Dissertation By

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AN EVALUATION OF THE PERFORMANCE OF GRADUATE AGRICULTURAL SELF-EMPLOYMENT SCHEME IN IMO STATE: THE CASE OF FINANCING FOOD PRODUCTION

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A PROJECT REPORT SPONSORED BY THE COUNCIL FOR THE DEVELOPMENT OF ECONOMIC AND SOCIAL RESEARCH IN AFRICA (CODESRIA), DAKAR_SENEGAL

JULY, 1992.

CERTIFICATION

Igwe, Chike Chukwuma, a Postgraduate Student of the Department of Agricultural Economics and with Registration number PG/MSC/89/8059 has satisfactorily completed the requirements for the course and research work for the degree of Master of Science (M.Sc) in Agricultural Economics. The work embodied in this project report is original and has not been submitted in part or full for any other diploma or degree of this or any other university.

DR E C OKORJI
(Academic Supervisor)

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DEDICATION

To my late father, Sir Michael B. O. Igwe (K.S.C), who died on the 28th day of August, 1991, while I was away in school. He did not live to see me through my Master's degree programme.

May his gentle soul rest in perfect peace. Amen!

ACKNOWLEDGEMENT

I wish to express my gratitude to CODESRIA for their financial support. My source of inspiration is my academic supervisor, Dr E C Okorji, a workaholic who irrespective of his very tight schedules, makes out time to discuss with his students as though they were equals or members of his nuclear family. I am most grateful to him for his unalloyed encouragement, tutelage during the traverse, painstakingly going through the work at a track record time and making desired suggestions.

I wish to express my fervent gratitude to the Chief Project Officer of the National Directorate of Employment, Owerri, for granting me permission to use the graduate loan beneficiaries of the scheme as my respondents. I am also grateful to the scheme's officials for granting me audience especially Mr Ernest Egwuonwu who provided me with valuable publications and contact addresses of the responding graduate farmers.

I am also grateful to Dr G C Etugo who willingly accommodates me during my travels from Owerri to the fields in search of the respondents.

My sincere thanks go to the academic staff of the department who, during my proposal seminar, constructively criticised and made valuable suggestions.

The interaction that existed between me and my colleagues - Eze Chiedozie, Jude Mbanasor, Raph Echebiri, Hope Emeribe, Onwuka, K.O, Emma Arrah, Remmy Mejeha, Ezidiegwu Donatus, Okoye Dons, Uzo Nnanna, Akeh Moses, Ese Okobiah, Onunwa Barnabas, Comfort Ogbonna, Victoria Ifediora and a host of others-and the criticisms that erupted from the interactions is greatly cherished.

Grateful I am to my bosom friends: Emezie Okonkwo, Ijeoma, Pius Nwankwo, Raph Maduchem Chika Keke, Ngozi and Chukwudi Oji for all the warmth and encouragement.

I am very grateful to Ogbo. Finally I am indebted to my parents, Sir (Late) and Lady M.B.O. Igwe, who, even when my attention was greatly needed at home, understood and to God for life.

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July, 1992.

ABSTRACT

A survey of the graduate farmer, participants of the Graduate Agricultural Self-Employment Scheme (G.A.S.E.S) of the National Directorate of Employment (NDE) in Imo State was done in 1991. Eighty respondents who were graduate loan beneficiaries of the scheme were proportionately and randomly sampled for the years 1987, 1988, 1989 and 1990 respectively when they were recruited into the scheme. Data were obtained by the use of structured questionnaire administered on 57 crop and 23 livestock graduate farmers, as well as from oral interviews with the scheme's officials and relevant publications. Frequency distributions, percentages, tabulations, graphs, mean values, t- and chi-square tests, gross margin and cost-returns analysis were used to evaluate performance.

Results show that female participation was 1.25% and insignificant to total participation; and participants were not more than 40 years old on recruitment. Average Land allocation per crop participant was 5.0ha but land effectively brought under crop cultivation was 4.1ha. Livestock participants sourced their land on individual basis. Average land under poultry and piggery production

was 0.042ha and 0.009ha respectively. Crop respondents practised cassava-based crop mixtures (CBCM). Crop loans per person amounted to N11,500 and N15,000 for 1987-1988 and for 1989-1990, respectively. The crop loans were 36.3% cash and 63.7% kind. Livestock loans per person were all cash and amounted to N13.500 and N18,000 for 1987-1988 and 1989-1990 respectively. The loan amounts were found to be inadequate and graduate farmers will require an average of N2,000 to N3,750 or more to be added to the loan sums to meet production costs. Cash disbursement of loans was preferred (81.25%). Relatives/Friends (55%) was the most important other source of farm finance and was observed not to have charged interests on principal sums, whereas commercial/ cooperative Banks were the least patronised. Timing of loans by the scheme was poor as 83% of the respondents received loans after it was needed.

Average yield per hectare in a cassava-based crop mixture for maize was 649.82kg, Mellon 92.67kg, Cassava tuber 1600.94kg, cassava stem 105.47 bundles, and vegetables 25.56kg. For Poultry, average holdings for Broiler was 288, Layers 184, replacement stocks

(cocks and Hens) 250, Turkey 197; and average egg production, was 729 crates annually. For piggery, average holdings for piglets was 62, Sows 13 and boars 10. A comparative analysis of cost items for the three enterprises, showed that labour cost was highest and accounted for 68% of total cost for cassava - based crop enterprise. Operating input cost was highest and accounted for 89% and 76% for poultry and piggery enterprises, respectively. A gross return/total cost analysis showed that one naira invested on CBCM, yielded extra 6 kobo, whereas for poultry enterprise, one naira invested, yielded extra 20 kobo and in piggery, an extra 60 kobo. Permanent employment was generated for 113 rural hands. Hired labour usage was 96% and modern technology adoption was 100%.

Although there is a lot of bottlenecks and logistic problems for now, the scheme is a laudable public policy which with time and concerted efforts from both participants and officials will alleviate the unemployment and food supply problems in the state and the Nation as a whole.

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CHAPTER ONE

INTRODUCTION

1.1 Background Information

The idea of establishing the National Directorate of Employment (NDE) originated over the last few years when there was a remarkable increase in unemployment, particularly amongst school leavers and university graduates. In view of the unemployment scourge, the Federal Government set up a committee to look into these problem areas. On receiving the report of the committee, the government decided that a major assault on the problem of unemployment and food supply needed to be undertaken and consequently, the NDE was established (Adamson and Olatunde, 1988).

The National Directorate of Employment was inaugurated on November 17, 1986, and was launched into action on January 30, 1987, by the Federal Military Government. This was in its poise to launch an attack on the present unemployment plague, now seen by many as a first degree socio-economic problem threatening virtually every household in the country, and by extension, every firm and the very existence of our nation (Oliko, 1987).

The unique assignment of this Directorate to create employment with emphasis on self-reliance and entrepreneurship has called for unusual boldness and creativity. The worldwide economic depression of the early 80's caused a rapid deterioration in Nigeria's economy. Industrial output shrank and commercial activities were consequently reduced, leading to the loss of employment opportunity for millions of Nigerians. By the end of 1985, the unemployment in Nigeria had reached desperate and alarming proportions. In the urban areas, where the educated tend to congregate, the unemployment rate was high. In the rural areas, it was no less severe. The youths and graduates were the hardest hit. Of all unemployed Nigerians (ranging upwards of three million) three quarters were under 25 years of age. With growing joblessness, there was growing despondency among youths and their parents (NDE report, 1988).

To enable the NDE create more jobs for the unemployed, an initial Federal Government grant of over ₦300 million was approved. The fund is used to finance the following programmes of the directorate:

1) the National Youth Employment and Vocational Skills Development Programme;

2) Small Scale Industries and Graduate Employment Programme;

3) the Special Public Works Programme; and

4) the Agricultural Sector Employment Programme.

These programmes are backed by the necessary administrative, monitoring and support personnel, thus enabling optimum use of resources and prompt response to the requirements of the public.

The National Youth Employment and Vocational Skills Development programme is made up of four schemes, namely, The National Open Apprenticeship Scheme (NOAS), The Waste to Wealth Scheme (WWS), The Schools on Wheels Scheme (SWS) and the Disabled Work Scheme (DWS). These emanated from the realization that majority of the unemployed are youths without productive and marketable skills. Hence, the four main schemes of this programme are concerned with skills acquisition. Over 70,000 previously unemployed youths were benefitting from the NOAS by December 1987 (NDE report, 1988).

The Small-Scale Industries and Graduate Employment Programme is made up of four schemes, namely, the Job Creation Loan Guarantee Scheme (JCLGS), the Mature People's Scheme (MPS), the Entrepreneurship

Development Programme (EDP) and the Enterprise Management Support Service (EMSS). This programme is designed to encourage and aid unemployed Nigerians to set up and run their own businesses. As at the end of December 1988, over 69,000 participants had undergone the EDP programme in different states (NDE report, 1988).

The special public works programme comprises construction and maintenance of roads, buildings and other infrastructure, tree planting, environmental sanitation, land clearing and other farm support services. This programme is designed to provide immediate temporary employment to a large number of the unemployed.

Of great importance is the Agricultural Sector Employment Programme which is the last but not the least of the directorate's programmes comprising the following schemes: Graduates' Agricultural Self-Employment Scheme (G.A.S.E.S), School Leaver's Farming Scheme (S.L.F.S), Reactivation of Employment-generating Farm settlements/ Scheme, and the Promotion of Rural Non-farm Employment Scheme. It is on this programme that this work borders with special focus on the Graduates Agricultural Self-Employment Scheme (G.A.S.E.S).

The aim of the Agricultural programme is to generate employment for unemployed graduates, non-graduates and school leavers in the agricultural sector with emphasis on self-employment in agricultural production and marketing.

Unemployed graduates with Degree, Higher National Diploma (HND), National Certificate of Edcuation (NCE) and Ordinary National Diploma (OND) qualifications in agriculture, agricultural sciences and other relevant disciplines, on selection, are provided with working loans and technical assistance.

1.2 Problem Statement

Africa today is described as the "most hunger-ridden continent". The result is unimaginable poverty and the degradation of the very essence of human dignity. Unless there are dramatic increases in food production, especially of productivity improvements of small-scale farming, worse is likely to follow (Williams, 1983; Dumont and Cohen, 1980; Eicher, 1982; F.A.O., 1978). As for Nigeria, "Food balance calculations revealed the following problems all of which have worsened in the past two decades:

a) a national food deficit,
b) inadequate supplies of calories and proteins especially animal proteins; and

c) a food deficit for particular periods or particular areas scattered over the country (ILO, 1987).

The question of how to feed the nation has therefore become a matter of national concern and top priority. What is urgently needed is that agricultural production should increase fast enough to cope with increasing demand (Idachaba, et al, 1980).

The contribution of the agricultural sector to the country's GDP has declined significantly over time varying from 56% in the early sixties, 24% in the seventies to about 22% in the early eighties (CBN, 1986; Edordu, 1986); and with reference to employment, Agri contributes about 66% of labour force, and an important though now sadly small, contribution to foreign exchange earnings (Edordu, 1986). Given the relatively high rate of population growth, increased urbanization and some gains in real incomes, it is the arduous responsibility of the sector to generate increasing quantity, quality and variety of food for the country. In the sixties, agricultural output sustained the economy, yielding foreign exchange and supplying sufficien food, fibre, raw materials and employment to the nation. The seventies with its oil boom witnessed a dwindling

performance of the sector. The depressed economy of the eighties with stagflation, massive unemployment, excess industrial capacity, insufficiency of domestic food and raw materials supply coupled with massive food importation culminating in adverse balance of payments and huge debts, clearly illuminates the deepening agricultural crisis.

Consequently, to meet food demand, food had to be increasingly imported by government. This further weakened the nation's food production capability that Nigeria, which before and just after independence was a net exporter of food, became a net importer to the extent that by 1983, food import bills amounted to about ₦1.9 billion (CBN, 1983).

The government at different time periods introduced various policies such as farm settlement schemes, National Accelerated Food Production Programme (NAFPP), Operation Feed the Nation (OFN), River Basin Development Authorities (RBDAs), Green Revolution Programme (GRP), Agricultural Development Projects (ADPs), Agricultural Credit Guarantee Scheme Fund (ACGSF), Directorate of Food, Roads and Rural Infrastructure (DFRRI) and lately the National Directorate of Employment (NDE) to expand food production and stem the food crisis.

Furthermore, primary and secondary school leavers, including graduates of higher institutions in Nigeria, constitute by far the greatest proportion of potential new entrants to the labour market. What happens to these large numbers of school leavers and graduates, whether they go for further training, enter some form of apprenticeship or simply remain unemployed is evidently vital to the socio-economic development of Nigeria and Imo State in particular.

Despite all these agricultural sector incentives and strategies, and considering that the NDE agricultural loan beneficiaries are graduates of agriculture who should be experts in the field, the national goal of food and fibre self-sufficiency, self-reliance and full employment in a virile, viable, dynamic and sustainable growth economy is yet to be fully attained (Balogun, 1986; Nigeria 1974; 1976; 1981).

It becomes pertinent that this research be carried out to examine the role of the G.A.S.E.S in financing graduate agricultural self-employment, food production, generating employment for rural hands and checking the cancerous rural-urban drift which has eaten deep into the fabrics of the imo citizenry and

the ability of the loan beneficiaries to pay back and on time too.

1.3 Objectives of the Study

The broad objective of the study is to evaluate the performance of the Graduate Agricultural Self-Employment Scheme (G.A.S.E.S) in Financing Food Production in the State.

Specifically, the study will:

1) examine the operational set up of the NDE Agricultural programme;
2) ascertain the amount of loan disbursed, and repaid since inception of the scheme in the state;
3) identify and compare the level of food production generated by the different enterprises which offer self-employment to the participants;
4) compare costs and returns for farming enterprises engaged in by the participants; and
5) identify the problems and prospects faced by both scheme operators and participants and make recommendations based on the research findings.

1.4 Hypotheses

The following null hypotheses will be tested:

i) the scheme has not generated significant rural self-employment for graduates of agriculture.

ii) the loan given to participants is not adequate for production; and

iii) there are no problems limiting productivity among participants.

1.5 Justification for the Study

Rural graduate unemployment coupled with rural-urban drift and the food supply crisis in Nigeria have been identified. Furthermore, the realization of self-reliance and self-employment has eluded most of the citizenry with regards to the agricultural sector in the state. Graduates of agriculture opt for white collar jobs in the cities to the negligence of the vital agricultural sector which is considered of utmost importance in any economy for industrial and technological progress.

Huge sums of money had been doled out by government to stimulate rural and graduate self-employment and by extension to boost food production in Nigeria and

Imo State in particular. This is in line with the creation of NDE and its cohort of programmes to tackle primarily the graduate unemployment problem and stem the food supply crisis so as to achieve the desired self-reliance in food production and reduce the rural-urban drift.

It is the wish of the researcher to find out the strategies adopted by NDE through this scheme and extents gone in reducing or solving the aforementioned problems in the state.

The findings of the study will also provide a working document for the scheme operators. Problems of both the graduate farmers and scheme operators will be identified and solutions indicated for a better working relations.

