

M.Sc. Agricultural Economics Report, 1977

A CRITIQUE OF FARM
INSTITUTE PROGRAMMES IN NORTHERN
NIGERIA (KWARA STATE)

by

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A special Report Submitted in Partial Fulfilment for the
Requirements of the Degree of Master of Science in Agricultural
Economics at Wye College, University of London.

Wye College
(University of London)
September 1977

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ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to my ^{Supervisor} ~~Supervisor~~ Dr. J.P.G. Webster for his close supervision, interest and guidance in the preparation of this report as well as to other members of staff of the FBM and ADO Units who were helpful in one way or the other.

My profound gratitude goes to the PAO for financing my studies and the British Council for their hospitality.

I am highly indebted to Dr. O.C. Onazi, the director of the Division of Agriculture, Livestock Services and Training, Zaria for sponsoring my candidature for the FAO/UNDP fellowship and to Ahmadu Bello University, Zaria for granting me a study fellowship.

I am also grateful to Professor Dupe Olatunbosun of NISER, Ibadan; the Ministry of Agriculture Kwara State as well as its divisional arms and farm institutes at Borgu, Kabba and Okene who responded to my requests and questionnaires.

Finally, but not the least, I express my sincere gratitude and appreciation to my wife, children and other dependants for bearing with me during my period of absence.

SUMMARY

This study is a critical review of the farm institute programme in the former Northern region of Nigeria with particular reference to its progress in Kwara State which was created within the region in 1967. In the light of its achievements and the nature of its problems, suggestions are made to enable the scheme to achieve its objectives in the State.

The Framework of the Study

This study is organised into seven chapters:

Chapter one discusses the role of education in agricultural development as the basis of establishing the farm institute programme.

Chapter two presents the historical background of the programme in the former Northern region of Nigeria and its' progress before the split up of the region into states in 1967.

Chapter three gives a critical review of the schemes progress, its achievements and the nature of its problems in Kwara State.

Chapter four puts the farm institute scheme in perspective of two other schemes aimed at the farmers in Nigeria.

Chapters five and six are based on the suggested policy changes to make the scheme more viable. Chapter five is based on the suggested policies to change the society's attitude towards agriculture as well as to traditional and would-be school leaver farmers while Chapter six is based on the planning requirements needed to operate a more successful scheme.

Chapter seven concludes the study emphasising on some of the suggested changes that should be seriously considered.

CHAPTER ONE

EDUCATION AS A MEANS TO AGRICULTURAL DEVELOPMENT

1.1 Definition. Education is viewed by some people as a combination of educational experiences and the learning which results from such experiences⁵ while Wharton⁶ (1965, p.203) sees education broadly as "a perceived experience which leads to a change in future behaviour patterns - both external behaviour patterns such as physical action and internal behaviour patterns such as cognition, reflection and other mental processes".

In the UNZALPI⁵ (University of Nottingham and Zambia Agricultural Labor productivity Investigation) study, they contended that in a developing nation where only a minority of people go to school, a lot of knowledge is obtained outside the school system which has effect on agricultural development. These outside sources which they identified for their study were:

Cosmopolite - experience outside village level.

Present cosmopolite - experience due to extra curricula activities
e.g. literacy class, attending meetings etc.

Training and experience - e.g. in plantation farms or settlements and

Formal education - reading and writing in any form which provide
general knowledge, farming knowledge and literacy to
the individual.

1.2 Education and Agriculture

1.2.1 The contribution of education in agriculture. At higher levels e.g. the University, agricultural education is a most useful tool for research designed to improve productivity in agriculture. At other levels as identified for the UNZALPI, it contributes in making agriculture dynamic as well as increasing productivity through its effect on (see fig.1)

- (a) the process of adoption of innovation
- (b) motivation and
- (c) improved farm management practices.

1.2.2 The adoption of innovation: The adoption of an innovation involves several factors. In a traditional society, the adopter of an innovation is possibly not the farmer alone.⁹ The decision to adopt may be

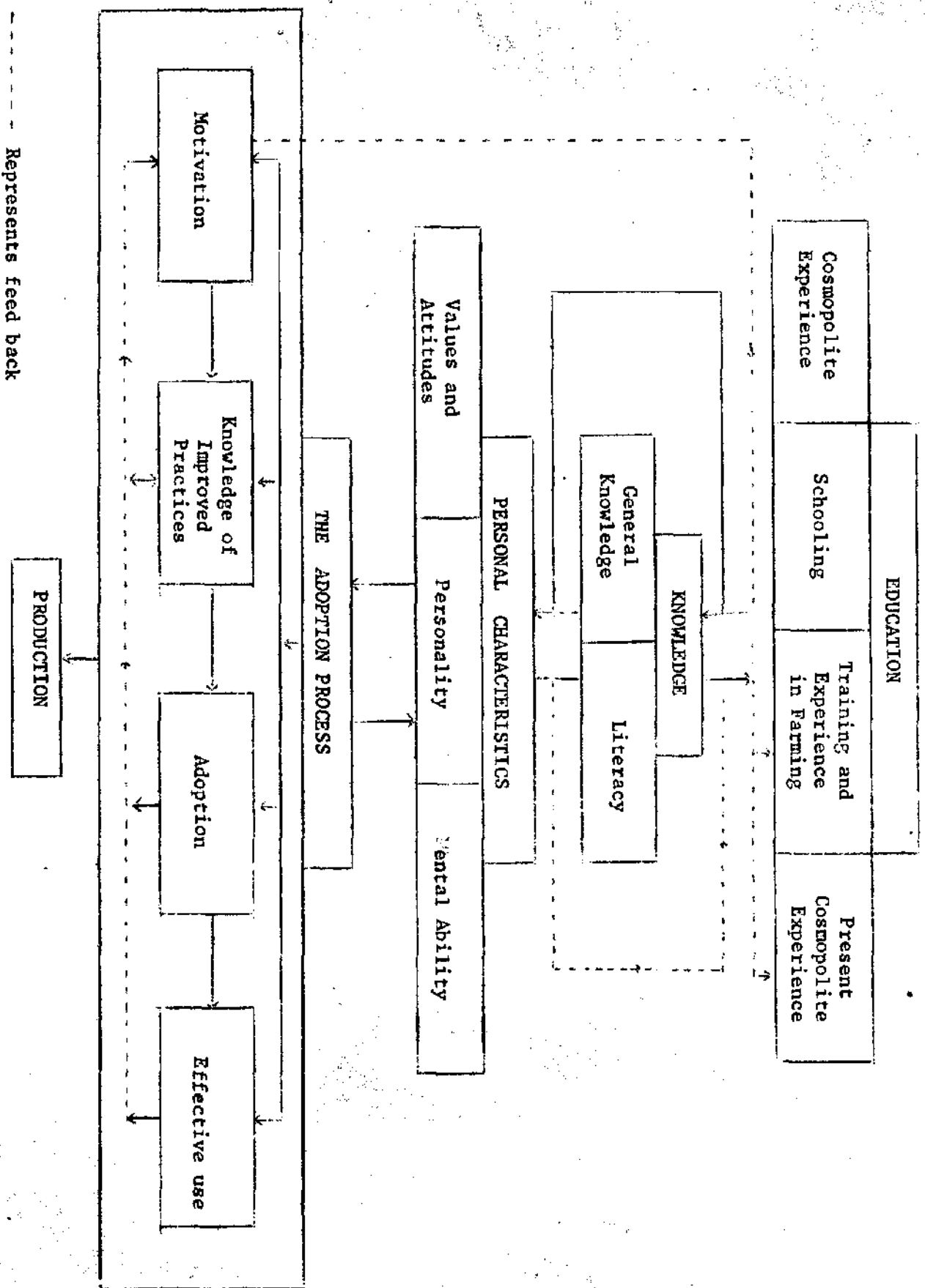
- i. culturally determined
- ii. a group reaction or
- iii. the prerogative of the village, clan or family head.

