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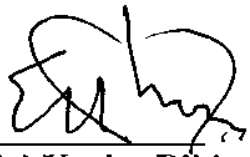
A CASE STUDY OF THE CATTLE AND SHEEP SMALLHOLDER FATTENING SCHEMES

BY

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A Thesis submitted in partial fulfilment for the requirement for the Award of the Masters of Science (Agricultural Economics) Degree of the Ahmadu Bello University, Zaria, Nigeria

I, hereby declare that this write-up is original and a product of my research findings. All articles used have been acknowledged accordingly in either the footnotes or the bibliography.



Ezekiel Uruku Rikin

CERTIFICATION

This thesis entitled "An Appraisal of Livestock credit scheme in Northern Nigeria: A case study of cattle and sheep smallholder fattening schemes" by Ezekiel U. Rikin meets the regulations governing the award of the degree of Master of Science (Agricultural Economics) of Ahmadu Bello University, Zaria, and is approved for the contribution to knowledge and literary presentation.

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DEDICATION

This thesis is dedicated to the memory of my father, **MR. RIKIN B. IRASKEB,** my ever loving mother, **MRS. DINATU RIKIN** and my dear wife and children, whose patience and understanding saw me through the period of the course.

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ABSTRACT

The Livestock credit scheme was a World Bank assisted Livestock Development Project, which was implemented in two phases. The first phase was essentially centred on cattle and sheep fattening scheme and started in 1974, while the second phase was aimed at providing technical inputs, nutrition and improvement in animal health, and this started in 1987.

This study was aimed at appraising the scheme in terms of physical and financial achievements, as against the project plan targets, with a view to identifying constraints that militated against the success and making suggestions for improvement in similar scheme in the country.

The study relied on data collected from 70 and 30 cattle and sheep farming scheme beneficiaries in the northern Nigeria and bank officials through the use of administered questionnaire. Secondary data were collected from the project data bank at the National Livestock, Kaduna as well. The data was analysed using descriptive, correlation as well as measures of financial and economic analyses.

The result of the socio-economic characteristics of the benefiting farmers show that the average family size was 6, and over 70% werein the age range of 31 - 45 years old, 61% were male, while about 67% had no formal education. More over, about 95% were also crop producers showing that crop-livestock production was well integrated.

Interms of meat value for the loans disbursed, 8008 tonnes of beef and 699 tonnes of mutton were produced from credit worth N111.5 million and N9.3 million for cattle and sheep respectively. Over 44,340 farmers benefited directly, while about 745 of the farmers had the added

advantage of using the bulls for traction and transportation. The financial analysis show a net positive return to equity as well as return to labour for both schemes. The economic rate of return (ERR) was 16% for the cattle and sheep schemes, although the planned target for the whole scheme was 21%.

The non-financial performance assessment show that the participation of Nigerians at the initial plan was minimal, a situation which affected the implementation and which was corrected in the second plan. Loan draw-down was 70.5% of the plan draw-down initially but dropped to 51% between 1991 and 1993 as a result of low counterpart funding by the Federal Government.

The major constraints of the scheme were weak institutional linkages with states, inadequate capital, lack of price information, diversion of credit to other uses and poor recordkeeping among farmers.The other problems include delay loan processing, lack of commitment of some of the bank staff, diversion of funds to time deposits and lack of staff motivation among project and bank staff, wrong identification of project beneficiaries, inadequate supervision and provision of extension, and coordination of the implementing agencies were identified.

The study concludes that, although the scheme attained over 50% performance rating, it could have done better but for the problems enumerated above. The study, therefore suggested, among others that loans should be disbursed through cooperative societies, improvement in credit supervision, entrencment of reward systems for staff who performed well and proper coordination and exchange of information between the implementing agencies.

CHAPTER ONE

1.0 INTRODUCTION

In recent years, the government of Nigeria and donor agencies have devoted considerable resources and efforts to improving the technologies for increasing both livestock productivity, contribution to sustainable agricultural production and farmers' incomes.

One major economic problem in Nigeria today is that of rising demand for animal protein which is unaccompanied by a corresponding rise in the supply due principally to lack of investment by both the public and the private sectors as well as scarcity of good quality and balanced animal feeds required for livestock and poultry production. Feed has been recognised to have profound influence on the performance and production of livestock, on their health and productivity which in turn affect the profitability of livestock enterprises (Boatifield,1979).

Fetuga (1977) is of the view that any rapid expansion and success of livestock industry will depend on the availability of adequate and good quality feeds, since feed alone accounts for between 65% and 80% of the total cost of commercial production (Ikpi,1978). Ogunfowora *et al,* (1975) found that the rate of expansion of intensive livestock enterprises in Nigeria has been greatly reduced due principally to high cost of feeds and other inputs including veterinary drugs and vaccines. These have resulted

in protein from animal sources being very expensive, leading to a gradual decline in the protein intake of the Nigerian people.

Farm crops and livestock inputs and outputs availability are mostly seasonal and therefore are subject to price variability, mainly due to weather changes, pests and disease outbreaks; factors which in most cases are usually beyond the control of the farmer. These special problems of agriculture have implications for the stability of the farmers' income and his ability and decision to invest.

In recent years, the Nigerian government has embarked upon different programmes to boost production in the agricultural sector. Prominent among these are:

a. Operation Feed the Nation (OFN) – launched in April,1976
b. Green Revolution - (1980)
c. National Accelerated Food Production Programme – (1974 – 1979)
d. Agricultural Subsidy Programme - (1977)
e. Strategic Grains Reserve Initiative - (1992)
f. Agricultural Development Programmes - (1976)
g. First Livestock Development Project - (1975)

Despite these programmes, productivity in both agricultural and livestock sectors have not been encouraging. An important reason for low productivity in these sectors is the non-availability of production credit

scheme on favourable terms and the lack of provision of other inputs such as fertilisers, chemicals, feeds, veterinary drugs, salt licks etc. to the small-holder farmers.