Finally, the study is intended to inspire policy makers far and wide to look for alternative ways or imbibe the strategies adopted by the scheme in curbing the rural graduate unemployment problem in the agricultural sector, curtailing the drift to cities in search of white collar jobs, solving the food crisis problem and achieving the desired self-reliance in food production.

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Agricultural Developmental Strategies

Agricultural strategies are generally expressed in sets of objectives, the principal ones being:

a) to increase food supplies and the qualitative improvement in nutrition;

b) to raise farm-incomes largely through the development of a full market economy; and

c) to increase and to diversify employment opportunities (Hunter, 1969).

Thus in any country, the mobilization of food supplies depends on the country's agricultural strategies in particular and on the overall economic development strategy in general. The latter point needs to be emphasized because a balance between food production and industrial development is essential in order to strengthen the economy as a whole. Secondly, planners should bear in mind that at any given time, the rate of population growth is generally a decisive factor affecting the retative success or failure of these objectives (Kiwanuka, 1986).

The problem in many LDCs including Nigeria is that as food supplies decline, there is the consequent deterioration of the condition of nutrition both of which can be attributed to the backwardness of or to the stagnant agricultural sector. Arthur (1972) observed that if one was asked for a single factor as the most common cause of low rates of economic growth, it would have to be the abscence of a vigorous economic policy. Agricultural stagnation is the main constraint. Myrdal (1968) noted that the struggle for long term economic development in Asia will be won or lost in agriculture. Dumont, et al (1980), Eicher (1982) and F.A.O (1978) have come up with similar findings though they have tended to blame agricultural stagnation on the feudal system.

Mosher (1966) observed that factors that limit agricultural development are many and varied and identified finance as major among many others. He identified ten factors which he divided into two groups categorized as Essentials and Acclerators. The five essentials, without which agricultural development cannot take place are: (1) markets, (2) technology, (3) production incentives, (4) availability of local inputs and (5) transportation. The remaining five

which he called Accelerators were in his view important but not essential. These are: (1) education, (2) production credit, (3) group action by farmers, (4) land improvement and planning, (5) National Planning of Government Policy.

Mosher's categorization of essentials and non-essentials and the emphasis placed on each, will by no means command universal acceptance. One would, for instance, have expected strong emphasis on land tenure systems which are regarded by many as a major hinderance especially to the commercialization of agriculture. Unlike the manufacturing sector, agriculture is profoundly subject not only to environmental and ecological influencies but also to social and cultural factors. At the root of these is the land tenure system. The under utilization of agricultural land is a function of social and cultural institutional defects. Among these is land tenure system which is mainly responsible for the fragmentation of land holdings, difficulties in mechanization and the overall modernization of agricultural production (Nwankwo, 1981; West, 1972).

Another serious omission from Mosher's pre-conditions is the role of extension services. Many specialists in farm management consider these essential particularly where peasant farmers are concerned. But when all is said and done we must admit that all these problems are but one link in the chain. The really important thing is that the critical limiting factors must be identified and strategic emphasis will usually vary from one country to another.

In view of the foregoing, it is hardly surprising that Nigeria today attaches top priority to rapid agricultural development programmes such as:

i) Back to the land and farm settlements;

ii) National Accelerated Food Production Programme (NAFPP); and

iii) Operation Feed the Nation (OFN).

These programmes were reflections of government thinking a concern, which were clearly and emphatically spelt out in the Fourth National Development Plan (Obasanjo, 1983). The establishment of the eleven River Basin Development Authorities (RBDAs) by the military government in 1977 and the launching of the Green Revolution Programme (GRP) by the civilian administration in 1980 are

further expressions of this concern. Among other things the plan emphasized that Agriculture continues to be the mainstay of the Nigerian economy. It provides the bulk of employment, income and food for the population; it is the source of the raw materials required for the country's agro-based industries; it is also an important foreign exchange earner, a potential which is increasingly being exploited. The crucial role of agriculture in the overall development of the Nigerian is therefore not in doubt (Nigeria, 1981).

The Fourth National Development Plan listed objectives to which primary attention should be paid. These included:

i) increased food production;

ii) increased livestock and fish production;

iii) the expansion of employment opportunities; and

iv) the development of infrastructures to facilitate the accelerated growth of the country's agricultural potentials etc. The objectives of the Green Revolution Programme were not different (Olayide, 1983; Aribisala, 1983). These are not divorced from the objectives of the Agricultural sector employment programme of the NDE.

As the agricultural strategies unfold, issues relating to the agrarian structure, the survival of the small farmer and the family farm, the urgent desirability of recasting farm policies to better suit the needs of the country have engaged and will continue to engage increasing attention and possibly generate controversy.

The production of an agricultural marketed surplus is an issue that should be properly addressed coupled with increasing the land under cultivation. These have been recurring themes leading to fierce debates throughout the history of agricultural development (Maddison, 1969). In Nigeria of the 1980s, these two issues raise other vital questions, that is, who is to be the vehicle or agent of the agricultural revolution and what form should it take? In other words what type of farmer is best equipped to exploit the new technologies and become the agent of the revolution? Should it be based on small or large scale farming? Or is there no room for both types of farmers? Feeding the nation and making Nigeria self-sufficient in food production presupposes the production of an agricultural surplus.

Boserup (1974) asked whether the surplus will be produced by the small farmer, the big farmer, the cooperative or private corporate farmer, the landlord or tenant. Nwankwo (1981), asked similar question and identified four categories of farmers:

i) the traditional farmer;
ii) the middle class farmer;
iii) the corporate farmer; and
iv) the government.

The researcher feels that the graduate farmer with all the theoretical and practical knowledge is more exposed and in a better position to launch the nation into self-reliance in food production given the where-withal and other necessary incentives.

A marketed surplus is the difference between total agricultural production and food consumption (Ghatak, 1977; Dubey, 1963). The importance of the surplus especially in a situation of massive urbanization and fast population growth cannot be overemphasized. What really interests us is in the strategy for achieving this surplus, fast enough and in sufficiently large quantities. Most researchers are of the view that if Nigeria is to break out of

the vicious circle of food shortages, it must adopt a massive mechanization strategy and commercialize its agriculture. Some hold the view that the traditional or small scale or peasant farmer is certainly not the agent to spearhead the Green Revolution. This view is based on a wide variety of theoretical reasoning, such as the psychology of the peasant and on historical precedents and present realities in LDCs. Because a peasant is dominated by low nutrition standards, he has therefore a high marginal propensity to consume and the increase in his consumption is directed towards farm produce (Dubey, 1963). The peasant is assumed to have a very low marginal propensity to save as well as an irrational attitude between high incomes and more leisure (Dubey, 1963). Hence measures to increase productivity only make him diminish his efforts to produce and not to raise production. Consequently, the proportion of the agricultural product marketed would not increase and food shortages would be faced by workers and non-farming urban population. In other words, the problems of underdevelopment and of raising agricultural

productivity are not caused by an imaginary psychology that nullifies efforts. The problems are technical, infrastructural, lack of credit and price incentives, inadequate education etc (Goulet, 1971).

What model should Nigeria adopt to raise its food supplies? A discussion of whether a country should rely on large-scale or small-scale to raise its food supplies is generally expressed in terms of the so-called Mexican or Japanese models respectively. The Japanese model popularly known as the unimodal is described by Johnston and Kilby (1986) as a strategy aimed at the progressive modernization of the entire agricultural sector. It relied on small scale farmers whereby increases in farm output rose from the increased adoption of technologies by the majority of the farmers (Okita, 1980).

The Mexican model is a crash modernization strategy that concentrates resources in a highly commercialized subsector. Under the Mexican model, increases in farm output especially since world war II were due to small number of large-scale commercial farmers, the type Nwankwo (1981) advocated for.

2.2 The Role of Credit In Agricultural Development

Nurkse (1962), observed that a country caught up in the quagmire of a vicious circle of poverty requires, not labour, land or management but an injection of capital to extricate it from that cobweb. Credit is the catalyst that activates the engine of growth, enables it to mobilise the forces within it and to advance in the direction expected of or planned for it (Ijere, 1987). It follows too that the greater this injection of capital the more the propensity of the economy to move in its given path. Ijere (1987) noted that if the economy receives less than its due share of credit input, the very forces which could have been activated would automatically dry up and become inactive.

Fabiyi (1983), pointed out that the most important management problem was how to make limited financial resources of the group meet the needs of capital. Thus dearth of farm credit is an important constraint as this is needed by farmers who must pay for farm inputs, cost of storage, transportation and marketing of produce. Ihimodu (1983) and Barnicle (1968)

emphasized that if credit were made available for all small farmers, the slowly developing agriculture would develop more rapidly.

Morrow (1958), Bessel (1975), Famoriyo (1980) and Famoriyo and Barau (1982) suggested that financial institutions should help the farmer in projecting his financial plan over the necessary period. They deemed mere character, and competence (ability to do the job) insufficient security for the acquisition of farm credit. Oluwasanmi and Alao (1965) and Pedhom (1982) in contrast cautioned that the mere provision of credit would not necessarily result automatically in the desired changes in agricultural practices unless the effective use of credit in the farm was guaranteed, thereby emphasizing the aspect of supervision of farm credit use as a pre-condition. Osuntogun and Oludimu (1982) and Adekanye (1983) emphasized that for credit to be effective, it should be time, space and farmer specific. Miller (1977) and Heidhues (1985) observed that credit and agricultural development were positively correlated but argued that in view of the importance of agriculture in developing countries, the need to mobilize rural savings is a sine-qua-non for agricultural

development. Agricultural credit must attract savings and make them available for further financing of farm investments. There are researchers who feel that credit plays little or no role in the development of agriculture. Allen (1987), for instance, was of the view that the most likely constraint to farm expansion by small farmers was not finance but labour or land shortage. He felt that the problem was not really the shortage of official credit but that the terms were stringent. He recognised the fact that many credit institutions created to serve agriculture had liquidity problems and could no longer deliver soft loans to farmers. He claimed this was true because the voiced demand for official credit by far superseded the effective demand for official credit. He concluded that credit to small farmers made little sense except where there was shortage of labour or land such that technical improvements which were expensive became necessary to increase production. Howse (1974) rejected the general idea that farmers must have access to credit, to increase production. He stressed that the provision of credit to people with low resource and poor

educational background was neither warranted nor generally possible noting that credit was a privilege which must be earned and not a right. What was more important, he observed, was for a system that taught the farmer how to develop using the resources he had. He did not believe that the peasant farming community did not have money. What was lacking, was the intelligence to spend it wisely.

Some researchers also are of the view that only productive loans should be given to farmers but F.A.O. (1965) opined that well managed credit institutions should devise policies in which allowance is made for legitimate credit needs of farmers and priority given to credit for maintaining and increasing repayment capacity. This is because the rejection of loan applications for consumptive aims such as household expenses, marriages, religious ceremonies etc, may force the farmer (even the graduate farmer) to divert the use of loans or lead them to borrow from informal sources. Oluwasanmi and Alao (1965), Famoriyo (1980) and Adekanye (1983) preferred cooperative credit as the appropriate means of bringing about the desired changes in farm output and incomes. They went

further to emphasize supervisory aspect of the loans to guarantee effective use in the farm.

Oyatoye (1983) did not see commercial banks in the best position to provide finance for rural development and suggested as a solution to this problem, the establishment by government of rural development banks where emphasis should be on the prospects of success of the business rather than on security. She concluded that repayments should be geared to the special conditions of agriculture rather than monthly repayments.

2.3 The Support for the Small Holder Graduate Farmer

Nwankwo (1981) noted that the traditional farmer is one for whom farming is a way of life. He farms because he has no alternative. He is a tattered, hungry, ageing and dying man with a negative psychology against farming. His over-riding ambition is to find all possible ways of getting out of the land and at any rate to ensure that his children and future generations are not subjected to the same fate. The farmers consider it odd to see those who have thus succeeded, to plead with them to work hard on the farm, the farm which has so woefully failed them and from

where the civil servant, the politician, the professional ran away to make his own success. He further noted that unless he is carefully supervised, if the farmer received credit, he is likely to make for the town and to look for life chances. Rural poverty he noted is at the root of rural-urban migration and behind the so-called negative psychology of the traditional farmer and strongly asserts that he is not the person to be enthrusted with the responsibility of feeding the nation.

The generalized and stereotyped image of a peasant and his mind as depicted in traditional structuralist literature should be rejected because such views cannot stand the test of critical analysis and are certainly not true of contemporary LDC society. Ugorji (1982) showed that villagers' aspirations were not different from those who are better placed, ranging from a desire for higher standard of living, technological progress, good health, modern education to an improved sense of social and political responsibility. Government is evaluated in terms of what it does to bring about the realization of the objectives.

The small-scale farmer should be made the center piece of increased production rather than the government agencies (CBN, 1981). As to what constitutes small-scale farm(er), Oluwasanmi and Alao (1965) considered anything less than three hectares as a small farm. Kirsch and Goricke (1977) stated that no holdings of more than 10 ha are promoted. Foko (1986) put it at 2ha while Ijere (1986) estimated it at between 0.1ha to 5.99ha. A more comprehensive definition was furnished by Carpenter (1960) and according to him, the small farm refers to a business as dissimilar in character and size as a five acre market garden, a ten acre crop farm, a dairy farm with up to perhaps thirty cows or a hill sheep enterprise with 100 ewes on 300 acres. He however emphasized that a true measure of farm should aggregate land, labour, capital and management inputs. From the foregoing the researcher therefore considers the graduate farmers of NDE a small-scale farmer bearing in mind its land holding of 5 hectares (NDE, 1988) and who considering his level of educational attainment and given proper and adequate financing by government, its parastatals or lending institutions, shall adopt the necessary technological

innovations from research institutes without bias for superstition and appropriately raise its food supplies and generally launch the nation into food self-sufficiency.

2.4 Financing Agricultural Development: The Role of Government

Small farmers generally are poor and spend a great part of their farm incomes on consumption. They have been trapped in the vicious circle of poverty. This implies they cannot rely on personal savings as a source of funds for farm investments. To improve on their living conditions, therefore, they must be provided credit to enable them benefit from the latest farm technologies. According to Ijere (1986), there are different types of credit available to the farmer. These can be classified according to use, in which we have consumption or production credit. Furthermore, credit can be classified according to term in which we have short-term credit which usually lasts for less than one year, intermediate credit which lasts for less than five years and long-term credit which usually lasts for more than five years. Credit can also be classified according to the security obtained and in this case we have

secured loans in which tangible personal property is used as security. We also have unsecured loans in which security are based on the good reputation and financial position of the borrower.

Moreover, the source of credit is another way of classification and in this case we have formal or institutional and non-formal or non-institutional credit. Lastly credit could be in kind or in cash.

The sources of agricultural credit available to the farmer include the State Financing Agency, on-lending funds of the state cooperative banks, on-lending funds of the N.A.C.B, subsidised loans from the Commercial Banks, Subventions from the Local Government Council Budget, External loans for agricultural cooperatives (i.e. from foundations, philantropic organisations, endownments etc), Direct loans from Federal and State Governments, loans from corporations and companies, the agricultural credit guarantee scheme fund (ACGSF) (Ijere, 1986); and lately the GASES of the NDE, the peoples' Bank and Community Banks.