The adoption or rejection of an innovation also depends on the adopter's perception of the characteristics of the innovation⁸ while the rate of adoption may depend on the adopters understanding and information on the principles underlying the practices.¹¹ Added to these are the elements of risk, motivation to change, the sociotechnical content of the innovation, the economic situation and the status etc. of the farmer. On the other hand, some studies¹⁰ have shown that innovativeness is a behavioural trait.

While some studies^{31,32,33} have shown positive correlation between education and the adoption of innovation in many countries, this has not been strongly observed in the few studies about Africa.¹⁰ This is understandable because if innovativeness is a behavioural trait, then the largely biological and chemical types of innovations sold to farmers in many parts of Africa are such that neither require changes in the traditional farming systems nor literacy to understand. Even then, recent work by Ascroft et al²⁴ in Kenya show a positive relationship between literacy level and progressive farming while studies by Olukosi¹⁴ and Olatunbosun et al²² show evidence of high rates of adoption for farm institute settlers in Nigeria.

Figure 1.

Descriptive model



Source: N.R. Vanzetti: Education and development of farming in two areas of Zambia.

1.2.3 Motivation Towards Agriculture: In traditional agriculture, farmers are said to have a backward sloping supply curve^{27,34,35} i.e. production is relaxed as soon as they have earned enough money to meet their basic needs. Education on the other hand creates new tastes and wants in a person^{1,5,15} due to more contact and widened horizons which lead to a sustained desire for goods and services. These new tastes and wants once established will motivate farmers to consciously desire to earn money regularly through farming as well as having a delayed gratification in order to participate fully in the modern way of life and to maintain the newly acquired status quo. Education, therefore, creates the basis for a change and the motivation to sustain that change through increased production.

1.2.4 Improved Management Practices:

Farm management is the making and execution of decisions related to farm operations.¹⁵ In a relatively static agriculture, decision making is heavily conditioned by tradition and ritual so that what, how and when to produce are predetermined by culture and the taboos of tradition. Since there is no systematic decision making it means that the farmer does not consider all the factors both internal and external to him which affect his production and profits and upon which good management depends.

As agriculture graduates from a subsistence to a market economy, its management becomes more complex and skilful. Decision making becomes essentially economically determined with high penalty costs for poor decisions.

To achieve an economy of scale, production must push beyond the frontiers of traditional production possibility curves. The costs and returns of production, the risks, market, sources of finance and manpower requirements will fully be analysed. With all the human and material resources at the producer's disposal, success will still depend on his ability to organise these materials and motivate his workers to achieve an economic optimal level of production. While the farmer may not possess all the skills for commercialised

farming the success of his business nonetheless, lies much on his ability to seek information; on new technology and market; keep good records, make simple farm plans, organise his finances etc. Agricultural education aids in solving these problems by providing the farmer with a guided formula for decision analysis; the operational tools of farm planning (e.g. budgets, programming techniques etc.), man management principles, market analysis and accounting etc. Any increased productivity arising from learnt management principles is therefore linked to education.

These functions of education point to its importance as a requirement for agricultural development which was implicit in the introduction of farm institute programmes in the former Northern Nigeria.

CHAPTER TWO

THE HISTORICAL BACKGROUND OF THE FARM

INSTITUTE PROGRAMME OF NORTHERN NIGERIA

2.1 Origin of the Scheme

The farm institute programme of the former Northern region of Nigeria was proposed in the 1962-68 Development Plan in response to political pressures for a 'progressive' programme along the lines of the farm settlements of the former Western and Eastern regions of Nigeria. In order to avoid the high costs of settlements, the Northern government opted for the Farm Institute component of that scheme which in the North was to train young boys who would go back to their local villages to farm within the traditional institutional patterns.^{4,16}

2.2 Objectives

The objectives of the programme were to train young men;

- A. i. To be good farmers thereby improving the standard of agriculture and production in the region.
- ii. To discourage the drift of young school leavers from rural to urban areas.
- iii. Whose farming techniques and practices would have a demonstration effect on the surrounding farmers.

Such boys who were to have farming backgrounds were to be trained on the agreement by their parents to provide a farming situation for them after the training.

- B. The leavers were to be organised into cooperative bodies not only for the purpose of obtaining credits and marketing but also to present a united front as change agents in the village society.
- C. The institutes were to serve as adult education centres during the slack periods of farming to provide training on specific skills.

2.3 The Scheme

The plan proposed 54 institutes with one in each division so that instructions could be relevant to the local area and in the language most commonly used.¹⁷

2.3.1 Amenities:

Each institute was to have facilities for training thirty students which included

- a dormitory space
- a dining facility
- a classroom
- a storage room
- housing for two instructors
- about forty acres of land for practicals.