As a result of emphasis placed on the provision of credit to farmers, various Nigerian governments at different levels created specialised credit institutions for agriculture. These are:

1. the establishment of the Nigerian Agricultural and Cooperative Bank (NACB) in 1975, to appraise agricultural projects, provide credit facilities and supervise them;
2. the Credit Guidelines in 1984, with the mandate to ensure that at least 8% of Bank total loans and advances are disbursed to agriculture;
3. the Agricultural Credit Guaranteed Scheme Fund was established in March, 1977 by Decree No. 20, to provide guarantees of up to 75 % with respect to loans granted by commercial banks for agricultural purposes and;
4. Rural Banking Programme, to compel commercial banks to establish branches in the rural areas, and to provide credit facilities to the rural farmers.

The livestock sub-sector which has been neglected in the national food production drive for a long time was integrated into the general financing of

agricultural projects, by encouraging private initiative of the small-holder farmer. The choice was based on the fact that:

(a) the small-holder farmer is believed to be very efficient in the use of basic productive resources provided to him;

(b) the small-holder farmer makes important and significant contributions to the gross national product; and

(c) the small-holder farmer produces about 98% of the total animal protein consumed in Nigeria.

It is against these backgrounds of ensuring the provision of credit facilities, transfer of the relevant technologies and provision of infrastructures to the ultimate target, the small-holder farmer, that the World Bank assisted Livestock Development Project (LDP) was set up. The First Livestock Development Project, which started in 1974 and closed in 1983, attempted to improve sheep and beef cattle production through large commercial farmers and parastatals. The Second Livestock Development Project (SLDP) sought to expand the small-holder fattening scheme by improving technical and extension inputs, nutrition and animal health, to increase the income and living standard of the farmer.

The appraisal report of the SLDP recognised the need for assessment of project effect both as a guide to management for the future execution of project and throw more light on the wider issues of rural development policy. The purpose of re-appraising the project (post-evaluation), is to

The total project cost of the SLDP was US$128 ** million with
Bank providing US$81 ** million in loan, while the Federal Gove
Nigeria and the farmers provided the balance. The in
responsibilities for the implementation of SLDP were veste
National Livestock Projects Division (NLPD) for technical inpu
Nigerian Agricultural and Cooperative Bank (NACB) for t
component respectively.

Over 25,000 loans were disbursed between 1987 and 1996, ou
(85%) of which were for cattle and sheep fattening schemes.
schemes, apart from utilizing the private sector as instru
production and input supply also introduced full cost recover
inputs and veterinary supplies.

** US$1 = N1

scheme, and if not, what were the reasons for the gap?

From the scheme management end: What was the percen disbursements as against the projected target? What was recovery rate as against the default rate. Were there any problen better performance?. Since the Nigerian Agricultural and Co Bank (NACB) was responsible for the overall implementation of program, were there any related problems? What were the key b during the implementation period with regard to: i) the Federal G of Nigeria (FGN); ii) the World Bank; and iii) macro-economic poli

1.3 OBJECTIVES OF THE STUDY

The study was aimed at determining the general performance livestock credit schemes. The specific objectives were to :-

1.) describe the socio-economics characteristics of beneficiari

2.) compare the planned financial and economic projections with the actual in order to identify the implementation gap;

3.) determine the socio-economic benefits of the scheme to the farmers;

4.) determine the general performance of the scheme in terms of credit management, loan disbursement, repayment and procurement of farm inputs; and

5.) determine the constraints to effective participation in livestock credit schemes.

1.4 THE SIGNIFICANCE OF THE STUDY

The Nigerian economy has been described as one of the most dynamic economies in Africa (World Bank, 1996). Nigeria's large area and increasing population as well as her diversified natural and human resources are indicative of the country's great potential for rapid industrial and economic development. In spite of this, the economy has remained relatively under-developed. The agricultural sector is still backward and largely unresponsive to the demands of other economic sectors. Livestock development has been relatively minimal, lop-sided and heavily import -dependent. The one-commodity export nature of the economy did not help matters as economic growth is largely determined by the vagaries of external fortunes of the petroleum industry.

This study, therefore, intends to carry out a detailed performance evaluation of the two fattening credit schemes with the overall objective of

identifying the weak and strong points of the programme. The study is also, expected to provide useful information on the profitability and likely impact on the investors, as well as suggestion on ways to improve the viability of such schemes, including appropriateness of tariffs, prices and cost recovery procedures required to support the loan.

1.5 SCOPE OF THE STUDY

The study will be restricted to two small-holder livestock credit models, namely: cattle and sheep credit fattening schemes, which had about 90% of the total loans disbursed during the study period. Analysis is therefore restricted to the beneficiaries of the sheep and cattle fattening credit schemes for ten years (1987 – 1996).

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

The Livestock sector makes an important contribution to the national economy and having the largest animal population in West Africa. Livestock provides a source of employment and income for a large segment of the rural population, and is also an important source of protein in the local diet (Bincan, 1990).

The second decade of Nigeria's independence (1970-79) witnessed a rapid deterioration in agricultural production. Not only were there widening food supply-demand gaps and rising food import bills, there were also rapid declines in government revenue from agriculture, in foreign exchange earnings from agricultural exports and in the labour force required in agriculture. The situation was further compounded by the residual effects of the civil war, severe droughts in some parts of the country, government fiscal and monetary policies and, above all, an "oil boom" which created serious distortions in the economy and accelerated the rate of migration of labour from agriculture, (Beckman, 1982).

In an effort to tackle these serious problems, government initiated a number of agricultural policies, programmes, and projects, largely within the framework of three successive national development plans from 1970

to 1974, from 1975 to 1980 and from 1981 to 1985. Experience from these policies, programmes and projects have, however, convinced the government and all those concerned with agricultural development efforts in Nigeria that there is no alternative to well-designed and articulate agricultural policies as instruments for promoting agricultural growth and development in Nigeria. It is, therefore, in realization of this fact the government has adopted a comprehensive package of policy instruments to further develop and improve the performance of the country's agricultural sector in a document entitled "Agricultural Policy for Nigeria", published in 1989 by the then Ministry of Agriculture, Water Resources and Rural Development.

2.2 Agricultural Credit Policy.

In an agricultural economy, investment is the principal source of growth in output or, in Naira terms, income. To increase income, we must increase productivity of labour, capital, land and other resources which translates into the need for investment. Investment funds can come from a number of sources including gifts, savings and borrowing. In the world of modern agriculture, it is difficult for the average farmer to save enough capital to establish an economically viable enterprise. In such cases, there is no investment, no expansion of plant and equipment unless credit is available. The role of credit, therefore, is a means of short-cutting the individual savings process to expand investment in farming (Ojo, *et al.*,1981).