Small farmers have been known to decry the discriminatory attitudes of formal sources of funds towards them. Ijere (1982) observed that banks had

never been known to be large suppliers of funds for agriculture. Their efficiency in this was marred by many defects including concentration in urban areas, stringent collateral requirements and limitation to short-term and medium term credit. Farmers also complain of their inability to use the expertise around on the grounds that the extension staff live far apart.

Chidebelu (1983) in his study on small farmer problems in acquiring credit, found that the farmers' complaints include: keeping accounts in the bank, providing acceptable security (in this case not land), having viable projects, having good credit ratings and ability to repay, travelling long distances to banks, time wasting in the bank transactions, cumbersome form filling which needed the intervention of a third party as most farmers are illiterate and hence divulging personal secrets, and difficulty in finding a guarantor who would part with his property in case of default. The researcher, however, feels these are no problem for the graduate farmers as these shortcomings are taken care of in the scheme.

Johnson (1985) noted that credit ensure that the farmer can finance new techniques and these in turn provide a sufficient rise in income to repay the loans with interest. He felt that credit is unlikely to be used productively unless it is combined with other services and pre-requisites that work efficiently at the small farmer level. Strong needs of consumption credit are symptomatic of the early stages of socio-economic development. The farmer often attaches more importance to the immediate fulfilment of the social obligations. The obvious consequence is that the average farmer is prone to borrow the money which is indispensable for meeting what he sees as his most pressing need. This results in "misuse of institutional credit". Despite all the precaution taken by credit institutions such as providing credit in kind, the small farmer always finds ways and means of diverting loans to consumption; for example farmers have been known to sell fertilizers and plough cattle meant for land preparation (FAO, 1965).

Miller (1977) and Okorie (1986) discovered that non-farm use of credit by small farmers accounted for more than half of the amount borrowed and that farm

credit was directed to uses such as marrying more wives, training children in school, buying new clothes and food, religious and naming ceremonies and general household maintenance.

Farmers attitude towards farm credit use will have serious implications on the rate of repayment. It has been established that there is a positive correlation between rate of repayment and use of farm credit, disbursement in kind, timeliness of loan delivery, number of supervisory visits and profitability of the enterprise (Okorie, 1986). The rate of repayment is defined as the ratio of the amount repaid to the amount due (Johnson, 1985; Okorie, 1986). The problem to the lender is not so much what uses the funds are put to as their repayment (Osuntogun and Oludimu, 1982), and if a farmer delays or fails in honouring his repayment obligation to the lender when due, he is said to be delinquent. In their work, Osuntogun and Oludimu (1982) provided two indices of loan delinquency namely: number of borrowers delinquent and number of loans delinquent. They observed a loan delinquency rate of 100% and 98.6% in Ondo and Ogun states respectively.

Ollor and Okoye (1983) and Wilson (1983) have all identified the ability or capacity to repay and the willingness to repay, smallness of holdings, no farm planning and capacity to utilize loans as probable causes of high loan default in addition to other reasons.

As to how the repayment problem could be solved, Chidebelu (1983) suggested that farmers' need for consumption credit should not be satisfied because they are neither self-liquidating nor asset-generating feeling that to do this would propel the already endemic non-repayment problems into epidemic proportions. Aku (1983) and Parks and Tinnermeier (1983) suggested the establishment of credit cooperatives where credit could be channelled to the small farmers as a way of minimising loan default. By forming cooperatives they observed, mutual security is provided through membership and thus no collateral is required because group responsibility for repayment helps compensate for the inability of most small scale farmers to provide security for bank loans. This is in line with the guiding principles in the establishment of community banks by the government.

Ollor and Okoye (1983) recommended closer supervision for effective use of farm credit in the farm, Osuntogun and Oludimu (1982) went a step further to include savings mobilization because very often, they argue, most public credit institutions give a great deal of emphasis to the farmer without paying attention to the mobilization of rural savings. An advantage to be derived from this policy is that such saving will increase the financial resources at the disposal of the credit institutions.

Okorji (1988) observed that lateness in disbursement of loans is one of the causes of loan diversion and hence high rate of default. He also observed that over-assessment due to improper feasibility study of credit requirements is also an important factor.

Among the ways by which government have manifested their assistance to agriculture are the supply of grants, loans and credits to agricultural ministries, corporations and cooperatives in addition to training staff and extension service workers.

Many attempts have been made by Nigerian governments in the last two decades to provide credit to small-scale farmers with limited effect. The need for credit, however, tends to increase over the years

due to population increase, the competition for funds by the expanding agricultural and non-agricultural sectors for scarce funds. Another is the inability of the existing credit institutions to suit the particular needs of the farmer in their socio-economic set-up (Ijere, 1986).

With this problem, the question arises as to how next to fashion a more suitable credit delivery and collection system that can serve Nigerian farmers. Such an institution must not be allien to the people; at the same time, it must not replicate the deficiencies of the existing schemes.

The various governments in Nigeria have employed different means to finance agricultural enterprises. These include financing from the state financing agency, on-lending funds of the state Cooperative Bank, on-lending funds of the NACB, subsidised loans from the Commercial Banks, subvention from the local government council budget, External loans for agricultural cooperatives, direct loans from federal and state governments, loans from corporations and companies, the agricultural credit guarantee scheme fund (ACGSF) and lately through programmes and schemes of the NDE, the People's Bank and the Community Bank.

One reason why governments may need to take up large responsibility for agricultural development has to do with the important roles played by the sector in the economy. These include the provision of food, employment opportunities, generation of government revenues and foreign exchange earnings among others. Another reason is the fact that given the income of the average farmers in Nigeria, most of whom are small holders, only very little would be expected of them in terms of savings and investments. The governments therefore, have remained the major suppliers of finances and credits to agriculture as in other sectors (Ihimodu, 1986).

Government assistance to agriculture, notwithstanding, a lot of problems still persist. These include the prevalence of political interference where loan distribution is based on political considerations, loan processing and disbursement are time consuming and bureaucratic and in most cases are highly centralized, situated at a considerable distance from the borrowers; haphazard loan supervision due to inadequate and/or limited knowledge of extension staff, lack of mobility and commitment. There are also

problems of input supply services being inadequate or lacking, infrastructural development being low in many parts of the country and the excessive cost of administering public credit programmes, robs the system of enough funds to engage in actual financing of farmers' projects (Ijere, 1986; Okorji, 1988).

The compelling principle of financing agricultural and rural development by government relates directly to four mutually reinforcing considerations. First, in Nigeria as in other LDCs of the world today, more than 70% of the population live in the rural areas (Ajakaiye, 1986). Second, the majority of the low income population residing in this sector derives its income from agricultural production. Third, apart from the entire rural population, there is also a large proportion of the low income population of the urban sector that depends primarily on the employment generated by the secondary and tertiary activities that arise from the processing and marketing of agricultural production. Fourth, the entire population in the urban and rural sectors depend for their sustenance on the food and fibre supplies which come mainly from the rural sector. All these make agricultural and rural development a central issue to

the over-all growth and development of the economy and for increasing the living standards of the large mass of population that derives its livelihood from agricultural production.

2.5 Supervised Credit

Ollor and Okoye (1983) prescribed closer supervision to the problem of small farmers diversion of their loans to uses other than farm operations which results in high rate of default in repaying loans. When credit is provided in kind or paid directly to the dealer of the material purchased by the borrower, it has become a habit to speak of supervised credit - the kind of credit which is integrated with agricultural extension (FAO, 1965). Here the aim of credit is not merely to increase production but to be ancilliary to a programme of education which does not limit itself to teaching better methods of farming but also tries to change the habits of farmers and their families in order to improve their economic position. While Piyatissa (1982) sees supervision as the release of loanable funds in stages and in kind instead of disbursement in one lump sum, Miller (1977) feels supervised

credit is a basic operating precept in agricultural organisation. Supervised credit according to him combines the use of credit with intensive guidance to improve productivity and income.

Owing to the fact that agricultural activities attracts low interest rate compared to industrial sector and the high risk involved, Commercial Banks are not interested in advancing loans into the sector (Ijere, 1986). Thus to sustain the sector, the Supervised Agricultural Credit Guarantee Scheme Fund (ACGSF) was established in March 1977 under decree 20 (1977) for the purpose of providing guarantee for loans granted by the Commercial Banks to the sector. The aim is to increase the level of banks credit to the sector by reducing commercial banks' fears of indebtedness of farmers. The scheme which is operated by the CBN is funded 60% by the Federal Government of Nigeria and 40% by the CBN. The scheme provides a guarantee of 75% of the value of principal and interest outstanding to the maximum of ₦50,000 for individual and ₦1 million for loans to cooperative societies and corporate bodies (Ijere, 1986). In September 1981, the extent of the liability of the fund was increased from 75% to 100% in order to ensure the total involvement of Commercial Banks in agricultural lending.

Impact of the Scheme on Agricultural Finance: Loans Guaranteed Under the Scheme 1978-82

Years	1978	1979	1980	1981	1982	1978-82
No. of loans	341	1105	945	1295	1076	4762
Amount (₦,000)	11,284.4	33,596.7	30,945.0	35,642.4	31,763.9	143,232.4

Source: (a) Ijere, M.O. (1986) New Perspective in Financing Nigerian Agriculture.

(b) Annual Reports of the A.C.G.S.F 1978 - 1982.

Relationship of ACGSF to Total Agric. Bank Credit

Date	Cummulative Total Bank Agric Loans (₦m)	Cummulative ACGSF Loans (₦m)	ACGSF Loan/Total Agric Loan (%)
1978	230.50	11.28	4.9
1979	337.24	44.91	13.3
1980	462.18	75.55	16.4
1981	590.64	111.47	18.8
1982	786.60	143.82	18.2

Source: Ijere, M.O. (1986) New perspectives in financing Nigerian Agriculture.

The scheme which was established in 1977 came into operation in 1978 and by 1982, loan guarantee by the fund is as shown above. The figures show an appreciable increases in the 1st, 2nd and 4th years of operation while the 3rd and the 5th years recorded a fall. In respect of ACGSF loans to total agricultural bank credit, the figures also indicate constant increase from 1978-82. This increases in the figures show that the scheme is making significant impact to total agricultural loans which in a way is achieving the aim of its establishment.

Ijere (1986), however, noted that the ACGSF is, no doubt, a commendable effort on the part of the federal government to remedy the unsuitability of Commercial Banks for financing agriculture in general and small scale farmers in particular. The effort, he observed, is a weak effort and merely touches the brink of the problem it is intended to solve, concentrating on the recovery aspect of agricultural advances and does little to enable lending banks to over come the formidable difficulties they encounter in the field of agricultural finance. Thus there is reason to fear that the scheme will not solve the recovery problem with the burden of bad debts being

merely transferred from the Commercial Banks to the scheme fund. The scheme, he observed, has loopholes and does not in any way compensate the banks in respect of losses caused by: (i) high administration charges (ii) uncompetitive rate of interest (iii) nor is the CBN willing to meet its obligation of guarantee in specific cases, i.e. to reimburse commercial banks in cases where borrowers had failed to refund.

Furthermore, the scheme places undue significance on the security which a borrower can offer and thereby supports the traditional form of security oriented banking; it also permits the lending banks to continue the application of their complex lending procedures; it does not provide for recovering any guarantee fee from the borrower which suggests that the scheme is heavily dependent on the bounties of the government. The scheme is not complemented with efforts to promote banks' operations in rural areas and with efforts to improve the profitability of agriculture.

The GASES in comparison asks its participant to open individual bank accounts in approved Banks in their respective Local Government Areas where they operate. Full loans are disbursed to participants through their accounts. These loans will be guaranteed

with NDE fund released to participating banks i.e. State banks or agricultural credit corporations, etc. This simply means that the state banks or agricultural credit corporations will authorise the rural Banks to open individual accounts for participants on the guarantee of the NDE funds deposited with them at ₦11,500 (uptil 1988) or ₦15,000 (as from 1989 for crop) and ₦13,500 (uptil 1988) or ₦18,000 (as from 1989 for animal) per participant (NDE, 1988). The performance, problems and prospects are part of what the research is intended to uncover.

2.6 Lending Institutions' Problems in the Disbursement of Credit to Farmers

Widely dispersed small holdings would give rise to high administrative and supervisory costs. Among the problems encountered by lending institutions are lack of collateral, no accounting records, perjorative view of debt and farm operations in the eyes of the farmer, wrongly filled forms either because of ignorance or insincerity, and farmers' idea about credit - unwillingness to repay and regarding the loan as a windfall or their share of the National Cake which must not be repaid. This situation as mentioned

earlier may not be applicable to the graduate farmer who in addition to level of education and appreciation of need for cash also surrenders his certificate as collateral.

Ollor and Okoye (1983) recognised the problems raised above but regarded default as the most important. To solve this problem, they advocated closer supervision. But because the cost of supervision raised administrative cost of the lending institutions they advocated that this cost should be shared between the institutions and the government.

Okorji (1988) observed that high loan default is often associated with inability to determine the credit requirement of the farmers and thus suggested use of proper feasibility study as a guide to determine the amount of credit required by farmers according to enterprises produced. This strategy is to reduce the rate of loan diversion and thus ensure proper use and repayment of loan.

As prudent business men commercial banks would have been only too willing to finance agriculture and allied business if only they had found such advances profitable. As a matter of fact, commercial banks find it unprofitable to operate, in general, in rural areas and to finance agriculture in particular.

High rate of loan default is widely reported in literature especially among small holder farmers in developing economies. Godwin and Salley (1973) reported a default rate of 37 percent of the amount due, among Ghanaian rice farmers. In Nigeria, Okorie (1986) and Miller (1977) reported default rates ranging from 9.7% to 67.1% among small holder farmers.

2.7 Determinants of Demand for Farm Credit or Loans

The amount of farm credit demanded by farmer may be influenced by several factors. Bessel (1975), Reid (1981) and Adekanye (1983) found that the volume of credit or the degree of indebtedness depended upon the age, sex, crop acreage, farm size, farmer's income, production pattern and form of land tenure. The more important determinants they observed were the farmer's age and time or date when the farmer bought or inherited the farm. The major reasons for increased borrowing they noted, included: the adoption of new technology, purchase of land, inflation and its effect on working capital, taxation and increasing family expenses.

Long (1968) considered the demand for credit as a question of allocating capital in an action space which has only yield and risk of diversion. He noted that previous use of highly productive capital assets depended upon cost of debt, starting the farming season with enough working capital, transactions cost, tenancy and poverty which have different implications for the amount of credit borrowed.

In a contrary view, Sithole and Apediale (1987) maintained that insecure land tenure systems, shortage of farm labour, low crop price and the abscence of a potential commercial market are potential factors which cause a farmer to reduce his acreage. The reduction in acreage would imply a reduction in farm input requirements and therefore a fall in the volume of credit demanded and employed by the farmer.

2.8 Strategies for Promoting Rural Employment in Agriculture

Lyson (1982) observed that the formation of a farming plan and/or the attainment of a farm job among school leavers is related to previous exposure to agriculture at home and in school. Bernard (1981) noted that there is increasing trend towards employment

creation in urban areas, with growing rural unemployment, and adduced reasons for this situation as price trends unfavourable to agriculture and inadequate organization of production.