2.3.2 Syllabus:

The course which was to last for 9 months (March-December) was to be practically orientated and offering instructions in the following subjects:

- i Farm Management -
Planning farm layout; deciding what to produce; capital requirements; costs of production and expected income; market regulations and taxes
- ii Soils
- iii Field crops
- iv Horticulture - fruits and vegetables
- v Livestock and poultry - including training bullocks
- vi Agricultural engineering - includes drainage, irrigation, machinery and land equipment.
- vii Arithmetic and simple farm records
- viii Marketing and cooperatives
- ix Health and sanitation - includes simple first aid
- x Extra curricula activities e.g. recreation, village improvements, parliamentary procedure and group activities.

2.3.3 Settlement of the leavers

1. Land:

The local authorities were to provide lands in contiguous blocks such that the leavers worked in close proximity presenting a solid front for on lookers (demonstration effect). This was also to allow for mechanization and easy delivery of inputs and credits.

2. Other Assistance

In their first year of establishment, they were to be given the following aids.

- A. i. £10 (N 20) clearing grant (from government)
- ii. £ 8 (N 16) tractor hire services in kind
- iii. £ 4 (N 8) grant from the Local Authority (NA) for seeds, seedlings, tools and insecticide.
- B. A proportionate share of all their productions on the institute farms after sufficient quantities had been reserved for planting by the institute.
- C. Extension guidance, supervision and supply of inputs and provision of short term loans in subsequent years.

In the original programme, £40 (N 80) was to be given as credit, and grant provisions but this was abandoned when it was found that the money was used for purposes other than farming.¹⁶

2.4 Situation as at December 1964.

As at December 1964, eight institutes were in actual operation, 14 in various stages of construction while all the 54 were to be ready by 1968. See Table 1 below.

The USAID helped in financing the construction and equipping of the institutes in collaboration with the government.

Table 1. Distribution of Farm Institutes as at October 31st, 1964.

Province	Farm training centre	Farm training institute	
Adamawa	Ngurora	Hong ⁴	
Bauchi	Bauchi	*Tumu ¹	Misau ²
Benue	Yandeu*	Oturkpo ³	Donga ⁴
Bornu	Maiduguri	*Maiduguri ¹	*Biu ⁴
Ilorin	Ilorin	*Pategi ¹	Papiri ⁴
Kabba	Osara*	Ochaja ⁴	
Kano	Dambatta* Gumel }	*Danzomo ¹	*Gaya ⁴
Katsina	Kafinsoli	*Dandawa ¹	
Niger	Bida	Kwali ¹	Kontagora ³
Plateau	Shendan*	Wase ¹	*Akwanga
Sardauna	Mubi	Ganye ¹	
Sokoto	Talata Mafara*	*Gusau ¹	*Yauri ⁴
Zaria	Zorkwa	*Maigana ¹	*Birnin Gwari ⁴

Source: The Farm Institute of Northern Nigeria by D.T.R. Elsmore.

- 1 in actual operation
- 2 construction completed
- 3 building under construction
- 4 site selected but construction not started.
- * USAID financial assistance in construction.

2.5 Position at time of Breaking Up of Northern Nigeria in 1967.

Between 1964 and 1967 before states were created, 31 institutes were in existence and had trained between them 698 students by 1966 with an enrolment of 648 students, in 1967 composed of 633 boys and 15 girls.

See Table 3.

Table 2. Students Trained Between 1964 to 1967

Year	Number of institutes	Number of trainees
1964	3	52
1965	10	196
1966	20	450
1967	31	648

Source: Derived from D.T.R. Elsmore. The Farm Institute in Northern Nigeria.

The enrolment figure for 1967 shows a slight decline on the average per institute from that for 1966. Although, the subsequent enrolment figures for all the states are not available for comparison, those obtained for Kwara State (see Table 5) showed an average enrolment of 15 students per institute between 1973 and 1977.

2.6 Problems

The problems¹⁷ experienced at the initial stage of the programme were that:

- I. boys either refused to remain in school or failed to take up farming after training
- II. those who tried to settle left in search of better jobs after some time.
- III. most of the students selected were too young to immediately become leading farmers.
- IV. loans and supply of inputs and other services were not given on time and on need to take advantage of the season.
- V. the cost of clearing land especially in the riverine areas was too high for a student to clear an economic unit.

VI. there was shortage of trained and experienced staff to run the institutes.

This historical background illustrates the situation of the institutes as taken over by the new states created out of the former Northern region of Nigeria in 1967.

CHAPTER THREE

THE SCHEME IN KWARA STATE OF NIGERIA

3.1 The Scheme in the New State

Kwara state was one of the six states created out of the former Northern Region of Nigeria in 1967 with the merger of the former Kabba and Ilorin provinces. With the creation of more states in 1976, its boundary was adjusted by the excision of the former Igala division in which there was one of the state's institutes.

The state government naturally inherited the farm institute scheme and the five institutions that were established in its provinces. By 1977, these had increased to eight.

3.2 Modifications in the Scheme since 1967

While the original objectives of the scheme remain, the government has made some policy alterations considered necessary to adapt the scheme to its needs. These changes* which affect training and the form of assistance are as follows:

(a) Recruitment

The candidates for recruitment who should be within the age range of 15-35 years are to include

- i. young semi-illiterates
- ii. illiterates

(b) Training

The duration for training has been extended to 12 months i.e. from January to December with the months of January to March being devoted to dry season vegetable gardening and poultry raising.

(c) Government assistance

First year of settlement:

- i. Free clearing, stumping, ploughing and ridging of two acres of farmland
- ii. Free supply of all fertilizers required

* Ministry of Agriculture letter No. KW/TRA-2/577 of 24.6.77.

iii. Erection of a small poultry unit with ten birds at no cost to the leaver

iv. Exemption from community tax.

Second year of settlement:

i. Free clearing and mechanical cultivation of additional two acres of farm land.

ii. Supply of all fertilizer requirement payable at the time of harvest

iii. Exemption from community tax.

Third year settlement:

i. Free clearing and stumping of another two acres of land. (This brings to six acres on the whole)

ii. Mechanical cultivation of land and the supply of fertilizer on credit payable at harvest.

These increased gestures of the government have not however, been reciprocated with the expected enthusiasm and gratitude from the leavers as to remain on the farm. The explanation for this apparent indifference is not far fetched for;

- i. the planning of the programme had falsely hoped for results by relying more on the efficacy of government's patronage to the neglect of the human content of the programme which is most vital and is social, economic and psychological in nature.
- ii. there was the added frustration of unfulfilled promises.
- iii. some of the techniques learnt were inapplicable to their farming conditions.