Credit assistance is often emphasized because of its flexibility. The efficiency of such assistance is dependent upon: (1) the ability of the farmer to judge his credit needs; (2) the ability of the farmer to act up to these needs; (3) social desirability of institutional credit; and (4) the ability of the institution to deliver credit at a low administrative cost in time to purchase inputs and to collect repayment within acceptable socio-economic norms of the society (Benjamin,1986).

Small farmers have had limited access to credit through commercial banking channels. The flexibility of credit assistance, assuming the rationality of individuals, should allow a greater utilization of resources. Credit, however, will be useless without programmes to provide further assistance in adoption of new inputs and without favourable markets for commodities produced. Credit allows small farmers to take advantage of benefits gained through marketing and production programmes (Frey, 1981).

2.2.1 Definition and Identification of a small holder farmer

Schultz (1992), defined a smallholder farmer as one who, with other members of his family, works very hard (even though underemployed at certain times of the year) using restricted resources and still barely subsists. Schultz further outlined the factors that characterize the smallholder farmer as one who :-

i) Does not use formal savings systems.

ii) Cannot (or does not) qualify for existing formal (bank) credit and hence, resorts to informal credit at very high costs.

iii) Farm family does all the work and produces only crops for consumption or a local market.

iv) Women play an active role in the enterprise, and

v) Farmer usually needs educational and supervisory services to make technological changes.

Identification of smallholder farmers is an important aspect of formulating smallholder farmer development policy. Given the decision to channel economic assistance to smallholder farmers, the ability to identify those farmers who are the most appropriate recipients of the assistance is essential. Although no one variable alone can efficiently determine the target group, a farmer owning a small acreage, earning a low income, and growing subsistence crops will usually qualify as a small-holder farmer of credit programmes. Such farmers have the potential for establishing profitable farm enterprises if they have access to technology, inputs, markets, and credit.

2.2.2 Importance of helping the small-holder livestock farmer

According to Penney (1968), small-holder farmers and their families represent a large proportion of the population in developing countries. They produce most of the food of a nation in the aggregate. Hence,

adoption of simple improvements in technology and production practices are effective and are necessary. Since all forms of improved technology require some increase in capital, this almost always means that credit is necessary. Hence, a system for delivering reliable, adequate and timely credit which fits the needs of small farmers must be devised.

Another important reason for providing credit and other supporting services to small-holder farmers and rural entrepreneurs is that internal law and order cannot be maintained unless there is a better sharing of the wealth. Political stability is necessary for growth and development, and this is not possible without an effective credit program for all sectors of the economy (Shultz, 1992).

2.2.3 Conditions for credit success

The major objective of most credit programmes is increasing production and nutritional value of farm commodities to feed growing populations. A second objective focuses on increasing farm income, including the value of home consumption. A third objective may be to increase rural employment. However, the success of a credit programme is usually measured by the extent to which the value of additional production exceeds the cost of the programme. An ideal credit programme will, therefore, require four principal participants for it to succeed: farmers, credit institutions, improved technology and markets. If there is no new technology in which the small

farmer can invest, there will not be any significant increase in production. Likewise, without markets to provide needed inputs and purchase additional output, the potential success of the farm and of a credit programme can be undermined, except where farmers can sell. There must exist institutions which will lend to farmers at favourable terms and farmers must be willing to borrow, to make the needed investments and to repay the loans (Schaefer-Kehnert, 1982).

2.2.4 Agricultural credit policy in Nigeria

The objective of Nigeria agricultural credit policy is to make adequate investment funds available to the agricultural sector at the right time and at such rates as will make returns from agriculture more attractive (Ojo et al.,1981). The Nigerian Government has in the past implemented a policy of specified sectoral allocation of loan funds to the agricultural sector to ensure that projects with long gestation periods such as livestock enterprises did not suffer due to lack of credit. Such enterprises were also given appropriate grace periods and moratorium.

2.3 The Importance of Livestock in the Nigerian Economy and its Performance

Agriculture plays a key role in the Nigerian economy, employing two-thirds of the labour force and accounting for 35% of the GDP. Livestock accounts for about 20% of this contribution, and cattle represent the most economically significant group within the livestock sub-sector

(Bincan,1990). The major domestic species used for food production are cattle, goats, sheep, pigs and poultry; while cattle, camels, donkeys and horses are used as work animals. The livestock population is estimated at nearly 14 million cattle, 34.5 million goats, 22 million sheep, 82 million chicken, 32 million other poultry, 3.5 million pigs, 1.7 million domesticated rabbits, 0.94 million donkeys and 0.29 million other equine (Resource Inventory Management Systems Report (RIMS),1990).

In spite of its importance and the existence of an unsatisfied internal demand for livestock products, the livestock subsector has, in the last two decades, suffered from inadequate investment by both the public and private sectors. Private investment has been constrained by the limited absorptive capacity of the predominantly traditional livestock production systems and was further discouraged by a set of incentive policies, especially in the 1970s, which favored imports over local production. Likewise, the sub-sector has received inadequate investment by both the federal and state governments (Olayiwole, *et al.,* 1981).

Virtually all of the small stock production (83% of sheep and chickens, 95% of goats and pigs, for example) is associated with such production units. Commercial, intensive livestock production is at a rudimentary stage, except in poultry where about 12.5% of total production originates from the commercial sector (Livestock Plan,1981). Only 3% of pig production and

very small proportions of other types of stock are under intensive commercial production. Consequently, the sub-sector is characterized by low-input - low-output production systems, applying low levels of livestock production technology. Diseases, poor nutrition, particularly during the prolonged dry seasons, and poor husbandry are the major technical constraints the sub-sector faces.

Furthermore, institutional arrangements for delivering livestock support services suffer from inefficient organization, poor management, inadequate funding and lack of coordination among programmes, ministries, agencies and states. Services and activities are sometimes duplicated, leading to conflicting goals, wastage of resources and poor quality of service due to bureaucratic bottlenecks.

