees on completion of programme engage in food production in his/her respective immediate community?
vi. Are the objectives of the LFNAS programme reflected in the various learning experiences offered in the schools?

Methodology

The study is simply a descriptive research. The investigator is assessing the schools as an outside assessor with a view to ascertaining the effectiveness of the curriculum of the LFNAS and to point out the extent to which the programme can contribute to food production in Nigeria, more importantly through mechanized farming techniques. Qualitative descriptions of observations are presented.

i. Target Population, Sampling and Sample

There are only three operating LFNAS as at the time of the study. These are located in Ilesha, Dongo Dawa and Panda at Osun, Kaduna

and Kano States of Nigeria respectively. The total number of students in the three schools put together is below 400. Therefore, all the enrollees of the three schools formed the sample population. A total number of 247 enrollees (124 in Ilesha, 62 in Kaduna and 61 in Kano) actually participated in the study as subjects. The trainers of the enrollees were also part of the study. There were 10 for Ilesha, 12 for Dongo Dawa and 8 for Panda.

ii. Instrumentation/Data Collection

For the purpose of gathering information, two questionnaires, one each for the trainees and one for trainers were used. The trainees' questionnaire is made up of two sections, A and B. Section A has items on the biodata of the respondents. Section B is made up of fourteen (14) items. The questionnaire was trial-tested on 30 of the enrollees in Ilesha to ensure clarity of items and remove ambiguity. Internal consistency reliability of 0.87 was calculated for the instrument using split half method.

The trainers' questionnaire consisted of five (5) items on the profile of the trainers with an open-ended item on general comment on the school's curriculum. The questionnaire was trial-tested on the trainers of the Kaduna school. Internal consistency reliability 0.92 was estimated for this.

Trainees were also observed on various activities in the school at different times for two days.

iii. Data Analysis

Qualitative descriptions of records were used, and where necessary, simple descriptive statistics were used for the analysis of data. These involved calculations of percentages and frequency.

Results

i. The Contents of the Modules of the LFNAS

The full detailed content of the modules is shown in Table 9.1.

Table 9.1: ***Detailed Curriculum of the LFNAS****

	Curriculum Area	**Major Courses**	**Course Content**
1	Crop production and Agro-forestry	A. Crop Production	Maize, rice, sorghum and millet, groundnut, cowpea, soya bean, cotton, cassava, yam, sweet potato, leafy vegetables, plantain and banana.
		B. Agro- forestry	Environmental benefits and contribution of Agro-forestry in food production, seedling production in Agro-forestry Nurseries, fruit trees in Agro-forestry, Tree Crop Production (cocoa, citrus, pawpaw, mango, cashew and oil-palm) and vegetable propagation, (bidding, grafting, cutting, layering, taungya).
2	Livestock Production	A. Poultry Management	Purchase of day old chicks, choice of breed, housing, care of feeders and drinkers, routine management operations, schedule of special operation for layers, record keeping, nutrient requirement of broilers and layers.
		B. Cattle, Sheep and Goat Management	List of common breeds of ruminants, cattle, sheep and goats, purchase of foundation stock for breeding, signs of heat in female animals, housing, feeding, management practices in cattle, sheep and goats, animal and tractor traction.
		C. Rabbit Management	Breed and selection of foundation stock, housing, breeding, feeding, record keeping, diseases.
		D. Pig Management	Gestation period, characteristics, types of pigs, pig raising system, feeding, classification of feed, pig housing, breeding, signs of heat, health and diseases, slaughtering.
		E. Grasscutter	Appearance and size, importance of grasscutter, farming, system of production/management, housing, feeds and feeding, breeding and reproduction, maturity, record keeping.
		F. Fisheries Management	Capture and culture fisheries, fish farming.
		G. Snailery	Behavioural patterns, importance of snail rearing, snail farming requirements.
		H. Bee Keeping	Importance of bee keeping, importance of bee products, bee keeping equipment and hives,

			beehive management, the apiary and honey harvesting.
	Curriculum Area	**Major Courses**	**Course Content**
3	Rural Enterprise and Extension	A. Farm Management	Farm planting, definition of some farm management terms, farm records, marketing, average cost and return, figures for some major crops in Nigeria, risk and uncertainties management, agricultural production, insurance, insurable and non-insurable risks, effects of risks and uncertainties in agricultural production.
		B. Rural Enterprise Development	Importance of rural enterprise and development, starting small scale rural enterprise, possible small scale rural enterprise, business and financial plan, investment outlay, introduction to rural finance, sources of rural financing, farm credits, informal credit sources, micro credit scheme, the Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB) and borrowers collateral.
		C. Introduction to Extension	Extension education, purpose of extension, principles of extension education, extension teaching methods, adoption and diffusion of agricultural innovations, leadership, cooperative society and officers of the cooperative society.
		D. Family Life Development	Food processing and utilization, family planning, child care, first aid and textile technique.
5	Agricultural Engineering	A. Hand Tools	
		B. Planting Equipment	The jab planter, rolling injection planter and animal drawn and tractor mounted planter.
		C. Fertilizer Applicators	The band fertilizer applicator The spot fertilizer applicator
		D. Weed Control Equipment	The mechanical Weeder, Knapsack Sprayer
		E. Harvesting, Processing and Storage Equipment	The maize sheller Maize cribs, Crib construction