Schumacher (1981) studying agricultural development and rural employment in Mexico, hypothesized that while public attention focused on efforts to raise small farm productivity to achieve national food self-sufficiency goals, analysis of the public investment budget indicated that substantial funding has been directed towards creating a large and geographically dispersed labour-intensive rural public works programme, a replica of that pursued by the Nigerian National Directorate of Employment. He postulated that this rural works policy or temporary job creation is a sensible macro-strategy, both politically and economically. He observed that efforts to reach food self-sufficiency and to create substantial numbers of permanent jobs in rural Mexico based on small holder farming systems will take more than a decade to achieve, emphasizing that an alternative job creation strategy via a widespread rural industries programme would also take considerable time to plan and implement, since there is little experience with

starting or operating labour - intensive business. With these small holder production and employment constraints, the government's rural works strategy he opined, is a reasonable public policy to gain time until the organizational and technical research bottlenecks to a more vibrant small holder based food system are dealt with - a process that empirical evidence indicates is clearly possible, but which needs a longer time frame to be implemented.

Barberis (1982) studying full-time and part-time agricultural employment in Italy, observed that the decrease in the agricultural population proceeded much more slowly during 1971 - 1981 period than during the preceeding period. He noted that this did not correct the 'Italian model of rural exodus' that led to the concentration of the weakest elements of the labour force in the agricultural sector between 1951 and 1971. He reported that proportion of women workers continued to increase and that the trend toward ageing continued, resulting in many older workers leaving the job but that the many younger ones changed to other occupations. He also observed that more than three million families who own or manage farms receive 60% to 70% of their income from outside agriculture.

Szabo (1983a) observed that agricultural graduates usually look for jobs in farms near towns and this increases the existing differences between farms as regards management staff; and suggested ways of steering young graduates to jobs near their home villages without the use of compulsory regulations. Szabo (1983b) called for a policy which increases the number of rural young people going to agricultural universities with special assistance to those from less favoured areas. He called for a change of policy so that support and subsidies are available to encourage graduates to return to their native villages and farms.

Other factors like technology, growth of production or market factors have been identified as crucial in rural employment generation. Rapid growth of production is the most critical factor for solving rural employment problems (ILO, 1987) and this could stimulate the growth of agro-based industries. Many of the employment generation schemes as observed by ILO (1987) are typically financed through foreign aid and reflect the failure of the national governments to allocate adequate resources to rural areas.

ILO (1987) noted that because of differences in the politico-economic environment of different countries, the experiences of one country may not be exactly replicable in another. Nevertheless, it is felt that an understanding of the nature of constraints and potentials within a unified framework would significantly increase the usefulness of such information. At the same time, lessons from another country could be used to advantage to modify existing organisational/institutional structures and most importantly, to avoid serious errors of judgement.

The employment problems, comprises seasonal unemployment, low productivity and possibly labour scarcity during peak periods of agricultural productivity (ILO, 1987). In addition to seasonal under-employment and low productivity, there may be some year-round open unemployment.

The researcher feels that with the provision of necessary infrastructure in rural areas, young graduates of agriculture would have a rural attraction. With the government providing the initial capital required to start a farm business, the graduates could be permanently employed in agricultural production and

could generate jobs for rural hands thereby solving the unemployment problem, ensuring food self-sufficiency as well as steming the rural-urban drift. The idea of killing two or three birds with one stone would have been fully achieved; and comparable to providing graduates of agriculture and rural hands with employment and at the same time stimulating food production nationwide, using government financing.

CHAPTER THREE

METHODOLOGY

3.1 The Study Area

The study area, Imo State, is located in the eastern part of Nigeria and lies between $6^{o}40'$ and $8^{o}15'$ North Latitudes (Nigeria Year Book, 1987). It occupies the basin of Imo River from where it takes its name, stretching from its source - Okigwe/Awka upland - to its lower course at Azumini in Ukwa Local Government Area. It is bounded on the east by Cross River State, on the West by the River Niger over which lies Bendel State, on the North by Anambra State and on the South by Rivers State. It covers an area of 12,689 square kilometers and, according to the 1963 census, the population is estimated at 3,672,654 (Nigeria Year Book, 1987). The projected population figure for 1990 based on the assumed compound growth of 2.5% is 7,153,593 (Imo State, 1990). The area lies within the tropical rain forest zone. The two major seasons experienced in the area are the dry season which lasts from October to March and the rainy season which lasts from April to September.

Farming is the main occupation of the inhabitants; and major crops grown include oil palm, yam, cassava, maize, mellon, rice, groundnut, cocoa, okro, vegetables, etc. Sheep, goats, pigs and poultry constitute the important livestock enterprises.

The choice of Imo State as the study area was purposive. There abound a lot of agricultural graduates that are unemployed in the state. Though there is no agricultural graduate unemployment data in the federation as at date, it is being speculated that the state is the worst hit by the unemployment plague irrespective of the fact that it is an agricultural state contributing immensely to the food production base of the country. In addition, the researcher wants to contribute to the body of knowledge about the state.

3.2 Selection of Respondents

The study was targeted at the graduate loan beneficiaries of the Graduate Agricultural Self-Employment Scheme (G.A.S.E.S). Graduate farmer respondents in the scheme were drawn from the thirty Local Government Areas in the state.

Since inception, about 400 persons have been recruited to participate in the scheme comprising 100 participants in 1987, 100 in 1988, 120 in 1989 and 80 participants in 1990 (NDE Owerri, 1990).

The participants were proportionately sampled. Twenty percent of the selected participants in each of the years under study were randomly selected, giving a total sample size of 80 respondents. That is, out of the 100 participants selected in 1987, 20 persons were sampled (10 crop and 10 livestock farmers). In 1988, out of the 100 participants recruited, 20 persons also were sampled (19 crop and 1 livestock farmers). In 1989, out of the 120 participants, 24 persons were sampled (12 crop and 12 livestock farmers) and in 1990, out of the 80 crop farmers, 16 persons were sampled.

With the contact addresses kept with the scheme officials at Owerri and the assistance of the extension workers of the state ADP, these participants were reached and interviewed.

3.3 Data Collection

Data for the study were collected from both primary and secondary sources. The primary data were collected using two sets of structured questionnaires. The first set was used to collect information on socio-economic characteristics including age, level of education, sex, marital status, household size, farming experience, farm location (urban or rural) and farm size, number of rural hands employed, remuneration for employed hands, whether they derive job satisfaction from present job and length of time they hope to be in present job, etc.

The second set of questionnaires was used to collect information on sources and uses of loan, productivity and problems peculiar to graduate farmers. Oral interview was also used to source information from the scheme officials at Owerri. Such information included method of loan administration, number of participants recruited and method of selection, amounts disbursed per participant, enterprises involved and problems encountered in supervision and management etc.

Secondary data was sourced from the annual reports of the state Ministry of Agriculture, Owerri; texts, NDE publications/reports, journals and government publications.

3.4 Data Analysis

Data on socio-economic characteristics of graduate farmers were analysed using such descriptive statistics as frequency distribution, means and percentages. Furthermore, the sources and uses of farm loan were also analysed using percentages, frequencies, means and ranking.

Levels of food production (Yield) and revenues or incomes accruing therein, amounts of loan disbursed and repaid since inception of the scheme in the state, were analysed by means and tabulations.

Price trends for livestock and crop items for the period under study were analysed by graphs.

Cost-returns analyses and Gross margin were used to compare profitability (Net returns) of enterprises.

Problems and prospects of graduate farmers were also analysed using frequency distributions and percentages.

Chi-Square test was used to test for statistical differences between means and to test the various hypotheses.

3.5 Limitations of the Study

As in most researches, this work was fraught with many limitations. The main constraint was in the form of logistics resulting from shortage of funds. To get to the graduate farmers (crop and livestock participants) for this project, as well as the scheme officials at the state headquarters, involved money which was not readily within the reach of the researcher. Time factor, constituted another limitation.

The secretive nature in divulging useful information by some people interviewed - especially the scheme officials and some graduate farmers constituted another limitation. In some cases, key people to be interviewed were hardly seen despite repeated visits. Lack of appropriate accounting and record keeping constituted a very major set back in this research.

Despite these shortcomings, the findings of this study are reliable and highly representative of the situation under study in Imo State.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Operational Set Up of the Graduates Agricultural Self-Employment Scheme (G.A.S.E.S)

4.1.1 Recruitment Modality

About 100 to 200 participants who are holders of Degrees, HND, NCE and OND certificates in agriculture and related disciplines are recruited annually from the state. Prospective candidates who have equivalent qualifications in other disciplines and who show sufficient interest in farming as a business could also be considered for selection. Applicants are unemployed youths but persons not more than 40 years of age and who have aptitude for farming as a business. Young pensioners and retrenched persons are allowed to participate provided they are unemployed and are not on any kind of regular remuneration. Scheme officials and members of the NDE Agricultural Programme Advisory Committee interview and short-list candidates for selection as prospective participants. The NDE, Lagos approves/rejects selection of candidates as NDE agricultural loan beneficiaries and places the participants in the Agricultural programme. Preference is given to applicants from communities donating land free of charge to the scheme of the directorate.

4.1.2 Land Acquisition

On request of the NDE, the Governor of the State and/or the Local Governments of the state would provide about 500 hectares of farm land each year in local government areas of the state for the NDE graduate farming schemes. The Governor or the local governments of the state issue certificates of land allocations to NDE. The NDE through the G.A.S.E.S. re-allocates 5 hectares of farm land acquired at a particular site to each graduate farmer participant if sufficient farm land is available for use in crop production. Livestock participants, sourced their own land for production. The state NDE Agricultural Programme Advisory Committees assist the NDE to acquire farm lands from the Local Government Areas long before the end of January each year.

4.1.3 Orientation and Training

Selected participants are given orientation and training organized by NDE officers (Agriculture) in cooperation with the Agricultural Programme Advisory Committee. The orientation and training are both theoretical and practical in nature and cover all aspects of farming as a business.

4.1.4 Provision of Extension

State Agricultural Development Projects (ADPs) give their Training and Visit system of extension services to NDE crop farmers. The State Ministry of Agriculture and Natural Resources (MANR) and Livestock Development Projects (LDPs) provide extension services to the scheme's livestock farmers. Educative publications (advisory leaflets, guides and recommended practices), based on improved agricultural research findings are also provided as extension support services.

4.2 Analysis of Socio-economic Characteristics of Participants

4.2.1 Sex

Majority (71.25%) of the total respondents involved in crop production and 27.50% who are livestock farmers are all males. An insignificant proportion (1.25%) of the total respondents in livestock production are females. Female participation therefore, is negligible among graduate farmers.

4.2.2 Age

Of all the 80 respondents, 52.50% are 30 years old or less, while 47.50% are between 30 and 40 years (Table 1). This is because most recruits into the

scheme are people graduating fresh from institutions of higher learning. Their average age is 29 years.

Table 1: Age distribution of graduate farmers

Age (Years)	Frequency	%
Less than 20	-	0.00
20 - 25	7	8.75
26 - 30	35	43.75
31 - 35	37	46.25
36 - 40	1	1.25
More than 40	-	0.00
Total	80	100.00

Source: Field survey, 1991.

4.2.3 Marital Status

Majority (83.75%) of the total respondents are single whereas 16.25% are married. No case of divorce and widow(er) status were recorded. This is attributable to the fact that these are young people.

4.2.4 Family (Household) Size

According to Federal office of Statistics (1985), a household comprises all persons who generally live under the same roof and eat from the same pot. Lipsey (1986), further stated that a household includes all people who live under one roof and make or are subject to others making for them, joint financial decisions. This study toes the same line, with a household including husband and wife, children and other dependants (grandfather, grandmother, nephews, neices, brothers and sisters) or other extended relations or house helps.

The number of children for those married range from one to two with an average of one per household. Dependants range from one to six with an average of two for both married and single participants. Generally, household size ranged from two to ten with an average of five.

4.2.5 Levels of Tertiary Education Attained

A relatively high level of literacy is observed amongst respondents, having passed the primary, secondary and tertiary levels of education. Majority (65.00%) attained the HND Level but not lower than the

OND level in education. The remaining 35.00% hold degrees not higher than M.A or M.Sc as shown in table 2. High level of literacy could be positively related to access to inputs and adoption of technologies.

Table 2: Levels of Tertiary Attainment in Education

Level of Tertiary Education Attained	Frequency	%
OND	12	15.00
NCE	10	12.50
HND/HNC	30	37.50
B.A/B.Sc/MB.BcH/B.PHARM	26	32.50
M.A./M.Sc	2	2.50
Ph.D	0	0.00
Total	80	100.00

Source: Field Survey, 1991

4.2.6 Farming Experience of Respondents

Farmers with substantial practical experience are expected to make better use of farm inputs and are therefore considered of a lower credit risk by providers of farm finance. The study showed that of all the

responding graduate farmers, 95% had 6 years farming experience or less while 5% of the respondents had more than 6 years of farming experience as shown in table 3. This was acquired through industrial attachments while in school and involvement in the scheme.

Table 3: Farming experience of respondents

Years of Farming Experience	Frequency	%
Less than 2	5	6.25
2 - 4	41	51.25
5 - 6	31	37.50
More than 6	4	5.00
Total	80	100.00

Source: Field survey, 1991.

4.2.7 Distribution of Respondents by Year, Agricultural Production Type and Enterprise Combinations

Crop respondents sampled accounted for 71.25% whereas livestock respondents accounted for 28.75% of the total respondents. It is note worthy from table 4 that all the crop respondents practised cassava based crop mixture i.e. production is cassava based. For

obvious reasons, cassava is popular in the study area and if well maintained, the capital invested could be well recovered unlike yam that has been known to be very cost intensive (Okorji and Obiechina, 1985). Resource allocation for yam based crop mixtures far outweighs that of cassava based crop mixtures (Okorji and Okereke, 1988), this fact gives credence to the point that all of the crop respondents chose to practise cassava-based crop mixture (CBCM), considering the financial and material resources in their disposition. None of the fishery, rabbitory and sheep/goat participants could be interviewed because of financial limitations. Further, it was observed that participants swapped enterprises. For instance, in 1987, piggery recruitment was 1 (Appendix 1) but during survey, 4 other persons were sampled. In 1989, livestock recruitment (Appendix 1) was 19 for poultry and 1 for rabbitory but during field survey, 6 piggery participants were sampled, suggesting that some people have switched from other enterprises to piggery. This brings total enterprise switch to 12.5%.

Table 4: Distribution of respondents by year of recruitment, agricultural production type, and enterprise combinations.