Accurate statistics on livestock production and marketing are not available and therefore detailed projections of supply and demand for the livestock sector cannot be realistically made. It is however clear, that over the last decade the supply of meat, milk and eggs has failed to keep pace with the increasing population. It is estimated that per *caput* beef production fell by 20 percent from 3.1 kg. per *caput* in 1971/73 to 2.5 kg. per *caput* in 1983/85 (Federal Ministry of Agric.,1989).

Consequently, Nigeria has remained a net importer of livestock and livestock products. Imports increased rapidly during the 1970's, reaching a peak during the 1977/79 period when average annual importation was the equivalent of about 61,100 tons of meat and 580,800 tons of liquid milk equivalent, valued at about US$400 million (Bincan, 1990). This was estimated to be about a quarter of the total annual animal protein consumption of the country. In a major policy shift in 1983, the federal government placed an embargo on the import of animal products and feed-stuffs. This had the effect of a drastic reduction of meat and dairy imports. The average annual importation of beef fell by more than 55% from 53,000 metric tonnes during 1983-85 to 20,200 metric tonnes during 1985-88. This was further reduced to 15,800 tonnes per year during 1989/90. Similarly, importation of milk was reduced by nearly 50% from 37,100 metric tonnes of liquid milk equivalent during 1983-85 to 18,300 metric tonnes during 1985-88. Consequently, nominal consumer prices of meat and milk increased and per *caput* animal protein intake decreased, (Bincan, 1990). Nominal retail meat prices have been on the increase since 1986. This trend is due partly to devaluation of the Naira which has made imported livestock from neighbouring countries more expensive, and partly due to the general level of inflation. Except for poultry, the cost, insurance, and freight (C.I.F) prices of imported meat were more than double the domestic retail prices in 1992. Future prospects are for continued high import prices, as international meat prices are expected to rise slightly and the Naira is

expected to remain weak. A strong internal demand for livestock products is expected to persist as urbanization and incomes increase. This will create a favorable incentive environment for livestock producers to increase output and for Government to institute policies and programmes to stimulate intensification and expansion of domestic livestock production as outlined in the following sections of this policy statement (Federal Ministry of Agric.,1989).

2.3.1 Livestock credit schemes

Osuntogun (1973) holds the view that "unless production credit is made available in suitable terms, the majority of small-holder farmers will be seriously handicapped in adopting profitable technology". Osuntogun (1973), Ijere (1975), point to the need for raising the volume of loan resources available to the credit institutions so as to permit raising the level of lending to individual small-holder farmers. Ogunfowora *et al (1972)* attributed most of the shortcomings in institutional credit in Nigeria to factors such as insufficient funds, ineffective extension and supervision, political interference, cumbersome and time consuming loan processing procedures and inadequate or complete absence of financial projection and planning.

The small-holder fattening of cattle and sheep for slaughter has been practiced traditionally in Nigeria for at least 150 years (Craig, 1982).

Livestock development in many African countries have encouraged this type of small-holder credit scheme – recognising that such a scheme can usefully combine an improvement in the income of the rural peasant with an increase in meat production for the nation. Examples include the Graziers Scheme, operated by the Cattle Financial Company in Zambia; the Cattle Fattening Scheme in the Lilongwe Land Development Program in Malawi; the Emboncle Paysanne in Mali and a small-holder Cattle Fattening in Niger (Workle, 1979).

The World Bank Project Completion Reports (PCRs) Livestock Projects recently completed in Senegal, Central African Republic, Zaire (Ituri) and Zambia Small-Holder Dairy, all show acceptable financial and economic rates of returns to the livestock producers through the credit scheme (Craig, 1982). The World Bank Livestock Development Projects in Sub-Saharan African in the late 1960s and the 1970s were generally unsuccessful (Projects in Sub-Saharan Reports, 1980). In 1985, the European Economic Department in its reports, "Small-holder Dimension of Livestock Development" attributed past failures of such projects to:-

(1) Overall macro-economic constraints of pricing and exchange rate controls.

(2) Inappropriate technology introduced with inadequate understanding of the local conditions, and

(3) Weak government institutions.

White (1987), in "Herd Reconstitution: the role of credit among the Wodagbe Herders in Central Nigeria" had pointed out that the rural credit systems are very expensive and problematic. Craigs (1982), supported the views expressed by the two authors mentioned and went further to advise that an evolution of workable procedures for the selection of beneficiaries, technical supervisions, the logistics of input supply, credit accounting information, debt collection and liaison with the relevant institutions required greater attention and skilful management.

In the mid 1970, the World Bank withdrew from lending to unsuccessful livestock activities like parastatal ranching and expanded the introduction of those technologies which were proven to be successful (World Bank Report, 1983). According to this report, the small-holder Fattening Scheme which is a strategy of integrating crop and livestock production was proven successful.

2.3.1.1 First Livestock Development Project

In 1974 the Federal Government of Nigeria obtained a loan of US $21.00 million from the International Bank for Reconstruction and Development (IBRD) – World Bank – to execute the First Livestock Development Project (FLDP). The main objective of FLDP was to increase the national beef production through the provision of credit facilities, improved technical and

extension inputs, and infrastructure developments to the livestock farmers. The credit scheme was said to be successful where it was implemented (PCR, World Bank, 1985). Craig (1982) stated that the positive attitude of both the Federal Government of Nigeria, the NACB and the commercial Banks "suggested that the expansion of the scheme helped the national efforts towards increasing beef supply". Craig (1985), has traced the genesis of the Second Livestock Development Project and its focus on the small-holder livestock farmer.

2.3.1.2 Second Livestock Development Project

The credit component of the SLDP concentrates mainly on the smallholder cattle/sheep/work-oxen models, the objective being to increase livestock production through better nutrition and animal health, thereby increasing the farmers income and improve their living standard (World Bank,1986). In addition, it was to encourage a variety of sectoral reforms already endorsed by the Federal Government, in particular through: (a) shifting emphasis towards support of small traditional producers; (b) utilizing the private sector as instruments of production and input supply; (c) introducing full cost recovery of farm inputs and veterinary supplies; and (d) establishing a livestock sectoral planning capacity. To achieve these objectives, the project consisted largely of the following components: (a) small-holder credit for the purchase of farm inputs (32%) and project management and support services (58%). These policy objectives were

consistent with promoting Nigeria's agricultural development in general, and that of the livestock sub-sector in particular (World Bank, 1996).