* Extracted from "Contents" of Manual – Small-scale farming in West Africa for improved Production and Better Family Living Revised Edition (2003) (pp xi-xiii).

ii. The observed modules taught in the LFNAS programme

The modules taught in the LFNAS programme are shown in the table below:

Table 9.2: ***Distribution of Training hours and the Modules taught in LFNAS***

Description of Module	Hours for Theoretical Aspect	Hours for Practical Aspect
General agriculture	10	
Farm calculations	10	
General science	10	
Communications and Use of English	10	
Administration and supervision	10	
Agricultural engineering, Carpentry/masonry/technical drawing	20	110
Agro-forestry	20	120
Animal production	20	
Crop production	20	120
Farm management	20	120
Agricultural extension	20	120
Rural enterprise development	20	120
Bee keeping	20	120
Animal traction	20	110
Total	230 hours	940 hours

iii. The operational structure of the training period of the LFNAS

Distribution of Time for Theory/Practical Learning Activities is as follows:

Practical 4 (80%)
Theory 1 (20%)

Table 9.3: ***Course Calendar of the LFNAS***

Duration of course	42 weeks
Starting time	mid January
Ending time	end of November
First term	mid January – mid April
Second term	May – mid August
Third term	mid August – end of November
Work hour per week	50 hours.
Period of work per day	6.30 a.m. – 5.00 p.m.
Order of activities per day	Livestock feeding, watering of vegetables, lectures or tutorials, breakfast, departmental practical work, lunch, livestock feeding and practical work on crops and agro forestry.

Appropriateness of the duration of the LFNAS programme

Neither the trainees nor the instructors had anything against the structure and the duration of training when asked. The responses of the instructors in all the three schools and those of trainees (aggregated) to the items of the questionnaires on the duration of the training are as shown in the table below.

Table 9.4: ***Responses of Instructors and Trainees on the Duration of the LFNAS Training Programme (in percentages).***

	Undecided	Short	Adequate	Long
Instructors at Ilesha	0	28.6	71.4	0
Instructors at Dongo Dawa	0	0	75.0	25.0
Instructors at Panda	0	33.3	66.7	0
Trainees (aggregated)	5.1	32.2	55.9	6.8

About three quarters of the instructors in Ilesha and Dongo Dawa said the time for the training is adequate. While one quarter of the instructors in Ilesha said the duration for training was short, one quarter of the instructors in Dongo Dawa said the duration of the training was long. In Panda, two-thirds of the instructors said the duration was adequate while the remaining one-third said the duration was short. Responses by trainees were slightly different. Fifty-six percent of them said the duration of 42 weeks were adequate, 32% said it was short, and 7% said it was long. Five percent of the trainees were undecided on the issue of duration. Some of those who indicated that the training is short at 42 weeks would want the program to run for 2 years. Most of those who felt that 42 weeks for the training is long came from Dongo Dawa. This is quite understandable because this location is remote and quite isolated. As at the time of gathering the data, the place had no operational global communication network in the area. Isolation and boredom may have conditioned the responses they made about the duration.

v. The strategies put in place by the school through which the trainee on completion of programme engage in food production in his/her respective immediate community

Trainees are not charged tuition fees by the schools since the foundation takes the school programme as a charity towards the community. However, two of the conditions for admission into the school are that the trainee has access to 2 to 3 hectares of land and declares interest to continue working on his/her family farm after training. On completion, a "statement of participation" is awarded, which is not intended to be used to seek employment from outside, but rather for the trainees to go and work on own farm and show example to other farmers in their villages. The trainees even have opportunities of receiving counseling and extension services for a period of two years after graduation from the schools.

vi. Reflection of the objectives of the LFNAS programme in the various learning experiences offered in the schools

The school programme set out *to train young Nigerian small scale farmers* while stating some specific areas through which this may be achieved.

Part of the requirement for admission into the school is that prospective candidates must be between 20 and 35 years of age and possession of a minimum of half a hectare of farmland. The prospective trainee must also be physically fit and willing to work hard.