3.3 Results and Effects of the Scheme

A study on the economic problems facing the farm institute leavers in the state has already been reported by Olukosi¹⁴. Based on its findings, this study will only concern itself with the extent the objectives of the scheme have been realised and the factors influencing these achievements.

3.4 Achievements

(a) Employment effect:

The study showed that between 1965 and 1968, there were 81 trainees from five institutes. But as envisaged in the original plan, each institute with a capacity for 20 to 30 students would have turned out in the four years 80 or 120 students with a total of 400-600 students. (See Table 3).

This shows that the response to the scheme was very low with an average of 9.4 students per year from each of the five farm institutes, at Offa, Isanlu, Pategi, Ochaja and Ageva, with an annual average leakage of 88%.

Table 3. Distribution of Trainees, 1965-1968

Year	Number trained	Number of leavers still farming	% leakage
1965	20	2	90
1966	35	0	100
1967	52	2	96
1968	81	27	67

Source: J.O. Olukosi. Samaru. Miscellaneous paper 57, 1970.

Figures obtained from three institutes* (see Table 4 below) for the period 1973-77 show higher increases in enrolment figure. With 221

Table 4 Distribution of Enrolment

Institute area \ Year	1973	1974	1975	1976	1977	Total
Ageva	12	12	10	10	14	58
Borgu	20	20	20	19	17	96
Kabba	15	15	15	13	9	67

Source: Personal survey.

students trained between them in five years, this shows an average turn out of 15 students per institute per year. Although, the number of the trainees that actually settled was not given (except in one area) in order to determine the level of success achieved, the enrolment figure while still below the planned intake, represents an impressive increase over the 9 students recorded previously per institute.

(b) Income levels :

The range of net income level recorded¹⁴ per settler was N35 to N 330 with an average of N 71.96 per annum. This represents a net average monthly income of N 6 which is not a sound economic return when compared with the N 14 recorded for traditional farmers in Zaria area by D.W. Norman¹⁶ or the minimum wage of about N60 in the state.

(c) Adoption of innovation and increased output :

The settlers on the average adopted new techniques. It was found that fertilizer and crop spacing were applied on 51.17% of the plots of those interviewed while improved seeds were sown on 47.50% of the plots. A further analysis showed that 88.64% of those interviewed felt they would have adopted improved practices entirely if the supply of inputs were available and on time. For sole cropping, 79.71% of the settlers lands were used as opposed to the 20.29% given to mixed cropping. The superiority of sole cropping over mixed cropping in tropical agriculture is being questioned as shown by several studies,^{18,19,20,21} and therefore, this aspect of innovation has to be treated with caution.

It is unfortunate however, that the study did not say how much the adoption of these improved practices affected yields

except to make a reasonable inference from the net farm income that it might have been low except where swamp rice was grown.

(d) Demonstration effect:

One of the aims of the farm institute programmes was to be its influence in changing traditional agriculture through its demonstration effect on the surrounding farmers. Accepting that the recorded double counting and possible errors due to memory recall were within permissible limits, the total number of people, 1180, (see Table 5 below) which the study found to have sought advice over the years from the settlers on improved practices like fertilizer application, seed dressing, spacing of crops etc. is by no means impressive.

Table 5. Distribution of Farmers Seeking Information on Improved Practices

Farm institute area	Total number of people coming for advice	Average per leaver
Offa	143	15
Isanlu	715	55
Pategi	105	35
Ochaja*	100	50
Ageuba	17	8

Source: J.O. Olukori. Samaru Miscellaneous paper 57, 1976.

The possible reasons for this low impact might be explained by the fact that:

- i. The settlers are few and therefore, are thinly dispersed among the traditional farmers.
- ii. The very poor economic performance of the leavers does not present any standards worthy of emulation.

* Now in Benue state.

- iii. Their mode of production is very much similar to that of the traditional farmers
- iv. The elder farmers have a contempt for these 'educated' boys whom they consider as failures for even choosing to farm particularly in the traditional setting where the boys are considered inexperienced. This contempt might be so intense as to stop any approach by the older farmers even if the boys do have superior skills to pass on.

Whether or not the demonstration objective could have been realised through the means of the original plan (page 8) can be evaluated in terms of the impact of a similar settlement scheme in Western Nigeria on other farmers. Olatunbosun et al²² in their study of the impact of the Western Nigeria Settlement Scheme on the surrounding farmers found that the only impact the scheme had was on the adoption of fertilizer where on the average, 65% of all the peasant farmers interviewed had adopted the use of fertilizer through the direct influence of the farm settlements. Mechanization, poultry keeping, use of improved seeds and livestock were found to have low impacts which might have resulted either because the innovations were too capital intensive¹⁶ or farmers made no enquiries about the settlements' activities because they regarded them as forbidden territories of the government.²² This is evidence that settling the pupils of Kwara scheme in contiguous blocks for mechanization might not also have achieved the desired demonstration effect.

It can be concluded from these recorded achievements that the main objectives of the scheme in terms of:

- i. Arresting school leavers' urban migration through settled farming
- ii. Raising settlers standard of living through income from farming
- iii. Changing the attitudes of youths towards farming (there was an average annual leakage of 88%. Table 4.

- iv. Changing traditional agriculture and the rural society through its demonstration effect and the dynamism or leadership of the pupils; have hardly been achieved and to this extent the scheme can be considered a failure.

3.5 Causes of Low Achievements of the Scheme

Some of the recorded causes of the low achievements of the scheme can be categorised into factors which arise from:

(a) The pupils own attitudes:

On the part of the pupils, the failure of the scheme stems mainly:

- i. from their perception of farming which they entered in the first instance out of frustration. They had, therefore, no motivation, zeal or the intention to succeed with it as their ambitions continued to lie elsewhere.
- ii. the age factor makes the drudgery involved in farming distressing as tractor services were irregular if available.
- iii. the boys had hoped that they would be converted to field overseers on completion of their course, the failure of which dampened their interest.

(b) Effect of other people's attitudes:

- i. The trainees were discouraged by parents, friends and relatives who regard farming as unprofitable and for parents; their aspirations for their children were higher than farming.
- ii. Discouragement from local farmers who mocked that there was no difference between them, even though, the leavers were called 'modern farmers'.

This shows that the environment within which the boys were to operate was hostile to them not necessarily as a people but as a reflection of the attitude to the profession the 'educated' boys have chosen.

(c) Unfulfilled government promises:

The main complaints against the government were the irregularity of giving supportive services and yet it was on this very patronage of the government that the foundation of the scheme was laid.