The small-holder livestock credit schemes, the major vehicle for reaching small-holder livestock producers, was considered 53% successful (ICR, World Bank, 1995). Over 25,000 farmers, who were beneficiaries of the livestock credit, were trained intensively in new technologies for supplementary feeding of livestock for fattening. As at December, 1995, a total of about N180 million, representing 25,000 loans (compared with redesign target of 30,055) was disbursed. Most of the loans (70%) were for cattle fattening. Daily weight gains averaged 365 grams/day/head of cattle (or 60kg./head fattened) compared with the Staff Appraisal Report, SAR, estimate of 600 grams/day/head. Through the livestock credit component, the project stimulated directly the incremental production of about 6995 tons of meat and 881,880 dozen of eggs. The loan recovery rate stood at about 80% (compared with SAR target of 85%), (World Bank, 1995).

The distinction between "performance" and "achievement" is important in that a project may perform well in the sense of meeting its targets during the disbursement period but still not achieve its ultimate objectives. The material on which this study was based, did not permit a systematic assessment of achievements and hence the focus of the analysis was on the assessment of performance of the credit schemes. The study provided

sufficient evidence on the performance of the schemes for the correction of future design, preparation and appraisal.

Previous efforts to improve on the management of the scheme had been unsuccessful because the problems were not properly identified. It is in view of this that a multidimensional approach was adopted in this study for an in-depth research and analysis to identify the problems hindering successful implementation of the scheme, with a view to coming up with a model that will greatly improve the management of the scheme.

This study, therefore, reviewed the performance of the Second Livestock Development Projects (SLDP) in general and the small-holder credit fattening scheme in particular, by carrying out the relevant analyses, including financial and economic evaluation. Other analyses include the nature and severity of problems encountered by the project during implementation. Proposals are made for changes in techniques and approaches to project preparation which could contribute to improved performance in future.

2.4 TOOLS OF PROJECTS APPRAISAL

Gittinger (1982) defines ***Appraisal*** as an analysis of a proposed investment to determine its merit and acceptability in accordance with established decision criteria. Carpenter (1976) evaluated these

acceptance criteria for the purpose of ranking alternative use of available funds. In doing this, the decision-maker is faced with the problems of:

1. Choosing which projects to engage in and then choose the optimal scale for each one or
2. First choose the optimal scale for each project and then the best alternative(s) among these projects or
3. More frequently, decision-makers simply accept or reject pre-designed projects with little or no evaluation of the optimal scale. Carpenter, also added what he called 'initial criteria' in addition to the criteria for investment decisions listed above. These are the :-
    i. Political feasibility;
    ii. Physical feasibility;
    iii. Possession of the cooperation of all parties involved; and,
    iv. That the projects do not exceed the budgetary capacity, either for the life of the project or for any single year.

Once it is ascertained that the project meets these initial criteria, it may be evaluated either on its own or in comparison with other project proposals within its sector, in this case the agricultural sector.

A number of tools have been used by the financing agencies, including the FAO, the World Bank, etc., in appraising projects. Some of these are discussed below:

2.4.1 The Payback Method:

The payback method is given different names by different authors, including payback period, pay-off period, capital recovery period and cash recovery factor. It is defined as the number of years required for the stream of cash-flows generated by an investment to equal the original cost of that investment. Lumpy (1984) supports the use of this method as a guide to investment decision making in two ways: (a) in accepting a project if the payback of an initial investment outlay is obtained within a predetermined time; and (b) when a comparison is required of the relative desirability of several mutually exclusive investments. In the latter case, projects can be ranked according to speed of payback with the fastest paying back project being the most favoured.

The payback period is quick and simple to compute and is readily understood by management. The speed with which investment costs are recovered, as conveyed by this method, could become a major consideration for enterprises with limited availability of funds. Furthermore, the emphasis on speed or return falls in line with management's wish to avoid or minimize risk.

However, five fundamental problems arise with this method when appraising agricultural projects (Selvavinayagam,1991)

i. The method ignores cash-flows occurring after the payback period, thus exposing the analysis to some doubt, in ranking projects with varying cash-flows within and beyond payback period.

ii. It fails to allow for the timing of cash-flows by treating cash-flows in all years as equally important, although this difficulty can be overcome by discounting the cash-flows to the 'present value'.

iii. The cash-flow used in this method is the figure of annual profit before tax and depreciation. Normally, profit after tax but before charging depreciation, is treated as the relevant cash-flow for this method.

iv. The method favours projects having higher cash-flows in early years. However, many projects cash-flows are slow to start, for a number of reasons, which include gradual build-up of production, impact of marketing effort and phasing of development expenditure.

v. Risk assessment is not considered when estimates of cash-flows are likely to be less reliable in the future. The payback method assumes that all cash-flows are equally certain.

This method has another problem, especially in public sector analyses, that is, it is short-sighted. In public, as well as the private sector, such shortsightedness will have an adverse effect on long range planning and research and development programmes. In agricultural project appraisals, such an approach would have a disastrous effect on development of agro-chemicals, including drug

therapeutics where several years are needed, once a product has been developed, for it to be safety-tested (Carpenter, 1976). In private industry, this problem of short sighted actions has become evident in the U.S. auto industry as confirmed by Lewis, (1982) that, "For decades General Motors has used investment criteria requiring paybacks within five years". This has forced it to change its production systems by tinkering with old plants, thus missing opportunities for large-scale technological change.

Despite these disadvantages, the payback method remains one of the more popular agricultural projects appraisal methods. Nevertheless, it cannot really be considered as a particularly sound investment technique because of its major defect; its inability to report the expected return over the whole life of an investment, through its disregard of the investment's post-payback period floors. Selvavinayagam (1991), however, is of the opinion that the payback method in agricultural appraisals, can still provide a useful 'rule of thumbs' check for the various minor investment decisions that enterprises have to make, which are financially too small to justify effort in using more complex but theoretically more correct appraisal methods. At best, he contended, it can be useful only as an initial screening device before more appropriate methods are applied. Dixon (1994), argued that payback helps to allow for risk and uncertainty. This will make sense when investing agricultural projects so that the investors

will try and recover the initial outlay as soon as possible in a politically and/or economically unstable environment or if the investment is in a market where rapid technological advances quickly make state-of-the-art products obsolete. On the other hand, it could be argued that projects which have a short payback period may be relatively risky. A short payback requires a high rate of return on investment, and high rates of return are often associated with a relatively high degree of risk. The payback method is also extremely useful in periods when interest rates are relatively high and there is pressure to reduce borrowings.