From the demographic data gathered on the trainees the age range and average age of trainees are as follows:

	ILESA	PANDA	DONGO DAWA
Age range	19-35	18-39	18-39
Average age	22.2	25.4	25.4

About 78% of the trainees claim that they own farmland which were inherited or leased in their communities. It is therefore assumed that they are small scale farmers. The age range, though with some deviations, ascertain that the trainees are young men and women.

a. In more efficient farm management, including the maintenance and repair of simple agricultural tools and equipment

Three of the observed modules taught in the schools are Agriculture Engineering, Farm Management and a course that is simply called Training Trainees to maintain and fabricate simple agricultural equipment. It was gathered that trained engineers are invited to help the schools develop and produce appropriate tools and light machinery such as rolling injection, planters, maize shellers, just to mention a

few. The students are required to participate in these productions as part of their training. The finished products of these materials are sold to trainees at about half the cost of production on completion of the training.

b. In improving soil fertility on a sustainable basis and adapting appropriate high yielding crops and efficient livestock production practices

Two courses that address the attainment of this objective are: crop production and agro-forestry and livestock production and bee keeping

The foundation is a member of the International Bee Research Association (based in England). It is for this reason that schools curriculum includes beekeeping and honey production. The school also engages the service of an expert, as visiting research person, from the International Institute of Tropical Agriculture (IITA), Ibadan; to train the trainees both in training and practical application of Bee Keeping and Honey Production.

c. In valid alternatives to the current practice of shifting cultivation, and in making the permanent cultivation of farmland possible by the adoption of proper crop rotation and agro-forestry practices.

The teaching and learning of the courses 'Crop-Production and Agro-Forestry and Farm Management' are put in place to achieve the objective.

d. In healthy nutrition practices, processing of major food commodities, family planning, first aid technique and handling of textiles.

The courses that address this objective in the schools are: Family life development; Rural enterprise development; Poultry production; Diseases and their control; Farm products processing and utilization.

Trainees are given the responsibility to rear a certain number of animals and fattening of broilers. They also have to take care of laying

hens, manage goats, cattle, pigs, and sheep and bee colonies. As a way of encouragement, the net income from these activities is credited in their accounts.

Discussion and Conclusion

The LFNAS programme has modules in the key areas of agriculture as well as other tangential areas like the Administration/supervision and Use of English. The programme makes provision for sufficient background training in General agriculture and General science.

At this level of curriculum enunciation, it is expected that animal traction should be subsumed under Agricultural Engineering. Bee keeping, along with snail rearing, mushroom production and similar topics are to be referred to as Special Topics or Special Enterprises. The content of the Agricultural Extension module was not clear enough during investigations, especially the reason why it has to carry equal weight in terms of hours of work as animal production, for instance. A redistribution of the time seems necessary here otherwise it will be difficult to sustain the interest of the students in sessions that are not filled with activities.

The organizers of the programme state emphatically that acquisition of skills is the prime goal of the programme and that 80% of the curriculum consists of practice work while 20% involves classroom lectures (LFNAS 2000). This is with a view to improve the understanding and the skills of the beneficiaries thereby enhancing attitudinal changes. The adopted practical/theory time ratio is 4:1; this is acceptable for the accomplishment of the goals set for the program.

Commencing the program in January is reasonable because it ensures that participants are fully settled after end of year festivities. Ending in November is also good for it allows them to have sufficient time after the training to meet with their family members and prepare for end of year social activities, as means of holiday before embarking on their own farming wok. The terms are seen to roughly coincide with the three seasons of annual crops. The first term synchronizes roughly with the irrigation season for all locations. The second term synchronizes with the first season for Ilesha and the season for residual water use in Kano and Kaduna. With improved training conditions, the

duration of the programme may be considered for extension, probably to eighteen months or two years.

A significant number of the trainees indicated their intentions to go and really develop self and become better farmer, however, from the findings of Osokoya and Adekunle (2007), some of the trainees want the organizers of the school to make the certificate awarded at the end of the programme suitable for employment. In addition, some also claims that there is too much drudgery in the programme that trainees were made to carry out activities which could have been mechanized; while some are still requesting for more theoretical understanding of what they are doing. These are just pointing to why these complaining "young farmers" may not be contributing to increase in food production in the country at large.

An assessment of the objectives of the LFNAS programme in the light of the aspiration of the country shows a realistic attention to production, processing, and storage, maintenance of tools as well as acquisition of skills in soil conservation, irrigation, and accounting/managerial activities. There is, however, a deficiency in market development, marketing functions, marketing and credit sourcing, and management. Although details of the curriculum of some disciplines like the livestock discipline reflect some reference to marketing of commodities, the investigators feel enough attention has to be drawn to this end of the commodity chain so that issues like market functions and market development can be handled well enough for the benefit of the trainees; more especially as reported by Adewale, Adesoji and Iroegbu (2004), many Nigerian farmers are diversifying away from food crops into cash crops.

The objectives of the LFNAS training programme are well articulated and observations showed that all the instructors in the programme are aware of the objectives and also consider them appropriate. Individual disciplines derive their course objectives from the training objective. The instructors also indicated their awareness of the objectives of the courses they handle and also consider them appropriate. All the trainees also indicated that they know the objective of the training program and of the individual courses. Sound

knowledge of the objectives by the trainers and the trainees enhances unity of purpose and helps in the accomplishment of training goals.

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