Year of Recruitment	Agricultural Production Type													
	Crop Production								Livestock Production					
	Enterprises, Frequencies and Percentages								Enterprises, Frequencies, Percentages					
	CMaMe	CMaV	CMeV	CYMa	CMa	CMe	CY	C	Poultry	Piggery	Fish-ery	Rab-bitory	Sheep/ Goat	Totals
1987	3 (3.75)	-	-	-	4 (5)	2 (2.5)	-	1 (1.25)	5 (6.25)	5 (6.25)	-	-	-	20 (25)
1988	3 (3.75)	-	2 (2.5)	-	6 (7.5)	2 (2.5)	1 (1.25)	5 (6.25)	1	-	-	-	-	20 (25)
1989	3 (3.75)	2 (2.5)	-	-	4 (5)	1 (1.25)	-	2 (2.5)	6 (7.5)	6 (7.5)	-	-	-	24 (30)
1990	7 (8.75)	-	-	1 (1.25)	3 (3.75)	2 (2.5)	1 (1.25)	2 (2.5)	-	-	-	-	-	16 (20)
Totals	16 (20)	2 (2.5)	2 (2.5)	1 (1.5)	17 (21.25)	7 (8.75)	2 (2.5)	10 (12.5)	12 (15)	11 (13.75)	-	-	-	80 (100)

NB: Figures in Parentheses are percentage values.
Figures not in parentheses are frequencies

C = Cassava, Ma = Maize, Me = Mellon, V = Vegetable, Y = Yam.

Source: Field survey, 1991.

4.2.8 Farm Location and Farm Size

Majority (71.25%) who are all crop responding farmers and 17.50% who are livestock farmers have their farms located in rural areas, with 11.25% who are livestock farmers having their farms situated in urban areas.

Most of the crop farms are located at Ohaji - Egbema-Oguta Local Government Area (22.50%), Bende (20.00%), Ukwa (11.25%), Ikeduru (4%) and Ohaozara (4%) with a few of the farms located at Okigwe (3.75%), Obioma-Ngwa (1.25%), Isiukwuato (1.25%) and Isiala-Ngwa (1.25%). The recording of high frequencies in Ohaji-Egbema-Oguta and Bende Local Government Areas can be attributed to their having been used before as farm settlements in the early republics and their being reactivated presently, having been once owned by government.

Land area under poultry production ranged from 0.012ha to 0.05ha with an average of 0.042ha, whereas for piggery, the range of land holdings is from 0.006ha to 0.012ha with an average of 0.009ha.

Hectares of land under crop production range from 1ha to 5ha. Mean hectares of land actually provided by the scheme per respondent for crop production is 5ha whereas mean hectares of land actually brought under cultivation is 4.1ha.

4.2.9 Record Keeping

Record keeping amongst graduate farmers is high with 96.25% of the respondents keeping records whereas an insignificant proportion (3.75%) of the respondents did not keep records.

The most important financial record kept by graduate farmers is the income and expenditure account whereas the least important is the receipts and payments account, as is shown in table 5. This development is a deviation from the general notion that small farmers do not keep records as noted by Akeh (1991) in Cameroon where out of 120 respondents of which majority have primary school education, none kept any meaningful farm records. This may be attributed to the fact that having been exposed to high educational levels, the graduate farmers realise the need and importance in keeping farm records.

Table 5: Percentage distribution of respondents according to financial records kept

Financial Records Kept	Frequency	%
No Records	3	3.75
Profit and Loss Account	-	0.00
Cash Flow Statement	12	15.00
Income and Expenditure Account	40	50.00
Statement of Sources and Uses of Funds	19	23.75
Receipts and Payments Account	6	7.50
Balance Sheet	-	0.00
Total	80	100.00

Source: Field survey, 1991.

4.3 Sources and Uses of Farm Loan

4.3.1 Loan Acquisition

The scheme provided each crop participant recruited in 1987 and 1988 a total loan package amounting to ₦11,500.00. Of this package, 36.3% was cash whereas 63.7% was kind. However, the livestock participants recruited within the same period, each received ₦13,500.00 cash. In 1989 and 1990, total loan package per beneficiary was reviewed upwards, and this

left crop beneficiaries recruited in those years with a total package amounting to N15,000.00 (of which 36.3% was cash and 63.7% kind). Livestock beneficiaries within the same period received a total sum amounting to N18,000.00 in cash. The upward review of the packages by the scheme operators was probably done to cushion the effects of the Structural Adjustment Programme (SAP) that reigned within the period, on beneficiaries. What was offered as security or collateral by beneficiaries for the loans obtained was two guarantors, Degree/Diploma Certificate and the National Youth Service Corps (NYSC) discharge certificate where applicable.

Items received by crop beneficiaries in kind include the following: 5 hectares of land, 40 bags of fertilizer, 12.5 litres of insecticide (Nuvacron or Actellic), 25 litres of herbicide (primextra), 3 matchets, 3 hoes, 1 knapsack sprayer, a pair of rainboot and 200 pieces of storage bags. Livestock beneficiaries received cash only to purchase what was needed for production.

The loan period was 5 years including one year moratorium and is expected to be recovered within this period. Interest rate charged by the scheme for both crop and livestock beneficiaries was 9%. As much as

56.25% of the responding graduate farmers considered the interest charged as being high, whereas 41.25% saw it as ideal while 2.5% regarded it as being too high.

Disbursement of loan in cash is preferred (81.25%) over both cash and kind (18.75%) as there was no preference for loan in Kind only (table 6). For those preferring loan disbursement in cash and kind (18.75%), all preferred more cash than kind when there were options of more kind than cash and equal cash and kind.

Table 6: Percentage preference over method of loan disbursement

Method of Loan Disbursement	Frequency	%
Cash	65	81.25
Kind	0	0.00
Both Cash and Kind	15	18.75
Total	80	100.00

Source: Field survey, 1991.

Loan in cash or kind was disbursed instalmentally as opposed to lump sum. Though farmers have been known to sell credit inputs meant for farm production (fertilizers and others), it has also been proven that

the risk of loan diversion is minimised when the loan is made in kind or instalmental cash disbursements.

4.3.2 Other Sources of Finance

Apart from the loans secured from the scheme, respondents sourced farm finance from other areas. An analysis of other sources of finance showed that relatives and friends was the most important source of farm finance (55%), followed by age grades (8.75%), cooperative societies (3.75%) and lastly Commercial/ Cooperative Banks (1.25%). Ministry of Agriculture, Agricultural Credit Guarantee Scheme Fund (ACGSF), Local Government Councils, Moneylenders and Isusu Clubs are not important sources of finance for graduate farmers (table 7).

Table 7: Graduate Farmer Sources of Finance

Sources	Frequency	%
Commercial/Cooperative Banks	1	1.25
Cooperative Societies	3	3.75
Ministry of Agriculture	-	-
A.C.G.S.F	-	-
Local Government Councils	-	-
Moneylenders	-	-
Relatives/Friends	44	55.00
Isusu Clubs	-	-
Age Grades	7	8.75
None	25	31.25
Total	80	100.00

Source: Field survey, 1991.

Table 8 shows the total and mean amounts borrowed from the various other sources by the respondents. An analysis of the results show that the loan amounts given to beneficiaries by the scheme operators is inadequate for agricultural production. The singular fact that they borrowed at all from other sources, when it is obvious that they received loans in cash and kind from the scheme operators, lends credence to this assertion.

Nevertheless, a chi-square test at the 5% level of significance shows that the loan amounts given to participants is inadequate. Furthermore, from the mean naira values in Table 8, graduate farmers will be requiring ₦2,000.00 to ₦3,750.00 or more to be added to the loan sums provided by the scheme operators to meet production costs. This is on the assumption that all the money was used for production purpose.

Table 8: Total and mean amounts (₦) borrowed from the various other sources for the period under study by respondents

Sources	Total Amount Borrowed (₦)	No. of Beneficiaries	Mean (₦)	Interest Charged (%)
Commercial/ Cooperative Banks	2,000.00	1	2,000.00	15
Cooperative Societies	8,800.00	3	2,933.33	2
Min. of Agric.	-	-	-	-
A.C.G.S.F	-	-	-	-
Local Govt. Councils	-	-	-	-
Moneylenders	-	-	-	-
Relatives/Friends	165,000.00	44	3,750.00	-
Isusu Clubs	-	-	-	-
Age Grades	22,500.00	7	3,214.00	2

Source: Field survey, 1991.

The most important aim of borrowing from other sources apart from the scheme as indicated by the respondents was to use the borrowed sums in the farm to supplement loan amounts from the scheme. Most of the respondents reported that they did not use the loans to cover household expenses, social expenses, settle old debts, and pay school fees.

4.3.3 Reasons for Borrowing from the Various other Sources Apart from the Scheme (G.A.S.E.S.)

Results in Table 9 show that the most important reasons for borrowing from relatives/friends are because no guarantors and collaterals were needed (55.00%), followed by the fact that little bureaucracy (53.75%) is involved in obtaining funds from that source and the fact that no interest was charged (45.00%) on the sums borrowed from that source. The implication of these reasons is that relatives/friends will continue to be a reliable or readily available source of finance for graduate farmers.

The second important source of finance (Age Grades) had little bureaucracy involved (10%), no guarantor (10%) and no collateral needed (10%) as the most important reasons, with no interest charged (2.5%) as the least important reason for borrowing from that source.

Cooperative societies had: low interest charged (3.75%), little bureaucracy involved (3.75%), no guarantor (3.75%) and no collateral needed (3.75%) as the most intrinsic reasons with membership status (2.50%) as the least reason for its patronage.

Commercial/Cooperative Banks in as much as they give relatively long grace period (1.25%) was the least patronised of all the other sources of finance, probably because they recorded the highest interest charged (Table 8) and possibly because of the protocols involved in obtaining funds from that source.

Table 9: Distribution of respondents according to reasons for borrowing from the various other sources apart from GASES

Reasons	Sources, Frequencies (Percentages)								
	Commercial/ Coop. Banks	Cooperative Societies	Min. of Agric.	ACGSF	Local Council	Money Lenders	Relatives/ Friends	Isusu Clubs	Age Grades
1) Low Interest Charged	-	3(3.75)	-	-	-	-	-	-	6(7.50)
2) Near Home	-	-	-	-	-	-	2(2.50)	-	-
3) Long Grace Period	1*(1.25)**	-	-	-	-	-	25(31.25)	-	-
4) Repayment at Convenience	-	-	-	-	-	-	10(12.50)	-	-
5) Little Bureaucracy Involved	-	3(3.75)	-	-	-	-	43(53.75)	-	8(10.00)
6) No Guarantor Needed	-	3(3.75)	-	-	-	-	44(55.00)	-	8(10.00)
7) No Collateral Needed	-	3(3.75)	-	-	-	-	44(55.00)	-	8(10.00)
8) No Interest Charged	-	-	-	-	-	-	36(45.00)	-	2(2.50)
9) Membership Status	-	2(2.50)	-	-	-	-	-	-	-

* = Frequencies; ** = Percentages; Multiple answers were recorded.

Source: Field survey, 1991.

4.3.4 Timing of Loans

The period when the loan sums were received from various sources, including the scheme (G.A.S.E.S) was studied. Results in Table 10 show that of all the sources, respondents

Table 10: Distribution of respondents according to source and time when loan was actually received

Time When Loan was Actually Received	Commercial/ Coop. Banks (n = 1)	Coopera- tive Societies (n = 3)	Re- latives/ Friends (n = 44)	Age Grades (n = 7)	G.A.S.E.S (n = 80
Before Loan was needed		1(33.30)	8(18.20)		2(2.50)
At the right time	1*(100.00)**	2(66.70)	36(81.80)	7(100.00)	12(15.00
After loan was needed	-	-	-	-	66(82.50
Totals	1(100.00)	3(100.00)	44(100.00)	7(100.00)	80(100.0

NB: * = Frequencies; ** = Percentages

Source: Field survey, 1991.

received loans at the right time or even before it was needed except in the scheme (G.A.S.E.S.) where majority (82.50%) of the respondents received loans after it was needed. The probable reason for this development being red-tape involved in government business as opposed to private enterprise and logistics.

4.3.5 Proportion of the Loan(s) Used on the Farm

An analysis of results in Table 11 shows that majority (82.50%) of the respondents used all the loan(s) secured on the farm with 17.50% of the respondents using half or less of the loans secured on the farm.

Table 11: Distribution of respondents according to proportion of the loan(s) used on the farm

Proportion	Frequency	%
All	66	82.50
Half	1	1.25
More than half	12	15.00
Less than half	1	1.25
None	-	-
Total	80	100.00

Source: Field survey, 1991

4.3.6 Factors Influencing the Decision of Graduate Farmer to Borrow

The results of Table 12 show that of all the factors influencing the decision to borrow by graduate farmers, the cost of inputs is the most important,

followed by farm size, interest rate charged, number of modern methods (technology) adopted, uncertainty, income, repayment period, and household size. The least considered of all the factors are proportion of income consumed and age.

Table 12: Distribution of respondents according to ranks of factors influencing the decision to borrow

Factors	Frequency*	%	Rank
Cost of Inputs	76	95.00	1st
Farm size	75	93.75	2nd
Interest Rate	75	93.75	3rd
No of Modern Methods Adopted	73	91.25	4th
Uncertainty (Disaster)	55	68.75	5th
Farmers Income	52	65.00	6th
Repayment Period	45	56.25	7th
Household size	6	7.50	8th
Proportion of Income Consumed	1	1.25	9th
Age	1	1.25	10th

* = Multiple Responses were recorded

Source: Field survey, 1991.

4.3.7 Regularity of Savings

Majority (83.75%) of the respondents do not save regularly as is reported in Table 13.

Table 13: Response to regularity of savings

Response	Frequency	%
Yes	13	16.25
No	67	83.75
Total	80	100.00

Source: Field survey, 1991

Important reasons proferred by respondents for not saving regularly include: Reinvestment nature of business (35.83%), seasonal nature of farming (34.33%, all crop farmers) as shown in Table 14.

Table 14: Reasons for not saving regularly

Reasons	Frequency	%
Seasonal Nature of Farming	23	34.33
Reinvestment Nature of Business	24	35.82
Crop Failure	-	-
Incidence of Natural Disaster	6	8.96
Low Prices	6	8.96
Pest/Disease Attack	-	-
Freshness in the Scheme	5	7.46
No Reasons	3	4.48
Total	67	100.00

Source: Field survey, 1991.

4.4 Level of Food Production and Revenues (Income) Generated by the Different Enterprises which Offer Self-Employment to Participants

4.4.1 Proportion of Total Production Sold

An analysis of the proportions of total production sold was done and it was observed that majority of the respondents sell three-quarters or less of total production. The remaining fraction is either preserved to be used as inputs for the next planting season for crop, or consumed. Majority of the respondents sell

all of the total cassava tuber production. They invite interested persons at a fixed date who harvest and buy at a greatly reduced price, on maturity of crop.

Average price for the period under study for 50kg maize grain, mellon seeds and cassava tuber were ₦58.72, ₦90.49 and ₦55.21, respectively. Average price for a bundle of cassava stem was ₦4.85 (Table 15). Market prices of equivalent output may be greater than these prices. Why they sold at such reduced prices may be because they were selling at the farm gate in which case marketing costs may not have been added.

4.4.2 Yield and Revenues (Income) from Crop and Livestock Items over the Period under Study

Mean revenues per unit of each crop and livestock item, average hectare yield of each crop item and average holdings of livestock items were computed to determine revenues (₦) per hectare and the expected revenues from 5 hectares for crop, and for the average livestock holdings. The results are as shown below in Tables 16, 17 and 18.