2.4.2 Accounting Rate of Return:

The accounting rate of return (ARR) is another traditional measure of investment appraisal; normally expressed as the ratio of the average annual profit generated over the life of the investment to the average annual capital employed, and stated as a percentage. The ARR calculation serves as an investment decision guide in two ways (Selvavinayagam, 1991):

1. It provides a straightforward 'accept or reject' decision by providing a rule that projects may only be accepted if their ARR exceeds some 'target' rate of return;
2. Where projects have to be ranked in order of preference, indication of a higher ARR by a project would suggest a greater preference for it to be accepted.

The method is superior to the payback period because it is not only relatively quick and easy to calculate, but also produces a percentage rate of return which is most familiar to financial management of companies (Lumby, 1984). It also overcomes the important defect of the payback method by taking account of the profit flows over the whole of a project's life. Moreover, management's success or failure in taking financial decisions in aggregate is judged among other things on the basis of the company's ARR. Therefore, it would appear sensible that individual investment decisions should be taken on the basis of that same appraisal technique. However, there are a number of disadvantages (Dixon, 1994):

i). The most important defect is that the ARR fails to recognise the time value of money and concentrates on a project's financial flows in accounting terms rather than cash flows.

ii). The concept of ARR is ambiguous when applied to agricultural projects. There exist many variations, with little general agreement, on how capital employed should be calculated or on how profit should be defined.

iii). The method measures the worth of a proposed investment in percentage terms. It is therefore unable to take into account the financial size of a project when alternatives are compared.

iv). Although the technique allows for profit flows over the life of a project, it ignores the possibility of differing length of lives. When

comparing alternative projects, a difference in length of life may be of critical importance for a number of reasons, e.g. uncertainty, liquidity.

The review of the two traditional methods above shows that, apart from the possible exception of the appraisal of relatively small, short-lived investments, neither method has sufficient advantages to offset its disadvantages, and particularly the failure of both to allow for the time value of money is a significant weakness.

2.4.3 The Discounted Cash-flow Approach:

Although the two traditional method of appraisal (Payback and ARR) provide uncomplicated information useful in decision-making, there are too many significant flaws associated with them for their use to be wholly satisfactory. They do not take into account all the factors which are relevant when making investment decisions. Unless their deficiencies are fully recognized, they may mislead managers into making decisions which are far from optimal. What is needed then is a technique which takes into account the timing of all cash flows which result from investment decision. Muirragui, (1993) confirmed these statements by showing that the measures of un-discounted project benefits fail to recognize that investing in any project means tying up funds that might have been used to earn income elsewhere. They also fail to recognize that project earnings could

be reinvested to produce more income during the remainder of the project period. This is because money has a time value. Harvey (1983), supported this position that, given the time value of money, it is clear that money at different points in time is not directly comparable. For a proper comparison of the value of money at different points in time, it is clearly necessary to reduce all these time-profiles to a single figure. To do this, two main measures using the discount cash-flow method are used. These are the Net Present Value (NPV) and the Internal Rate of Return (IRR). They are the investment appraisal tools in agricultural projects which take into account the concept of the time value of money.

2.4.3.1 Net Present Value (NPV):

The NPV method consists of discounting all future cash flows to the present value by means of some appropriate rate of interest. The rate of interest to be used should reflect the minimum rate of return which is acceptable to the firm, for a given investment (Lumpy, 1984). It works on the simple but fundamental principle that an investment is worth undertaking only if the present value of the cash inflows is at least equal to, if not greater than, the present value of the cash outflows arising from an investment, that is, enterprises should make investments in projects with a zero or positive net present value. Selvavingayagam (1991) listed the quantitative data required to carry out this method as:

- the initial cost of the project

- the cost of supplying the capital required or the minimum rate of return acceptable
- the value of the future cash-flow in each period
- the life of the project
- the discount factors.

NPV is the criterion which is most often recommended and used in agricultural sectors but excluding animal health projects (Carpenter, 1976). Carpenter, however, points out problems in using NPV criterion alone. Alone, it does not permit the influence of the projects size to be included. For example, the NPV of a N10 billion project when compared with that of a N1 million project, if both are economically feasible (NPV > 0), would invariably be selected over smaller projects. It is this inability of the NPV criterion to consider the size commitment of the project which causes some individuals to use additional criteria. An additional criterion like the Benefit-Cost Ratio, could be used but it has the reverse bias in its tendency to favour small projects over the larger ones. He advised that, in addition to using an additional criterion such as the B/C ratio, if the NPV is chosen, a sensitivity analysis should also be performed, for example by measuring the impact of incorrectly estimating the benefits or, costs by +/- 10%. In this way, projects which may have been favoured merely because of their size will be re-examined according to their robustness.

2.4.3.2 The Internal Rate of Return:

The Internal Rate of Return (IRR) is an alternative approach used in making investment decisions, which also takes into account the time value of money. It represents the return (in present terms) earned on an investment over its economic life. Lumpy (1984) in 'Investment Appraisal', defines it as that interest rate which, when applied to the cash-flows generated by an investment, will equate the present value of the cash inflows to the present value of the cash outflows. That is, it is the discount rate which will cause the NPV of an investment to be zero. It does not, essentially, produce new information compared with the NPV. Lumpy, (1984) stated that, 'it may be questioned whether it is truly a method of appraisal at all or just an arithmetical result'. The mathematics underlying the discounted factors are based on the assumption that any cash flows in future years will occur in lump sum at the year end. However, initial investment outlay is assumed to occur at the beginning of first year of the project. Once calculated, the IRR may be compared with the "cost of capital" or the return achieved by the private sector. The selection criterion when using the IRR is to accept those projects which have an IRR exceeding the cost of capital. When funding is limited, as is common with agricultural projects, they are ranked and selected according to their IRR (Carpenter, 1976), those with the higher IRR are given preference. The IRR criterion is highly recommended in agricultural projects although sparingly in evaluating animal health projects. It is the measure which the

World Bank uses for practically all its economic and financial analyses for projects, as do most other international financing agencies (Gittinger, 1982).