Commenting on the findings of Oluhosi,¹⁴ p.29 the government said inter alia, "the Ministry maintains that the aims of the programme was not designed for leavers to employ labour but rather to make him manage an average Nigerian farmer's holding using modern techniques (tractors, improved seeds, pesticides etc)" and in another place it said "... it is possible and in some cases happened that assistance had to be rendered late e.g. in mechanical cultivation because the demand for tractors is much higher than the number available."

It is difficult to reconcile a situation where trainees were not expected to hire labour but to mechanize and the tools for mechanization were not available. In farming, timeliness of operation is critical for many crops as well as being fundamental to good management practices and yields. As stressed in the World bank's guide lines on the supply of credits,²³ it is no use to a farmer who gets his inputs when the season is overdue.

It can be concluded from the above results that the low achievements of the scheme are related to social, economic and psychological factors of the operators and not least the inadequacies of planning and adherence to plans.

CHAPTER FOUR

EVALUATION OF THE FARM INSTITUTE PROGRAMME IN RELATION TO THE WESTERN NIGERIA SETTLEMENT SCHEMES AND THE NORTHERN DEMONSTRATION EXTENSION PROGRAMME

In order to put the farm institute programme in perspective, it is necessary to evaluate it in terms of capital costs and tangible returns in relation to two other programmes currently aimed at the farmer in Nigeria.

4.1 The Farm Settlement Scheme of Western Nigeria

The farm settlement scheme was started in 1959 after the Israeli Moshavim²⁵. The programme which was designed among others to solve youth unemployment; teach better farming techniques as well as playing an extension role to surrounding farmers was to involve 13 settlements initially with a total of 2200 settlers. By 1966, there were nineteen establishments with about 1500 settlers.²⁶

The scheme involved a one to two years training in a farm institute after which leavers were settled on lands acquired by the government. Settlers were housed by the government which also supplied them inputs on credit.

Costs and returns:

Costs: Table 6 shows an estimate of performance of the settlement scheme by Wells²⁶ based on Roiders work. This shows a capital investment of about £4540 (about N 9080) by 1967 to settle a trainee inclusive of the cost of training and settler's house.

Table 6. Western Nigeria Farm Settlements: Estimates of Performance

	(£000s)	Theoretical (£000s)	Actual (000s)
1. Land acquisition	736.6	205	763.6
2. Clearing and establishment	674.5	421.7	674.5
3. Settler housing	645.6	582.9	645.6
4. Other social overheads	515.1	422.4	515.1
5. Management	133.4	380.6	(380.6)
6. Tree-crop development	676.8	544.6	669.2
7. Poultry units: capital	118.6	201.2	115.6
8. Poultry units: operation	105.0	200.6	105.0
9. Other livestock	33.1	..	..
10. Arables	111.3	29.7	(29.7)
11. Settler training	..	612.0	641.2
Recorded/estimated total	3,777	3,601	4,540

Revenues	Theoretical £s	Recorded £s
1. Cocoa	15,340	22
2. Oil-palm	5,442	47
3. Other tree crops	..	88
4. Poultry	207,140	53,848

Source: Jerome C. Wells. Agricultural Policy and Economic Growth in Nigeria 1962-1968.

Returns: The proposed plan anticipated an internal rate of return of 6.3% and a social rate of return of 15% and at these rates, the scheme was considered viable. An ex post valuation carried out by Roider²⁵ however, showed that the actual achievement was 20% lower than the planned figure as yields obtained were lower than anticipated and prices of the major crops fluctuated.

It is essential to mention however, that a scheme that involved an expenditure of £6.4 million as at 1966/7 benefited only 1500 settlers.

4.2 The Northern Demonstration Extension Programme (NDEP)

The NDEP was initiated in 1964 by the then regional Ministry of Agriculture, to disseminate improved cropping techniques effectively to a large number of Northern farmers.²⁶ The method used was that in a selected farmer's farm, about $\frac{1}{2}$ acre of a crop was grown according to a package of recommended practices while another $\frac{1}{2}$ acre control plot was grown according to the farmer's usual practice. Neighbouring farmers were invited to witness each step of the operation of the recommended practice as well as the yields from the experimental plots at harvest.

A. Potentials of the scheme

The total demonstrations carried out between 1964-66 were 10,435 as shown below.

Table 7. NDEP Performance between 1964-66

Year	Location	Number of demonstrations	Remarks
1964	Gombe Gusau	400	Experimental areas
1965	13 provinces of the Region	4435	
1966		5600	

Although one cannot infer a figure for all the secondary beneficiaries, this is likely to run into hundreds per annum as knowledge would be disseminated by two principal sources - those who experienced the demonstration and those who observed it. Wells²⁶ quoting a source indicated that about 10-15 farmers were normally in attendance of the various steps during the demonstration.

B. Costs and returns

Costs: As analysed by Wells see Table 8, the cost of one demonstration as in 1964/66 was £35 or £175,000 for 5000 demonstrations per year.

Table 8. Northern Nigeria: Demonstration Extension Programme
Estimated Total Cost of Demonstrations

Cost per demonstration			
A. Overheads	Planned	Actual	
(1) Number of demonstrations	5,775	4,435	
(2) Overhead cost/demonstration	£28.00	£36.60	
B. Total	Cash Crop	Cash Crop	
(1) Direct cost	3.00	2.50	
(2) Overhead cost (5,000 dems.)	32.50	32.50	
Total	£35.50	£35.00	
Cost = £35/demonstration			

Source: Jerome C. Wells. Agricultural and Economic Growth in Nigeria 1962-1968.

Returns: It was shown (see Table 9) that over a two year experience of the programme, there were yield increases of between 50 - 150% with maize, cowpeas and groundnuts. The cost of the demonstration was also amortized within five years with yams, groundnut, swamp rice and cowpeas from relatively small acreages of the crops.

Table 9. Northern Region Demonstration Extension Programme Summary
of Results. 1965

Total returns to crops grown with recommended practices (1965 data)										
(1) Farmers returns per man-day	4s	7/6d	5s	4/6d	4s	5/6d	6/6d	9/6d	10s	
(2) Social benefit cost ratio (labour at 4s.	0.99	1.73	1.01	0.96	0.79	1.21	1.36	1.66	1.45	

Source: Jerome C. Wells. Agricultural Policy and Economic Growth in Nigeria 1962-68.

Financial and social returns:

The financial and social returns to the farmer were high with yams, groundnut, swamp rice, upland rice and cowpeas but low with cotton, millet and maize.