Table 15: Revenue accruing from a hectare yield of crop Items for the period 1987 - 1990 under study

Year	Unit	Mean Revenue (₦) per Unit	Average Yield per Ha (Kg)	Expected Revenue (₦) per Hectare	Expected Revenue (₦) for 5 Ha
Crop Item					
1987	Kg	1.09	595.00	646.17	3.230.00
1988	"	1.13	641.90	727.14	3.635.00
1989	"	1.17	677.25	789.67	3.948.00
1990	"	1.31	685.11	899.28	4.496.00
Mean of 4 years		1.17435	649.82	765.57	3.827.00
Crop Item: Mellon Seeds					
1987	Kg	1.6	77.33	123.73	618
1988	"	1.78	92.59	164.63	823
1989	"	1.89	97.50	183.76	918
1990	"	1.98	103.26	204.15	1020
Mean		1.81	92.67	169.06	845
Crop Item: Cassava Tuber					
1987*	Kg	-	-	-	-
1988	"	1.01	1518.70	1533.89	7669
1989	"	1.09	1577.33	1716.14	8580
1990	"	1.22	1706.78	2082.27	10411
Mean		1.11	1600.94	1777.43	8887
Crop Item: Cassava Stem					
1987	Bundles**	-	-	-	-
1988	Bundle	4.50	90.45	407.03	2.035
1989	"	4.84	125.43	607.08	3.035
1990	Bundle	5.20	100.52	522.70	2.613
Mean		4.85	105.47	512.27	2.561

* = No values because no harvests were done considering the fact that the scheme started in 1987 and gestation period of cassava is more than 12 months

** = A bundle of cassava stems contained 50 cassava sticks each measuring 1m or more by arrangement.

Source: Field survey, 1991.

The differences in mean annual yields per hectare for maize, mellon and cassava (tuber and stem) may be attributed to cultivars and locational differences, as graduate farmers do not use one type of variety per crop. Furthermore, as locations vary, there is the possibility that soil type and fertility, play major roles in determining yield values.

4.4.3 Price Trends

It is noticeable from figure 1, that 50kg of mellon sells for a higher price than 50kg of maize and cassava tuber, for the various years under study. Further it is observable that there existed a steady increase in price for mellon all through. With respect to maize, the price steadily increased from 1987 - 1989 and sharply between 1989 and 1990. Moderate increase in cassava tuber and stem prices was recorded for the period under study.

The general increasing tendency in price for all the crop items may be attributed to competing industrial and consumption demands, and to the effect of the Structural Adjustment Programme. Similar, reasons can be adduced for livestock items as can be observed from the mean annual revenues per unit item (Tables16, 17 and figure 2).

Table 16: Mean annual revenues per unit of each item, and average holdings of graduate poultry farmers - (1987 - 1990)

Poultry Item: Broilers (Ready for sale at 9-12 weeks old; weighing 1.6kg - 1.8kg)

Year	Unit Range	Mean Revenue (₦) per Unit Range	Average Holding (Mean No of Birds Kept)	Revenue (Income) (₦) per Holding
1987	1-6kg-1.8kg (9-12 weeks old)	-	-	-
1988	"	19.20	250	4,800.00
1989	"	25.46	292	7,434.32
1990	"	29.67	323	9,583.41
Mean		24.78	288	7,272.58

Poultry Item: Layers (at Salvage* Value; weighing 1.85kg - 2.25kg)

1987	1.85kg-2.25kg	-	-	-
1988	"	15.00	170	2,550.00
1989	"	17.33	181	3,136.73
1990	"	21.92	200	4,384.00
Mean		18.08	184	3,356.91

Poultry Item: Chicks i.e. Cockerels and Pullets at 6-8 weeks old; weighing 0.5kg - 0.8kg

1987	0.5kg-0.8kg (4-8wks old)	-	-	-
1988	"	4.50	250	1,125.00
1989	"	8.05	455	3,662.75
1990	"	8.69	527	4,579.63
Mean		7.08	411	3,122.46

*Salvage Value: At this stage the layer must have laid an average of 300 eggs.

Table 16 (Contd)

Poultry Item: Turkey (Poults), at 10 - 15 weeks old; weighing 1.6kg - 2.5kg

1987	1.6kg - 2.5kg (10-15 weeks old)	-	-	-
1988	"	19.00	207	3,933.00
1989	"	21.20	210	2,452.00
1990	"	25.00	175	4,375.00
Mean		21.73	197	4,253.33

Poultry Item: Eggs (A Crate contains 30 eggs)

1987	Crate of 30 eggs	-	-	-
1988	"	15.00	630	9,450.00
1989	"	20.67	724	14,965.08
1990	"	25.83	834	21,542.22
Mean		20.50	729	15,319.10

Source: Field survey, 1991.

CBCM

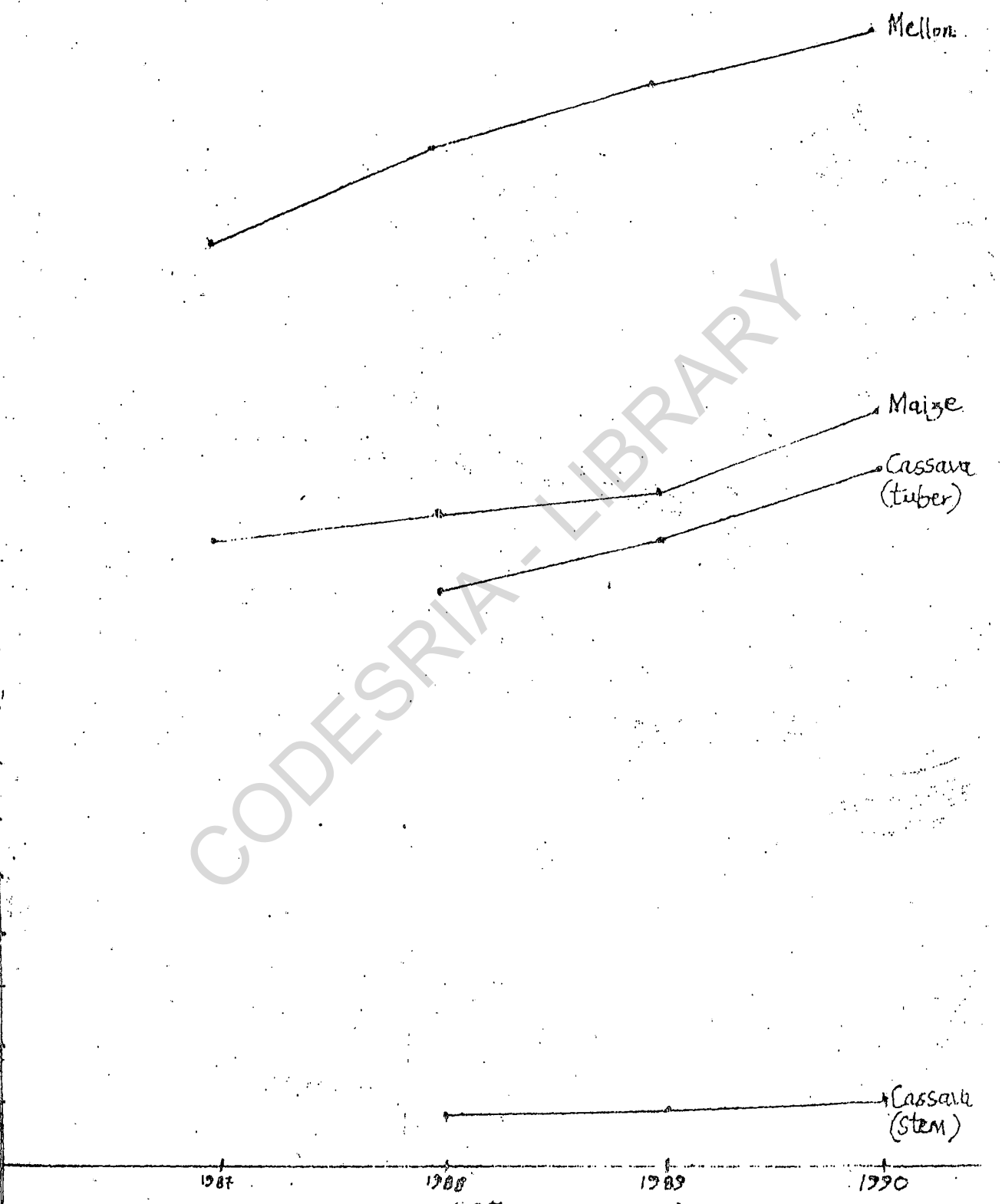

Fig. 1: Price Trends (Mean Revenues) For 50kg Maize Grain, Mellon Seeds ..... Tuber and a bundle Of cassava Stem; For the Years Under Study

Fig. 2: Price Trends (Mean Revenues) for Unit of Livestock (Poultry & Piggery) Items for the Period under Study (1987-1990).

Table 17: Mean annual revenues per unit, and average holdings of graduate pig farmers (1987 - 1990)

Piggery Item: Piglets (Ready for sale at 2-4 months old; weighing not more than 45kg)

Year	Unit Range	Mean Revenue (₦) per Unit Range	Average Holding (Mean No of Item Kept)	Revenue (i.e Income) (₦) per Holding
1987	45kg or less (2-4 months old)	-	-	-
1988	"	123.00	61	7,503.00
1989	"	135.83	68	9,236.44
1990	"	140.71	57	8,020.47
Mean		133.18	62	8,253.30

Piggery Item: Sows (Adult females; weighing 55kg to 100kg)

1987	55kg - 100kg	-	-	-
1988	"	-	-	-
1989	"	476.00	11	5,236.00
1990	"	491.43	15	7,371.00
Mean		483.72	13	6,303.50

Piggery Item: Boars (Adult Males; weighing 55kg - 100kg)

1987	55kg - 100kg	-	-	-
1988	"	-	-	-
1989	"	541.00	9	4,869.00
1990	"	649.00	11	7,139.00
Mean		595.00	10	6,004.00

Source: Field survey, 1991.

4.5 Amount of Loan Disbursed and Repaid since Inception of the Scheme in the State

4.5.1 Amount of Loan Disbursed

An analysis of the results in Table 18 shows that crop loans disbursed within the period 1987 - 1990, constitute 77.25% of the total loans amounting to ₦4,183,500.00, whereas livestock loans constitute 22.75% of the total loans and amounted to ₦1,318,500.00 investments respectively. This brings total naira investments for the period in both crop and livestock ventures to ₦5,502,000.00.

Table 18: Impact of the scheme on agricultural finance in the state (1987 - 1990)

Year	No. of Crop Loans Disbursed	No. of Livestock Loan's Disbursed	Amount per Crop Loan (₦)	Amount per Livestock Loan (₦)	Total Crop Loan (₦)	Total Livestock Loan (₦)
1987	30	70	11,500.00	13,500.00	345,000	945,000
1988	99	1	11,500.00	13,500.00	1,138,500	13,500
1989	100	20	15,000.00	18,000.00	1,500,000	360,000
1990	80	-	15,000.00	-	1,200,000	-
Totals	309	91			4,183,500	1,318,500

Source: Field survey, 1991.

4.5.2 Amount of Loan Repaid

Four participants recruited in 1987 have fully repaid their loaned sums with interest as at the time of survey. This constitutes a repayment rate of 1% of the total loans disbursed, up till 1990.

Though the loan period is 5 years including one year moratorium, and has not expired as at the time of survey, the default rate and number of defaulting loans for those loans disbursed uptill 1990 is 99% and 396 respectively. In calculation of loan delinquency or default rates, Osuntogun and Oludimu (1982) provided two indices of loan default namely: number of borrowers delinquent and number of loans deliquent. High rate of loan default, widely reported amongst rural smallholder farmers is hereby observed amongst graduate farmers.

4.5.3 Method of Loan Settlement by Graduate Farmers

All the respondents intend to settle loans secured using income from sale of farm produce. In addition, 47.50% of the respondents engaged in other non-farm business. Nevertheless, out of the proportion engaging in other non-farm businesses, as much as 52.26% intend

to supplement settlement with income from non-farm business. The scheme expects all settlements of loans secured to be cash. Ninety-five percent of the respondents indicated to pay back a little at a time with 5% indicating to pay back all at a time. Majority of the farmers (65%) considered the grace period as too short while 35% considered it ideal.

Non-farm businesses engaged in by participants include running of restaurants, general supplies, laundry/dry cleaning services, agro-produce marketing, barbing and hair saloon, civil service, and management of xeroxing centres. Some are still furthering their education while some run agro-consultancy ventures. Others are involved in agrochemical/inputs marketing, cassava processing, politics, pest-control services and landscaping. A few in livestock production are into veterinary services, pharmaceutical and medical services. They intend to supplement settlement of loans secured with funds from these sources.

4.6 Costs and Returns Analysis for Farming Enterprises Engaged in by Participants

4.6.1 Labour Use

Majority (96.25%) of the respondents used mostly hired labour whereas 3.75% of the respondents used mostly family labour for farm operations. Nevertheless, some of those who used hired labour (36.25%) also used family labour. Probably because the farm sizes are slightly large and possibly because the farms are relatively away from homes, family labour may not be adequate hence the need for hired labour.

Within the period, average costs per hectare for land clearing, tractorization, planting, weeding, fertilizer application, pesticide application, harvesting was ₦12.00, ₦222.30, ₦10.70, ₦15.00, ₦10.00, ₦16.00 and ₦15.00 respectively (Table 19).

Average labour requirements per hectare for land clearing (mandays) , tractorization (tractor day), planting (mandays), weeding (mandays), fertilizer application (mandays), pesticide application (mandays) and harvesting (mandays) was 25, 1, 9, 58, 8, 5 and 28 respectively. Total labour requirements for

Table 19: Cost-returns analysis/ha for cassava-based crop mixture (CBCM)

Item	Unit	Unit Price (₦)	Quantity	Value (₦)
Receipts				
Cassava Tuber	Kg	1.10	1600.94	1,761.03
Maize	"	1.17	649.82	760.29
Mellon	"	1.81	92.67	167.73
Cassava Stem	Bundle	4.85	105.47	511.53
Vegetable	Kg	1.76	25.56	44.99
Total Receipts				3,245.57
Operating Inputs				
Cassava Stem	Bundles	3.12	100	312.00
Maize Seeds	Kg	2.40	22	52.80
Mellon Seeds	"	10.00	15	150.00
Vegetable Seeds	"	4.00	5	20.00
Transport/Storage/ Market Costs	Mean of 4 years Cost	-	-	53.10
Mean Miscellaneous Mgt. Costs		-	-	209.94
Total Cost of Operating Inputs	-	-	-	777.84
Labour				
Land Clearing	Mandays	12.00	25	300.00
Tractorization	Tractor Day	222.30	1	222.30
Planting	Mandays	10.78	9	97.02
Weeding	"	15.00	58	870.00
Fertilizer Application	"	10.00	8	80.00
Pesticide application	"	16.00	5	80.00
Harvesting	"	15.00	28	420.00
Total Labour			134	2,069.32
Total Variable Costs				2,847.16
Gross Margin				398.41
Fixed Costs:				
Depreciation (Hoes, Matchets, Sprayer, Bags, etc).				200.00
Land Rents				-
Total Fixed Costs				200.00
Total Costs				3,047.16
Net Return				198.41

Source: Field survey, 1991.

a hectare in a CBCM was 134 costing ₦2,069.32 within the period under study. In the poultry enterprise, one person was employed on the average to oversee the management of the birds with a mean monthly remuneration of ₦156.79 (Table 20). Considering the piggery enterprise, one person was also employed on the average for management of the livestocks with a mean monthly remuneration of ₦156.79 (Table 21).