One problem associated with using IRR in the past is the tedious calculation involved to obtain an answer. This tedium has exacerbated to an extreme when individual wanted to re-evaluate a project after performing a sensitivity analysis on one or more of the assumptions. However, with the availability and use of high speed computers, the calculation of IRR is less cumbersome. A second problem is the possibility of having a unique IRR arising from polynominal solutions.

The IRR may be used to rank projects of relatively similar size within a sector, while B/C ratio and NPV criteria may be used to tell whether or not individual projects are acceptable. IRR therefore provides a good measure of the desirability of a project when all of the alternative investment possibilities are of the same order of magnitude. However, when the alternatives are of differing sizes the IRR is not so useful.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 SOURCES AND TYPES OF DATA

Data were collected from two sources for this study, namely, the secondary and primary sources.

3.1.1 Secondary Data

Secondary data from existing Small-holder Credit Scheme (SCS) Database of the National Livestock Projects Division (NLPD), Kaduna and other literature that are relevant to the livestock credit schemes in Nigeria were used.

Information were collected on trends in prices of livestock inputs and outputs by type of livestock during the period of the study. Data for the streams of cost and benefit for the various enterprises, including livestock production were sourced.

3.1.2 The primary Data

The primary data were generated using a survey approach. Information were obtained using two sets of questionnaires. One set of questionnaire was used to gather information from scheme beneficiaries, while the second set was administered on officials of NACB and NLPD at zonal, state and district levels. The questionnaires contained both "structured"

and "unstructured" questions to allow the respondents express their true opinions on some of the issues.

3.2 SAMPLING PROCEDURE AND SIZE

The 19 northern states and the Federal Capital Territory, (North Western and North Eastern), were classified into two zones, where these two schemes are most popular. For the cattle and sheep fattening schemes, a sample size of 70, and 30, of the beneficiaries in each category were selected respectively. The sizes were determined based on the number of loans disbursed to each component since inception of the schemes and also on the accessibility of the beneficiaries.

The data bank of the credit scheme at the NLPD Headquarters in Kaduna, which contain the list of beneficiaries of the scheme on local government, state and zonal basis was used as the sampling frame. From this, the number of beneficiaries for each scheme was selected, using simple random sampling procedure.

3.3 DATA ANALYSIS

Simple descriptive statistics, financial and economic analyses were used.

3.3.1 Descriptive Statistics

The social benefits and costs were analysed using descriptive statistics. The variables such as family labour, family income, incentives from government, and intangible benefits, like increase in livestock trade and

increment in employment, were described using frequency tables and ranking.

Others like loan disbursement and repayment, and procurement were also analysed using the descriptive statistics.

3.3.2 Financial Analysis

3.3.2.1 Gross Margin Analysis

Gross Margin (GM) is the difference between the Gross Income (GI) and the Total Variable Cost (TVC):

$$GM = GI - TVC$$

The **Gross Income** is made up of sales of animals, loan, equity shares; while **Total Variable Cost** comprise of stock purchase, operating costs (supplementary feeds, medication, salt lick, identification tag etc.), loan repayment, interest payment).

This is used to determine the profitability of the enterprises of the schemes to the farmer at the farm level. It is also used to evaluate the efficiency of an individual enterprise which enable comparison to be made between enterprises. This tool is appropriate here because fixed capital is negligible in the two small-holder credit schemes.

3.3.2.2 Economic Analysis

In order to compare the planned financial and economic projections with the actual and to identify the implementation gap, two investment analysis techniques that take time into account the wider implications of the livestock credit schemes for the society and give conceptually "better" answers were used.

Net present value (NPV): It is a cash flow derived by subtracting annual gross incremental costs from the corresponding annual gross incremental benefits. The sum of the annual cash flow resulting over the project life is the Total Cash Flow or Net incremental Benefit of the project. This is represented by the following model:-

Cash Flow = Annual gross incremental benefits minus Annual Gross incremental costs;

Total Cash Flow (Net Incremental Benefit) = Sum of cash flow, over project life;

OR

$$NPV = \frac{CF_1}{(1+R)^1} + \frac{CF_2}{(1+R)^2} + \ldots \frac{CF_n}{(1+R)^n} - CI$$

where, CF = Cash Flow

CI = Cost of Investment

n = years of project life

R = discount rate of investment

Internal (Economic) Rate of Return (IRR): It is the interest rate at which the net present value of the project is equal to zero. The model for calculating IRR is:

$$\text{IRR} = \{\text{lower int. rate}\} + \{\text{higher int. rate minus lower Interest rate}\} \times \frac{\text{NPV at lower int. rate}}{\text{Total absolute difference between NPV.}}$$

4.1.1 DEMOGRAPHIC CHARACTERISTICS

Occupational pattern

From the survey, it was observed that livestock rearing and cr
are the major form of occupation of the people of the area. Ov
the people interviewed indicated livestock and crop farmin
primary occupation (Table 4.1). Apart from farming, mar
particularly, women engage in other non-agricultural activities
dry season in order to add to the family income. This is also
when most trading activities between the people and traders
parts of Nigeria is commonest.

Table 4.1 Occupational Pattern

Activity	No. of Respondents	Percentage (%)
Crop Farming only	5	5
Crop & Livestock Farming	92	92
Livestock Farming only	2	2
Non-Farm activities	1	1
Total	**100**	**100**

Family Size and Composition

The size of family is an important factor in livestock production, because it determines the manpower available for farm and non-farm activities. An average of 6 members per household was recorded during the survey (Table 4.2). The average household size from the participants survey is relatively large. The large size not only contribute labour for the farming activities but also provide at least 60.8 % of the total man-hour input in the small-holder livestock fattening schemes. The prevailing custom of polygamy among the non-christain groups is one factor responsible for this large size.

About 46.7% of the respondents have an average of 6 family members, while about 18.3% of the families have between 8 - 9 members. Another 12.6% have 5 – 6 members.

There appeared to be surplus labour arisng from large household size, which are able to seek full-time jobs in the non-farm activities such as groundnut oil and cake processing, especially those living near cities and towns.