This shows that the demonstration programme should be used selectively on crops with higher returns if farmers are to adopt the innovation.

4.3 Farm Institutes in Kwara State

Costs and returns

Costs:

The cost of training a student as contained in the original plan was £140.

Cost of establishing a trainee including extension in the first year £60

Total Costs £200/trainee.

In Kwara state, by 1977, the cost* of training a student was N 600 i.e. £500. This excludes the cost of establishment within three years

Returns:

There has not been a full appraisal on the cost-benefit of the scheme to allow for any useful comparison with the other schemes. From what is known of the scheme in Kwara state,¹⁴ there is evidence

1. that about 62% of the trainees absconded after training between 1965 and 1968.
2. the recorded net income of N 71.86 per annum was a very low return compared to the minimum wage level of about N 720 per annum, in the state.
3. only 302 students were trained within 10 years (see Tables 3 and 4).

* Supplied by the Ministry of Agriculture. Kwara state.

4.4 Conclusion

In terms of capital costs, personnel requirements and returns, the NDEP looks the most viable. There is little to choose between the farm institute and the settlement schemes except that the former is preferred because of its lower economic waste. With all the advantages of the NDEP over the farm institute, one is not however, suggesting that it should completely replace the latter in Kwara state. This is because education and farm training are argued to be instrumental to a dynamic agriculture and necessary to enable farmers to cope with it as a business. The advantages of the NDEP should however, be fully harnessed emphasising improved practices for crops that have higher returns to farmers while steps are taken as suggested in a subsequent chapter to make the institute a viable scheme.

CHAPTER FIVE

POSSIBLE MODIFICATIONS TO THE SCHEME

IN KWARA STATE

5.1 Policy Changes

So far, the results of the scheme (pp.17-18) have shown that it has not been a success in the state. Two possible options opened to the government are:

- i. to cancel the programme or
- ii. to continue with it but with some modifications.

Having regards to the value of education in agriculture (ppl-5) the first option cannot be favoured. The government is enthusiastic (correspondence with the Ministry of Agriculture) to continue with the scheme and several modifications have been introduced (p.12). This enthusiasm however, has not been fully matched with regards to the settlement of the leavers (p.19). The present recruitment policy (p.12) will likely create teaching problems unless a different syllabus is operated for the illiterates with the local language as the medium of instruction. Much as it is important to consider the desirability of teaching these groups together, it is also essential to distinguish between a farmer training programme aimed at illiterates and that aimed at school leavers.

Judged against the low achievements of the scheme (p.14) it is the opinion of the author that the scheme should undergo a major reorganisation which will take care of the economic, social, psychological as well as the inadequacies of plan implementation which were considered to be the main causes (p.20) of the poor performances. The two main approaches recommended for the reorganization are:

- i. to establish a new basis for the programme
- ii. to plan towards a successful school-leaver programme.

5.2 A New Basis for the Programme

Since this study contends that the problems of the farm institute are social, economic and psychological which stem from the students' and society's perception of agriculture as well as the high aspirations of parents that their children's education will ultimately break the family's circle of poverty, these social and psychological phenomenon of the problem should therefore be tackled as the basis of establishing the scheme and these should be done through Adult and Primary school education.

5.2.1 Adult education

This is intended among others to change the rural society in such a way as to accommodate the school leavers who are not able to find employment and will like to go back to the land. Mosher⁷ is of the opinion that in a developing society, education should be for both old and young in order to avoid the new ways of the young competing with the authority and prestige of the elders which according to Vanzetti⁵ can result in the young settling back into the traditional grooves.

This can be achieved through adult education and extension work. The extension programme should aim at changing society's attitudes towards farming by showing slides based on the economic potentials of farming as practiced in advanced countries to emphasise the way traditional agriculture should ultimately move.

5.2.2 Farmers' training

The essence of farmer's training apart from the knowledge gained is that by bringing farmers together to a centre creates

- an atmosphere for cross fertilization of ideas within them and between the government.
- a feeling of individual worth and professional recognition
- a group effect for the adoption of innovation

These will have an influence on their attitudes to their profession and whoever takes to it.

Courses to be taught

Farmers should be given instructions or information on

- (a) - modern methods of farming through demonstration exercises and solving their problems.
- (b) - where and how to obtain fertilizers and their prices
- (c) - the recommended prices for the major cash crops in the area using local measures to illustrate the weight/price relationship
- (d) - the organisation of cooperatives, its usefulness for buying and selling, obtaining credits and inputs.
- (e) - on storage. For this, information must have been collated on the various storage improvements for various crops carried out by the research institutes in the country and elsewhere. The economic advantages of storing excess produce at times of glut should be stressed.
- (f) - the need to balance food and cash crop production, the value of dry season vegetable gardening which will require the digging of wells. These wells have both a financial (off season employment) and social (provide good drinking water) returns.
- (g) - simple hygiene and health care. (This should emphasise the need to take people to the dispensary or hospital immediately they fall sick and simple first aid treatments for snake bite).

5.2.3 Training for women

Several studies suggest that women's education positively influence their husbands in the adoption of innovations.^{12,13} The fact that in Nigeria, the population of women is higher than men and the other that in some areas women are active farmers requires that they should be trained. In addition to these, is their important role in the home with regards to the hygiene, nutrition and the early education of the youth. The extended family system also demands that women should be able to give some economic support for the family.

Courses for women:

Courses for women should include

- (a) - child care and home management
- (b) - hygiene
- (c) - poultry keeping as well as other livestock like the care of sheep and goats
- (d) - compounding feeds from local foodstuffs
- (e) - veterinary services
- (f) - development of skills like weaving, knitting, cookery and bakery
- (g) - backyard vegetable gardening.

5.2.4 Farm training for the working class

Working class people should be encouraged to participate in any of these courses especially poultry keeping and backyard gardening.

5.2.5 Duration

The training generally should not last for more than a week or two with an option for a second chance depending on the demand. In each case, there should be well planned guided lectures designed to stimulate interest in farming as well as a change of attitude to the profession.

5.2.6 Experience elsewhere in farmer training schemes

A system of this nature has been proved successful in East African countries where the farm institute programmes have themselves been a failure. Moris² reported that in Kenya, about 19,000 trainees were turned out in 1964 from 18 Farmers Training Centres (i.e. an average of 1,056 trainees per centre per year). Such trainees were also said in Msinga (Tanzania) to record 100% increases in coffee yields within two years following their training. Similar claims were also reported of Kenya and Uganda while a reported survey carried out by Dusenberry in Uganda showed that the rate of adoption of innovation in the farm after the training increased by 6.3%

above that recorded for ordinary extension methods. A summary of Morris² report of these surveys by Vuyiya and Dusenberry in Kenya and Uganda respectively are.