4.6.2 Analyses of the Various Enterprises: Cassava Based Crop Enterprise

Within the period, unit price received for cassava tuber (kg), maize (kg), mellon (kg), cassava stem (bundle), and vegetable (kg) were ₦1.10, ₦1.17, ₦1.81, ₦4.85 and ₦1.76 respectively. Average yield per hectare was 1600.94kg (cassava), 649.82kg (maize), 92.67kg (mellon), 105.47 bundles (cassava stem), and 25.56kg (vegetable) respectively (Table 19).

Input requirements per hectare for cassava stem was 100 bundles with a bundle costing ₦3.12, maize seeds - 22kg with 1kg costing ₦2.40, mellon seeds - 15kg with 1kg costing ₦10.00, vegetable seeds - 5kg with 1kg costing ₦4.00 respectively.

Table 20: Cost-returns analysis for poultry enterprise

Item	Unit	Unit Price (₦)	Quantity (Average Holding)	Value (₦)
Receipts				
Broiler	1.6kg-1.8kg (9-12 wks old)	24.78	288	7,136.64
Layers (At Salvage Value)	1.85kg-2.25kg	18.08	184	3,326.72
Cocks and Hens (Slaughter Value)	1.8kg-2.25kg	27.48	250	6,870.00
Turkey (Adult Male & Female)	1.8kg-2.5kg	28.00	197	5,516.00
Eggs	Crate	20.50	729	14,944.50
Total Receipts				37,793.86
Operating Inputs				
Broiler Chicks	Day old	4.74	288	1,365.12
Layer Chicks	2 weeks old	4.95	184	910.80
Chicks (Cockerels and Pullets)	"	6.48	250	1,620.00
Turkey (Poults)	"	19.10	197	3,762.70
Vaccines/Drug Administration	Mean Annual Costs			2,262.50
Transport/Storage/ Market Costs	"			2,216.04
Feed/Feed Stuffs	"			14,500.00
Mean Miscellaneous Management Costs	"			1,414.79
Total Cost of Operating Inputs				28,051.95
Labour				
Employee Remuneration	Monthly	156.79	12	1,881.48
Total Variable Cost				29,933.43
Gross Margin				7,860.43
Fixed Costs				
Depreciation (Building, Feeding and Drinking troughs etc)				544.00
Rents (Annual)				1,141.33
Total Fixed-Costs				1,685.33
Total Costs				31,618.76
Net Return				6,175.10

Source: Field survey, 1991.

Table 21: Cost-returns analysis for piggery enterprise

Item	Unit	Unit Price (₦)	Quantity (Average Holding)	Value (₦)
Receipts				
Piglets (young pigs)	45kg or less (2-4 months old)	133.18	62	8,257.16
Sows (Adult Females)	55kg-100kg (Slaughter weight)	483.72	13	6,288.36
Boars (Adult Males)	"	595.00	10	5,950.00
Total Receipts	(₦)			20,495.52
Operating Inputs				
Breeder Sows	9 months old or more (Service age)	440.42	5	2,202.10
Breeder Boars	"	365.00	3	1,095.00
Vaccines/Drug Administration	Mean Annual Cost			509.55
Transport/Storage/ Market Costs	"			524.33
Feed/Feed Stuffs				4,921.03
Miscellaneous Management Costs	"			448.87
Total Cost of Operating Inputs				9,701.08
Labour				
Employee Remuneration	Monthly	156.79	12	1,881.48
Total Variable Costs				11,582.56
Gross Margin				8,912.96
Fixed Costs				
Depreciation (Building, Feeding and Drinking Troughs etc)				544.00
Rents (Annual)				720.00
Total Fixed Costs				1,264.00
Total Costs				12,846.56
Net Return				7,648.96

Source: Field survey, 1991.

Mean transportation/storage/marketing costs amounted to ₦53.10. Mean miscellaneous management costs amounted to ₦209.94 in a CBCM enterprise.

Annual depreciation of hoes, matchets, knapsack sprayers, storage bags etc using the straight line method of depreciation amounted to ₦200.00. Total receipts for one hectare of CBCM amounted to ₦3,245.57 whereas total costs was ₦3,047.16 with a net return of ₦198.41.

About 70% (₦2,272.56) of the total revenue came from the sale of 1600.94kg of cassava tuber at ₦1.10 per kg and 105.47 bundles of cassava stem at ₦4.85 per bundle respectively. The remaining ₦973.01 or about 30% came from the sale of maize, mellon and vegetables.

The total cost of producing one hectare of cassava based crops was on the average about ₦3,047.16. This was made up of the total operating input costs of ₦777.84, total labour costs of ₦2069.32 and total fixed costs of ₦200.00. Although the details of the cost components may be useful for farm planning and budgeting, the crucial issue that this analysis has highlighted is the high labour costs involved. On the average, labour costs accounted for about 68% of the total costs. Okorji and Aghimien (1986), reported 57%

labour cost of the sum spent per hectare, 42% planting material cost and 1% depreciation.

Given the increasing wage rate and input costs, the loan amounts given to graduate farmers ought to be reviewed upwards to meet production and other costs. Nevertheless, the gross return/total cost ratio (Okorji and Aghimien, 1986) shows that one naira invested in production yielded extra 6 kobo in the CBCM enterprise.

Analysis of Poultry Enterprise

An analysis of Table 20 shows that about 40% of the total revenue came from the sale of eggs alone, whereas the remaining 60% came from the sale of various quantities of other poultry items.

The table also shows that the total cost of production of various poultry items amounted to ₦31,618.76. This was made up of operating inputs, labour and such fixed costs as rents and depreciation on capital items. It is noteworthy that 46% of the total costs is accounted for by feed/feedstuffs alone. This is because of the rising cost of animal feed formulation. The gross return/total cost ratio shows that one naira investment in production yields extra 20 kobo in poultry enterprise.

Analysis of Piggery Enterprise

Table 21 shows that the total receipts from the sale of items in the piggery enterprise amounted to ₦20,495.52.

The total cost of rearing the pigs as is shown, amounted to ₦12,846.56. This was made up of the total operating input costs of ₦9,701.08, total labour costs of ₦1,881.41 and total fixed costs of ₦1,264.00. The gross return/total cost ratio, shows that one naira invested in piggery production yields extra 60 kobo.

A comparative analysis of cost items for the three enterprises in Table 22 shows that the operating input costs constitute the major cost item for poultry (88.72%) and piggery (75.52%) enterprises, whereas labour cost (67.91%) constitute the major cost item for cassava-based crop enterprise mixture.

The implication of this finding is that both operating input cost and labour cost are significant cost areas for the enterprises. Therefore, in farm budgeting and planning, they should be given adequate consideration.

Net return (Table 23) was highest for piggery enterprise when compared to poultry and CBCM enterprises and suggests a probable high resource use efficiency and profitability.

4.6.3 Benefits Derived from being Involved in the Scheme

Analysis of results in Table 24 show that the greatest benefit derived by respondents was additional revenue (53.75%) followed by their being able to provide more food for the family (40%). As much as 33.75% of the respondents are yet to benefit from the scheme. This proportion may be those who were newly

Table 22: Comparative analysis of cost items for the 3 enterprises

Item	Cost (₦)					
	CBCM Enterprise	% of Total Cost	Poultry Enterprise	% of Total Cost	Piggery Enterprise	% of Total Cost
Total labour Costs	2069.32	67.91	1881.48	5.95	1881.48	14.65
Total Operating Input Costs	777.84	25.53	28051.95	88.72	9701.08	75.52
Total Fixed Costs	200.00	6.56	1685.33	5.33	1264.00	9.83
Total Costs	3047.16	100.00	31618.76	100.00	12846.56	100.00

Source: Field survey, 1991.

Table 23: Comparative analysis of the 3 enterprises based on total revenue, total costs and net return

Item	Enterprise Values					
	CBCM Enterprise	% of Total Receipt	Poultry Enterprise	% of Total Receipt	Piggery Enterprise	% of Total Receipt
Total Receipts	3245.57	100.00	37,793.86	100.00	20,495.52	100.00
Total Costs	3047.16	93.89	31,618.76	83.70	12,846.56	62.70
Net Return	198.41	6.11	6,175.10	16.30	7,648.96	37.30

Source: Field survey, 1991.

recruited who are engaged with initial cost of production. The benefits derived so far, are not sufficient to finance construction of residential houses nor the acquisition of such properties like motor car or bike, in addition to their paying back the loaned sums with interest.

Table 24: Distribution of respondents according to benefits derived from being involved in the scheme

Benefits	Frequency	%
Additional Revenue	43	53.75
More food for the family	32	40.00
Was able to Build a house	-	-
Was able to buy Motor Car/Bike	-	-
Nothing yet	5	6.25
Total	80	100.00

Source: Field survey, 1991.

4.7 Modern Technology Adoption

All the respondents used one technology or the other. Technologies adopted by crop respondents include: tractorization (96.49%), fertilization (91.23%), Pesticide application (63.16%), Herbicide application (7.02%), use of improved planting materials (5.26%) and seed treatment (12.28%).

For livestock, all poultry and piggery participants practised intensive deep litter poultry and piggery management respectively. This involved feeding livestock on feed formulae and vaccinations (medications).

4.8 Level of Employment Generated

Apart from the temporary (seasonal) employment generated during the farming season, some crop and all livestock enterprises employ on a more permanent basis an average of one person per enterprise. From the survey, the scheme has been able to generate permanent employment for as much as 113 rural hands. This implies that some respondents employed more than one rural hand on a permanent basis.

The mean monthly remuneration for rural hands employed in crop enterprise was N140.00 whereas it was N157.00 for those in livestock enterprises.

4.9 Transportation, Processing, Storage, Marketing and Extension Services

The most important means used to evacuate produce from the farm was by means of trucks/lorries (82.50%) whereas the least means used was by trekking on head potterage (5%). Other means was motor bike (2.5%). This is a far cry from what used to obtain, where rural smallholder farmers evacuate produce from farm

mainly by trekking on head potterage as observed by Eze (1991). Transporters (Pick-up Van owners) charge an average of N2.00 to convey 50kg worth of produce for an average of 5 kilometers.

Crops like maize and mellon are stored as grains by shelling and seeds by breaking, washing and drying in the sun respectively, prior to bagging. Often they prepare and apply local preservatives like gr pepper to prevent post harvest pest attack on grains in storage bags.

Most of the respondents do not go into processing. Those who do, do that at a home consumption level. This may be because of the extra costs involved therein.

All crop farmers and 35% of livestock farmers marketed produce at their discretion; not by contract growing, nor by wholesale to agents on recommendation by the scheme officials, nor by retail sales in the open market under the supervision of scheme officials, nor by selling cooperatively in the open market, but by retail sales either in the open market or at farm. The remaining 65% of livestock farmers sell produce on request by hoteliers, super markets and individuals or to cold storage proprietors.

As much as 56% of the graduate farmers were not visited by extension staff, whereas 44% experienced extension visitations with an average annual visitation of once. Majority (94%) of the visitations was to ensure use of credit for the purpose for which it was meant for. Though introduction of new farming methods and to help in making farm records were part of the objectives of the visitations, they were not primary.

4.10 Problems and Prospects

4.10.1 Problems

The problems inhibiting increased productivity of graduate farmer beneficiaries of GASES as summarised in Table 25, show that the major one is the lack of money to invest on production (100%), the least being inadequate/non-availability of agrochemicals and the stealing of farm produce by unknown persons (3.75%) respectively. It is interesting to note also that labour is not all that scarce (10%) but that it is cost intensive (90%). Lateness in delivery of credit in kind or cash (98.75%) also ranked high.

Table 25: Problems inhibiting increased productivity of graduate farmer - beneficiaries of GASES.

Problems	Frequency	%
Lack of money to invest on production	80	100.00
Lateness in delivery of credit in kind or cash	79	98.75
Government support being inadequate	77	96.25
Disease/Pest attack	73	91.25
High cost of labour	72	90.00
High cost/lack of mechanized systems	72	90.00
Ineffective/inadequate extension services	35	43.75
Lack of high yielding varieties	20	25.00
Lack of ready market for produce	12	15.00
Inadequate/non-availability of agrochemicals	3	3.75
Stealing (Poaching) of farm produce by unknown persons	3	3.75

NB: Multiple responses were recorded

Source: Field survey, 1991.

From the foregoing, 91.25% of the respondents have problems in repaying the secured loans with interest with 8.75% having no problems in repaying the loans with interest.

The factors causing inability to repay loans (Table 26) as shown indicate that the greatest is pest/disease attack (80%) followed by low prices of produce (76.25%), the use of unimproved inputs (1.25%) being the least.

Table 26: Distribution of respondents according to factors causing inability to repay loans secured.

Factors	Frequency	%
Pest/Disease attack	64	80.00
Low prices	61	76.25
Poor harvest	35	43.75
Disaster	27	33.75
No potential market	4	5.00
Bad weather	3	3.75
Poaching of Farm Produce	3	3.75
Sole Production	3	3.75
Use of Unimproved inputs	1	1.25

NB: Multiple responses recorded

Source: Field survey, 1991.

Eze (1991), recorded as high as 85% response to disease and pest attack as factors inhibiting increased cocoyam production. Akeh (1991), recorded low producer prices (86.8%), poor harvest (68.7%) and pest/disease attack (65.7%) as important problems or factors militating the repayment of loans.

As much as 74% of the respondents had disaster of one kind or the other with 26% having no disaster. Disaster experienced include pest/disease attack on both crop and livestock, flooding and fire outbreak on crop farms, poaching of farm produce by unknown persons as well as death of livestock.

Estimated average amount of money lost as a result of disaster in 1988 for crop is ₦14,833.33 and a whooping ₦3,500.00 in livestock. In 1989, mean crop loss amounted to ₦9,806.38 whereas livestock loss amounted to ₦4,523.00 and in 1990, mean crop loss to disaster was ₦13,085.96 and for livestock, it was ₦4,866.67 (Table 27).

Table 27: Mean annual loss to disaster by production type

Year	1987		1988		1989		1990	
Production Type	Total Loss (₦)	Mean Loss (₦)	Total Loss (₦)	Mean Loss (₦)	Total Loss (₦)	Mean Loss (₦)	Total Loss (₦)	Mean Loss (₦)
Crop	-	-	44,500.00	14,833.33	205,934.00	9,806.38	340,235.00	13,085.96
Livestock	-	-	10,500.00	3,500.00	58,800.00	4,523.00	73,000.00	4,866.67
Total			55,000.00	18,333.33	264,734.00	14,329.38	413,235.00	17,952.63

Source: Field survey, 1991

Total loss to disaster for the period under study stood at N732,969.00 whereas mean loss amounted to N50,615.34. A Chi-square test at the 5% level of significance showed that there are lots of problem limiting productivity among participants.

4.10.2 Prospects

a) Derivation of Job Satisfaction

Majority (58.75%) of the respondents do not derive job satisfaction by being involved in production in the scheme, whereas 41.25% of the respondents do (Table 28).

Table 28: Response to job satisfaction

Response	Frequency	%
Yes	33	41.25
No	47	58.75
Total	80	100.00

Source: Field survey, 1991

b) Intended Duration of Stay in Business

An analysis of results in Table 29 shows that 76.25% of the respondents in agricultural production shall remain for 20 years or less in production. Of this proportion, the crop respondents are more in number than the livestock respondents. However, 23.75% of the respondents are likely to be in production for more than 20 years. Out of this proportion, the livestock respondents are more than the crop respondents. The significance of this analysis is that livestock respondents are more likely to be permanently employed than crop respondents in agricultural production.

Table 29: Intended duration of stay in agricultural production

Duration (Years)	Crop Frequency	Livestock Frequency	Total Frequency	%
1 - 5	29	2	31	38.75
6 - 10	21	1	22	27.50
11 - 15	4	0	4	5.00
16 - 20	0	4	4	5.00
More than 20	3	16	19	23.75
Total	57	23	80	100.00

Source: Field survey, 1991.

Majority (58.75%) of the respondents are likely to change business, with crop respondents being much greater than livestock respondents, whereas 41.25% may not change of which livestock proportion is greater than crop proportion.

Out of the proportion of total respondents intending to change business, 85.12% of them have preference for urban or metropolitan area whereas 14.89% have preference for rural area.

The most important reason adduced for urban preference by respondents is where there are more promising life chances. Other reasons include that business yields returns faster in urban than rural areas, the dearth of amenities in the rural areas, the population concentration in urban areas patronising the products and the laborious involvements of farming in rural areas.

The most important reason proferred for rural preference is the massive land area available for farm expansion. Inclusive are the low overhead costs and cheap facilities obtained therein.

4.10.3 Farm Insurance

As much as 65% of the respondents did not have their farms insured while only 35% of them insured their farms. Generally, the scheme insures farms for the first year of operation of each year's recruits. Thereafter insurance becomes the prerogative of each graduate farmer.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 Summary

Graduate unemployment and the food supply crisis in Nigeria were identified as prime problems. The government had to really look inwards to devise means of tackling these problems. The aim actually was to inculcate the spirit of self-employment so as to achieve national self-reliance in the agricultural sector and this led to the establishment, in 1986 of the National Directorate of Employment and in 1987, the Graduate Agricultural Self-Employment Scheme (GASES), an arm of the Agricultural Sector Employment programme of the Directorate was launched into action. The primary objective is to provide employment for agricultural graduates in addition to boosting food production by providing participants in the scheme with working loans and technical assistance. Credit, be it in cash or kind, has been known to play a determining role in the development of agriculture, and investments have also been known to have multiplier effect.

Because the study area - Imo State - is hard hit by the unemployment and food supply problems, it became pertinent to evaluate the performance of the scheme in the state.

Both primary and secondary data obtained by the use of structured questionnaires on 80 respondents, recruited into the scheme between 1987 and 1990, and oral interviews on the scheme officials respectively, were used for analysis. Crop respondents numbering 57 who practised cassava based crop mixture, and 23 livestock (poultry and piggery) respondents were sampled. Statistical tools such as percentages, frequencies, means, ranking, graphs, and the cost-returns analyses, and tabulations were used to analyse the data. Chi-square test was also used to test for statistical differences between means and to test some of the hypotheses.

The findings showed that a total of 1,282 hectares of crop land were under cultivation within the period under study (Appendix 1) by the crop participants in the scheme. The average crop land holding was 4.1ha whereas average land under poultry and piggery production was 0.042ha and 0.009ha respectively. Land is acquired on request by NDE

to the State Governor and/or the Local Governments of the state annually. Participants were not more than 40 years old on recruitment. Female participation was 1.25% and is insignificant to total participation. High level of literacy was observed and the most important financial record kept is the income and expenditure account.

Loan amount per crop participant for 1987 and 1988 amounted to ₦11,500.00; and for 1989 and 1990, was ₦15,000.00. Livestock participants received ₦13,500 for 1987 and 1988, and in 1989 they received ₦18,000 cash. Crop loans were in cash and kind whereas livestock loans were entirely cash. The loan amounts were found to be inadequate and graduate farmers will require ₦2,000.00 to ₦3,750.00 or more to be added to the loan sums provided by the scheme to meet production costs.

There was a general increasing tendency in price for crop and livestock items with respect to costs and returns for the period.

Yield figures showed that average yield per hectare for the period under study for maize was 649.82kg; for mellon, 92.67kg; for cassava tuber it was 1600.94kg, and for cassava stem, it was 105.47 bundles; than vegetable yield per hectare was 25.56kg. A bundle of cassava stem was observed to contain 50 cassava sticks each measuring 1m or more by arrangement. Average income or revenue levels per hectare for the period, for maize was ₦765.57; for mellon - ₦169.06; for cassava tuber, it was ₦1777.43; for cassava stem, it was ₦512.27 and for vegetable, it was ₦44.99. On hectare basis, this leaves a graduate farmer in cassava based crop mixture with a total revenue of ₦3,245.47 and when costs are deducted, with a net return of ₦198.41.

With respect to the poultry enterprise, average holdings for broiler was 288, layers - 184, replacement stocks (cocks and hens) - 250, turkey - 197, and egg - 729 crates. Mean unit revenue for broiler (weighing between 1.6kg - 1.8kg) was ₦24.78, layers at salvage value (i.e. when they may have laid 300 eggs or more and weigh between 1.8kg - 2.25kg)

sell, for ₦18.08, adult replacement stocks sell for ₦27.48, turkey (weighing between 1.8kg and 2.5kg) sells for ₦28.00 and a crate of eggs sell for ₦20.50 on the average.

A graduate poultry farmer realised a total revenue of ₦37,793.86 and when costs are considered or deducted, a net revenue of ₦6,175.10 from sale of 288 broilers, 184 layers, 250 replacement stocks, 197 turkeys, and 729 crates of egg.

In consideration of the piggery enterprise, average holdings for piglets was 62, sows - 13 and boars - 10. Mean unit revenue for piglets (weighing 45kg or less) was ₦133.18; for sows (adult female pigs weighing between 55kg - 100kg) was ₦483.72; and for boars (adult male pigs weighing between 55kg and 100kg) - ₦595.00. A pig graduate farmer had a total revenue of ₦20,495.52 and when costs are considered, a net return of ₦7,648.96.

A comparative analysis of cost items showed that labour costs was highest and accounted for 67.91% of total cost for cassava-based crop mixture enterprise, whereas operating input cost was highest

and accounted for 88.72% and 75.52% for poultry and piggery enterprises respectively.

A gross return/total cost (benefit-cost) ratio analysis showed that one naira invested on cassava-based crop enterprise, yields extra 6 kobo, whereas for poultry enterprise the same analysis showed that one naira invested yielded extra 20 kobo and in piggery, an extra 60 kobo.

A comparative analysis of the three enterprises based on total revenue, total cost and net return, showed that total cost was highest for CBCM enterprise and accounted for 93.89% of total receipts. This is followed by the poultry enterprise with total cost accounting for 83.70% of total receipts, and lastly by the piggery enterprise with total cost accounting for 62.70% of total receipts.

Net returns was highest for the piggery enterprise and accounted for 37.3% of total receipts, followed by the poultry enterprise with net returns accounting for 16.30 of total receipts and lastly by the CBCM enterprise with net return accounting for 6.11% of total receipt.

The implication of the analyses on the basis of resource use efficiency and profitability is that resource use efficiency and profitability is highest for piggery, followed by poultry and CBCM enterprises.

The most important benefit derived by the respondents was additional revenue. The respondents have been able to generate permanent employment for as much 113 rural hands with ₦140.00 mean monthly remuneration for those employed in crop and ₦157.00 mean monthly remuneration for those employed in livestock enterprises respectively. Hired labour usage was 96.25% and modern technology adoption amongst graduate farmers was 100%.

Total crop and livestock loans for the period (1987 - 1990) amounted to ₦5,502,000.00. Four participants recruited in 1987 have fully repaid the loaned sums with interest. Repayment rate was 1% whereas loan default or delinquency rate was 99% as at time of survey.

The most important means of evacuating produce from the farm was by truck/lorries (82.50%). Local preservatives like ground pepper were put into grains and seeds in storage bags to prevent post-harvest pest attack. All crop farmers and 35% of livestock

farmers marketed their produce at their discretion by retail sales either in the open market or at the farm. The remaining 65% of livestock farmers sell produce on request to hoteliers, supermarkets and individuals or to cold storage proprietors.

Lack of money to invest on production, lateness in delivery of credit in kind or cash, government support being inadequate, disease/pest attack, high cost of labour and high cost or lack of mechanised systems are the major problems inhibiting increased productivity amongst graduate farmers.

Pest/disease attack, low prices, poor harvest and disaster were the important factors causing inability of respondents to repay the loans secured. Total loss to disaster for both crop and livestock amounted to ₦732,969.00 i.e. ₦9,162.11 per participant for the period under study or ₦2,290.53 annually.

With respect to intended duration of stay in agricultural production, the livestock farmers are more likely to be permanently employed than crop participants because the livestock (piggery and poultry) enterprises are more profitable than the

CBCM enterprise. In general, about 59% of the respondents are likely to change business with crop respondents being much greater than livestock respondents. About 86% of this proportion wanting to change business, have urban preference. It was observed that some participants swapped or switched enterprises. Total enterprise switch recorded was 12.5%.

5.3 Recommendations

There is the need for graduate farmers to have insurance schemes for their agricultural businesses so as to have a check against total loss. This can now be made possible with the government's establishment of the Nigerian Agricultural Insurance Company (NAIC).

Furthermore, the loan amounts given to participants are inadequate for agricultural production in our present Structural Adjustment Programme and inflationary dispensation. Therefore, there is the need for an upward review of the loan sums. It is recommended also that the loan sums for both crop and livestock participants should be in cash and kind but with more cash than kind.

Visitations of the extension staff and the staff of the NDE should be intensified in addition, to ensure that the loan sums are appropriately used for the production purposes and to prevent diversion by participants.

The disbursement of loans in cash and kind for new recruits should be appropriately timed by the scheme officials to coincide with production seasons.

Since the participants deposit certificates as collaterals and provide 2 guarantors, they could as well be attracted to agricultural production by making the loans repayable, interest free.

The scheme officials should devise a means by which participants' produce are disposed of at affordable and rewarding prices. It is observed that due to glut during the harvest seasons, farmers sell their produce at low prices and this is not encouraging to enable the participants repay the loan sums with interest.

The government should provide infrastructural facilities in the rural areas to minimize the urge for rural-urban drift of potential labour force in the

rural areas. By so doing, post harvest losses could be curtailed if such things like grain silos and good roads are provided.

Graduate farmers should be encouraged to form viable cooperatives to enable them benefit from the serveral government agencies in termsp of input purchases at reduced costs.

Further study should be done on other areas fiananced by the scheme not covered by this study to actually highlight their performances, problems and probable solutions. Other schemes of the Directorate should be studied, to elicit their impact on the general National development. Banks participatory role in this regard should also be studied.

5.3 Conclusions

Judging from the costs and returns analysis and the ratios of gross return upon total cost done, piggery production is the most profitable of the graduates or agriculture. Furthermore, the enterprise has a high resource use efficiency when compared with the other enterprises considering the magnitude of material and other inputs and the returns thereafter obtained.

The scheme has generated significant rural self-employment for graduates of agriculture in the state. However, the loan sums given to participants is considered inadequate for production considering the slightly high land holdings of crop participants and the rising labour and other operating input costs.

There are lots of problems which limit increasesed production and effect the repayment of the loans secured, with interest on schedule.

Nevertheless, efforts to reach food self-sufficientcy and to create substantial numbers of permanent jobs in the State and Nigeria as a whole based on smallholder farming systems will take more than a decade to achieve. With these smallholder production and employment constraints, the government's self-employment strategy to achieve self-reliance is a reasonable public policy to gain time until the organizational and technical bottlenecks to a more vibrant smallholder based food supply system are dealt with. What is needed is a longer time frame and concerted effort for the objectives of the scheme to be implemented to the fullest and thereafter, lies the benefits.

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APPENDIX 1

NDE AGRICULTURAL PROGRAMME ACTIVITY BOARD OWERRI, IMO STATE

S/NO	Name of Scheme	Date of Commence-ment	Total No. of Parti-cipants	No. of Poultry Parti-cipants	No. of Fishery Parti-cipants	No. of Sheep/ Goat Parti-cipants	No. of Piggery Parti-cipants	No. of Rab-bitory Parti-cipants	No. of Crop Parti-cipants	Hect-erage In-volved	Total Amt. Disbursed per parti-cipant (₦)	Parti-cipating Banks	Remar
1	Graduate Loan Scheme	1987	100	47	7	15	1	-	30	145	11,500 (Crop) 13,500 (Animal)	ACB, Owerri main Branch	4 Partici-Repaid
2	Graduate Loan Scheme	1988	100	1	-	-	-	-	99	437	11,500 (Crop) 13,500 (Animal)	C.C.B Douglas Road Branch	
3	Graduate Loan Scheme	1989	120	19	-	-	-	1	100	500	15,000 (Crop) 18,000 (Animal)	C.C.B Douglas Road Branch	
4	Graduate Loan Scheme	1990	80	-	-	-	-	-	80	200	15,000 (Crop) - (Animal)	Central Bank (CBN) Owerri	
5	Trained School Leavers	1989	150	-	-	-	-	-	150	300	₦6,000	CCB Douglas Rd. Branch	
6	"	1990	150	-	-	-	-	-	150	300	5,118.00	CBN	
7	Trainee Sch. Leavers	1989	150	-	-	-	-	-	-	-	-	Fed. Pay Office	
8	"	1990	63	-	-	-	-	-	63	30	-	C. B. N	

APPENDIX 2

PROGRAMMES AND SCHEMES OF NDE

Programme:	1. National Youth Employment and Vocational Skills Development Programme	2. Small Scale Industries and Graduate Employment Programme	3. Special Public Works Programme	4. Agricultural Sector Employment Programme
Schemes:	a) National Open Apprenticeship Scheme (NOAS)	a) Job Creation Loan Guarantee Scheme (JCLGS)	a) Construction and Maintenance of Roads, Buildings and Other Infrastructure	a) Graduate Agricultural Self-Employment Scheme (GASES)
	b) Waste to Wealth Scheme (WWS)	b) Mature People's Scheme (MPS)	b) Tree Planting	b) School Leavers' Farming Scheme (SLFS)
	c) Schools on Wheels Scheme (SWS)	c) Entrepreneurship Development Programme (EDP)	c) Environmental Sanitation	c) Reactivation of Employment Generating Farm Settlements Scheme.
	d) Disabled Work Scheme (DWS)	d) Enterprise Management support services (EMSS)	d) Land clearing and other Farm Support Services	d) Promotion of Rural Non-Farm Employment Scheme