In a revisit to 171 men and women who attended Bukura FTC, Kenya, Vuyiya recorded the following responses.

Learnt very much	- 77%	Put all of it to use	- 11%
Learnt very little	- 23%	Put part of it to use	- 81%
Learnt nothing	- 0%	Put none of it to use at all	- 8%

The table below summarises Dusenberry's findings from District farm institutes in 8 districts in Uganda.

Number of farmers surveyed: 165

Number of practices evaluated per district: 20-35

	Number of Practices Adopted			
	Start only	Good showing	Established	Total
Before attending the DFI course	574	273	31	878
Within one year of attending DFI course	1188	674	35	55

5.2.7 Agriculture in primary school education

According to Ominde,³ the attitude of school leavers are formed to a dominating extent by the attitudes of parents and teachers. If this is accepted, then any educational system designed to change primary school leavers' attitude towards agriculture should first be directed at the teachers, student teachers and then the school children, having taken care of their parents in adult or farm training centres.

Arguing against agricultural education in primary schools, P.J. Foster²⁸ contends that it will not have a determining influence on the occupational aspirations and destinations of students because aspirations are determined largely by individual's perceptions of opportunities within the exchange

sector of the economy, and destinations by the actual structure of opportunities in that sector. On the other hand, Jon Moris² believes that the primary importance of agriculture in primary schools is not for purposes of immediate vocational training but one designed to increase the student's personal involvement in modern agriculture i.e. his professionalisation and thereby transforming his conception of it.

In line with the latter argument, such a change of attitude towards agriculture should be aimed at through well prepared lectures and guided campaigns in seminars and induction courses for all primary school teachers by experts in the subject. This should aim at making them understand what agriculture is all about, its potentials, its important role to the community and the development of the nation. In continuation of the efforts to make an impression of agriculture on youths, it is therefore suggested that:

- i. - the subject is made compulsory in both primary schools and teacher training colleges.
- ii. - personnel from the Ministry of Agriculture should be seconded to teach the subject pending the time when qualified teachers are available.
- iii. - that a rural science college similar to that in the former Northern Region but equivalent to the ATC (Advanced Teachers College) in status and not in academic content, be established to train teachers for agriculture in both primary and post primary schools.
- iv. - work in the school garden should never be seen as a punishment for serious offences only.
- v. - to stimulate interest in school gardening, each operation must be explained; it should be used in teaching relevant topics in nature study; children should be given shares of the harvest, while the total sales including imputed costs for their own consumptions

should be made known to them.

vi. - the schools should also have poultry and rabbitry units for
teaching

There is no doubt that these are likely to influence some children
either to desire a career in agriculture or go into farming instead of
remaining for long unemployed.

CHAPTER SIX

TOWARDS A SUCCESSFUL SCHOOL LEAVER PROGRAMME

6.1 The Planning Needs

The suggested planning needs for reorganising the scheme are based broadly on:

- a. The economic returns of the scheme
- b. The syllabus appropriate for the scheme
- c. The nature of services required.

6.2 The Economic Returns of the Scheme

One reason why traditional farming is not attractive is the low financial reward. Anybody taking up a job will probably think of his interest for the job and its financial rewards. Two alternatives are:

6.2.1 Plan A

If boys are to take up farming, it is suggested that the government commissions a body to work out farm plans (based on the farming activities of the various areas of the state) that will provide an income comparable to the minimum wage level in the state. This is necessary as the reference groups of these boys are their mates in salaried employments and the extent to which their earnings are comparable will determine their willingness to remain as farmers. The other advantages of such a plan are:

1. It serves as an incentive to the students while at school as they are aware of the possible returns of the systems they are learning if they operate it successfully in their farms. It must be stressed to them however, that such a plan assumes a ceteris paribus condition. This is to retain their confidence should failures occur due to exogenous factors inherent in farming.

2. The government and pupils are aware of the costs of operating the system and the extent of help the former can or is expected to give.

Such a plan should include livestock, especially poultry and rabbitry. This is to ensure a steady flow of income to the leavers during the period of establishment and thereafter. An economic unit of 100 layers with a buck and a doe or two should be considered. The economics of off season irrigation with well water for which loans should be provided should be considered, while its advantages in providing drinking water especially in the dry season when water from the streams is highly polluted is not ignored.

6.2.2 Plan B

An alternative plan is to consider the teaching only of specialized systems in livestock (e.g. poultry, swine, rabbitry etc) production and horticulture. Boys are admitted to learn any of the systems and are helped to settle with the appropriate capital requirement of the skill acquired. Leavers with similar specialization should be encouraged to cooperate in their production in order to attract substantial loans mostly in kind from the government or the bank. As suggested above, there will also be plans for each system that provides a reasonable minimum income to the operators.

There is likely to be a more favourable reaction to such a scheme since it has a potential for higher returns with less drudgery than one that expects them to go into arable farming in the traditional setting.

One added advantage of this system is that in future, such leavers might find it advantageous to cultivate food for themselves and their livestock and this might gradually lead them into intensive mixed farming.

6.3 The Syllabus Appropriate for the Scheme

The syllabus should be based on the cropping patterns or livestock system designed for each area. A continued inquiry into the performances of the settled leavers will monitor the necessary information for updating the syllabus. Whichever plan is accepted, other courses to be taught should include:

(a) Farm management

This should concentrate on explaining the

- I. What, how much, and when to produce of the enterprises contained in the planned systems.
- II. Record keeping
- III. Simple arithmetic based on calculating costs, returns and profits, weights and weighing.
- IV. Marketing
- V. Soil management and farm lay out.

(b) Cooperatives and storage

Courses on cooperatives and storage should be an expansion of those outlined for adult farmer training in page 28.

(c) English language

Any lessons in English language should entirely be based on understanding the language of extension guides and agricultural brochures.

6.3.1 Duration

The number of systems to teach based on the expected farm plan and the other external topics will be relatively few considering the present state of agriculture in the state. The duration of the scheme should therefore not exceed three months because

1. - the duration for farmer training schemes should be relevant to the available systems to be learnt.

2. - the effectiveness of a training does not necessarily depend on the length of time involved.

(Carr, Nicholson*) personal communications.

Keeping the duration short will also ensure that

1. - only relevant topics are treated
2. - the training does not create the impression of advance academic achievement for other employments.
3. - boys are not taken from their environment for too long as to be unwilling to go back to it (e.g. in the institutes, the standard of living is higher than that in the countryside, therefore it will be revolting to them to go back after a long spell of 'luxury').
4. - more people are trained especially when the universal primary education starts to turn out school leavers in their hundreds.

6.3.2 Entry qualification

Admission into the institutes should cover those who can read and write in English language, and have a basic knowledge of simple arithmetic.

An age limit of at least twenty years should be set so that only those who can endure the hard work of farming are trained. Where primary school leavers are the main applicants, this ensures that, seven years after the primary education, any such applicant must have genuinely decided to take up farming. Where the age limit is lowered, there should be a pre-condition that such applicants must have spent one year working in their own parents' farms. Even in Britain where students choose farming in preference to other careers, several agricultural colleges below the degree level make

* Mr. Stephen Carr, OBE, is a visiting fellow to Wye College with experiences in farm settlements in East Africa.

Julian Nicholson is a lecturer in Wye College and an external examiner in National Certificate of Agriculture to some colleges in Britain.

it a condition of entry that all applicants should spend at least one year on the farm for practical experience before the continuation of the training.

6.3.3 Staff training

The success of any training scheme depends partially on good teaching. To meet this demand, to meet this demand, the present teachers need a further training or refresher courses because of the inadequacies of their earlier training. Since the scheme operates in all the states created out of the former Northern region of Nigeria the Colleges of Agriculture responsible for OND courses should orientate their syllabi to include agricultural economics courses which are presently vaguely taught. Further to this, it is considered appropriate that the principal of such an institute should hold a HND in Farm Management for which the present principals can be trained because of their experience of the situation.

6.4 The Nature of Services Required

Training the boys to be good farmers is only an aspect of the programme while the provision of the tools for production is of utmost importance if the boys are to remain as farmers. These tools include

6.4.1 Farm machinery

Some of the main arguments for mechanization are to reduce drudgery and to increase production through land expansion and multiple cropping where possible. In traditional agriculture, the main source of farm power is the human power. Unfortunately, while the human power is rated at one tenth (1/10th) horse power, the minimum energy requirement for an efficient agriculture is $\frac{1}{2}$ horse power per hectare.²⁹ The cheapest external source of farm power in Nigeria is probably the oxen but this is not suitable to Kwara state because of the vegetation while the people are not used to the care for cattle.

Since tractor hiring services are inadequate and inefficient, it is essential now that the country is undertaking the assembly of tractors to place emphasis on low horse power (10-30 h.p.) machinery which farmers can buy, operate and maintain easily. Unless a solution for farm power needs is sought, the continuation of farm institutes will hardly realise its objectives except where training emphasis is shifted to livestock production and horticultural crops, for it is unrealistic to expect that school leavers who have never been conditioned to farming or hardwork will ungrudgingly take up farming with the traditional hoe and cutlass.

6.4.2 Supportive services

Any steps taken to reform agriculture is hardly complete without such supportive services as the supply of inputs, credit facilities and markets. It is essential that inputs (fertilizer, improved seeds, chemical sprays, herbicides etc) and credits are given on time while efforts should continue to be made to find good markets for the products especially the export crops. To facilitate the delivery of inputs and credits, institute leavers should form their own separate cooperative body rather than absorbing them into the local cooperatives where they will either be denied the opportunities to lead or have their radical and useful ideas suppressed.

6.4.3 Feeder roads

So far, the government's road projects are concentrated within and between towns and villages. Farmers should be encouraged to undertake the construction of feeder roads through community efforts while the government takes care of any culverts and bridges, and thereafter taken over by the local governments. This will benefit more farmers than the present land development programme whose beneficiaries are not practicing farmers only.

With such roads, both farmers and institute leavers can easily ride to their farms as well as making them accessible for tractor services.

The production of more perishable but economic vegetable crops like tomatoes, spinach, okra^{ok.} and poultry for egg production can be undertaken.

Gavin³⁰ summing up other authors on the need for roads said that better roads bring more middle-men to rural markets and forces them to offer competitive prices while the prospects for better prices encourage farmers to increase their production through increased spending on seeds, fertilizer, sprays etc.

It is hoped that the implementation of these suggestions will contribute towards making the scheme more viable as it ensures that

1. - only interested boys are trained
2. - there is a reasonable expected economic return
3. - boys are accepted by the society as farmers
4. - there are adequate facilities and services to make farming pleasant
5. - they constitute a virile political force through a strong co-operative movement.

CHAPTER SEVEN

CONCLUSION

It is appropriate to emphasize that while some ideas expressed here are not based on empirical studies, the conclusions are based on the results and interpretations of research work, on discussions with experienced people and upon personal experiences.

The main attempt of this study therefore, is to stimulate a re-thinking of the project because most of the failures of the scheme to attain its objectives have roots in the fact that the boys used are:

- too young to be able to change traditional agriculture
- still encapsulated within the culture and the taboos of the rural society and are therefore not able to face the challenges from their elders.
- their mode of production remain the same as in traditional farming which neither raises their socio-economic status nor their prestige.

It is accepted that the country's low technology is a constraint on such requirements as the provision of farm machinery, supply of fertilizer and road construction however vital they are to the problem, of developing agriculture. For this reason the 'alternative Plan B' of emphasising training on livestock and horticultural crop production should be examined as it involves lower capital outlays, higher returns, less drudgery and is more likely to be attractive to school leavers.

This study strongly suggests the need to move towards a policy

- i - which makes it compulsory for would-be trainees to do some practical farming prior to their training.
- ii - of reducing the training period so long as the systems available to learn so far are few.

- iii - introduce farmer training schemes for the reasons already mentioned (p 27) and the other that, it is the traditional farmers who can be relied upon for immediate increases in agricultural production. The training should initially be made to coincide with the slack periods of farming.
- iv - introduce an agricultural education at both primary and teacher training schools which reflects the many aspects of the subject and farming. There should be a deliberate policy of organised seminars and short induction courses in agriculture for the benefit of primary school teachers and other interested groups.
- v - encourage cooperative movements at farm levels among small groups of close identity.³⁶ The school leaver settlers can provide leadership for such groups in their areas or form theirs separately where it is convenient or advantageous to do so.
- vi - an ultimate effort towards introducing small tractors and the development of more efficient channels for the delivery of inputs (which V above can be made to perform²³).

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