Table 4.2. : Frequency distribution of respondents by Household size

Size Distribution	No. of Participants	%
2 – 4	18	15.8
5 – 7	24	21.1
8 – 9	55	48.2
10 –12	7	6.1
12+	10	8.8
Total	**114**	**100**

The Age-Group Distribution of Households is further illustrated in Table 4.3. As expected, most of the males who form the household labour are between 30 and 55 years of age accounting for over 80 % of the total family labour input.

About 70% of the participants fall within 31 - 45 years of age. This is the most active population, particularly on the farms; 14% are 46 – 50, while 12.5% are between 51 - 55 years. These are less active people who do less strenuous activities such as sheep and cattle fattening (Table 4.3).

These constitute the young, middle and old farmers' age respectively.

Table 4.3. : Age-Group Distribution of Households

Age– Group	Male	Female	Total	%
Children				
1– 12	24	30	54	7.0
Youth				
13–30	21	19	40	5.2
Adults				
31 – 35	48	52	100	13.0
36 – 40	154	166	320	41.7
41 – 45	83	76	159	20.7
46 – 50	31	28	59	7.7
51 – 55	10	6	16	2.1
56 – 60	5	8	13	1.7
61 +	4	3	7	0.9
Total	**380**	**388**	**768**	**100**

About 60.8 % of the family of those participating in small-holder fattening schemes are males compared to 39.2 % who are females as at the time of the survey. The explanation given for this, is that, the months of January to May, the period the survey was conducted, are regarded as non-farming months, when most of male family members have little to do than occupy their time with livestock activities to look for cash to buy farm inputs for crops.

Educational level of participants.

Table 4.4, shows that the level of education of the participants involved in small-holder livestock fattening schemes ranged from 'no education' at all to post-secondary education. About 7% of the respondents had up to primary school education, 20% had some post-primary education, while

majority (67 %) had no formal education. This low level of education has provided them with little or no choice than to go into some form of trade, farming and small-holder fattening. Education is thus a factor in participation, adoption of innovations, technology use, farm production and income generation (Norman, 1972). Even those who did not go to school (67%) were exposed to some of form of adult and non-formal education.

Table 4.4. : Educational level of participants

Educational Level	No. of Participants	%
No schooling	67	67
Primary school	3	3
Secondary school	8	8
Teachers college	4	4
Tertiary Institution	3	3
Total	**100**	**100**

Source: Field Survey, 1999.

Income

Table 4.5 shows the family receipt among the beneficiaries interviewed. Majority (90.9%) of the cattle fattening population have an average income of above N13,786:00, while those involved in sheep fattening (9.1%), have an average income of N3,233:00.

In the survey areas, about 35% of the members were available for full-time farm work, while about 12% were engaged in supplementary occupations, including food processing, pottery, crafts, building and construction.

Table 4.5. : Costs and Returns of Cattle and Sheep Fattening

Type of Fattening	No. of Respon-dents	Average Cost (N)	Average Receipt (N)	Net Returns (N)
Cattle Fattening	70	32,037	47,383	15,346
Sheep Fattening	30	28,100	52,200	24,100

Source: Field Survey, 1999.

Crop – Livestock Integration

Table 4.6: Beneficiaries and crops produced.

CROP	Estimated quantity Produced (Tonnes) '000	No. of Beneficiaries
Maize	312	186
Millet	203	127
Sorghum	119	**96**
Cowpea	116	**89**
Wheat	64	**69**
Total	**814**	**567**

Source: Field Survey, 1999

This stresses the vital role played by crop production in the determination of effective participation in the livestock small-holder credit schemes. Over

The Pearsons' correlation coefficient, r, is 0.935 which shows positive linear correlation between agricultural crop product participation in small-holder livestock credit schemes. This may m as crop production increases, the number of small-holder livesto schemes beneficiaries in the area also increases. The positive v also confirms the hypothesis that there is a positive relationship crop farming and livestock rearing. The study has shown that th strong relationship between the beneficiaries in small-holder l credit schemes and crop farming.

the schemes is **8008** tonnes. Similarly, under sheep fattening,
valued at N9.3 million were disbursed. With an average weig
sheep fattened of 27kg per head, **699** tonnes of mutton was pro

Table 4.7: Number and Amount of loans Disbursed under th and Sheep Schemes

Item	Estimated	Actual (1996)	% Achievement
No. of Loans Disbursed	18,032	20,502	113.7
Amount of Loans Disbursed	133,861,000	181,400,000	135.5
Amount of Loans Repaid	133,852,000	117,850,899	88.046

Source: NLPD, SCS Databank, Kaduna, 1997

In addition to this, the schemes made available to the market
quantities and high quality of animals that would normally
slaughtered as culled animals (Table 4.8).

Table 4.8: Cattle and Sheep Fattening Loans and Number of Animals Purchased (1988 – 1996).

Year	Total Fatt. Loans	Cattle Fatt Loans	% Cattle Loans	No. of Catt Purch.	Av. No. of Catt. Purch.	Sheep Fatt Loans	% Sheep Loans	No. of Sheep Purch.	Av. No. of Sheep Purch.
1988	1225	1169	95.4	4370	3.7	56	4.6	1535	27
1989	2446	2187	89.4	5181	2.4	259	10.6	2743	10.6
1990	4134	3529	85.4	12618	3.6	605	14.6	11183	18.5
1991	3207	2942	91.7	8940	3	265	8.3	3792	14.3
1992	2924	2665	91.1	6215	2.3	259	8.9	2274	8.8
1993	2852	2623	92	5431	2.1	229	8	3953	17.3
1994	1647	1520	92.3	3360	2.2	127	7.7	1633	12.8
1995	1246	1024	82.2	2048	2	222	17.8	2855	12.9
1996	821	706	86.0	1642	2.3	115	14.0	1479	12.9
			805.57				94.52		
Total	**20502**	**18365**		**49805**		**2137**		**31446**	
	Av.		**89.5**				**10.5**		

Source: NLPD Databank, Kaduna, 1997

These and other non-credit interventions have substantially increased the income of the over 44,340 participating farmers. In addition, 745 (about 3 %) of the farmers who participated in the fattening schemes took the advantage of the complementary relationship between crops and livestock by using the bulls as traction and for transportation of crops and crop residues. An estimated incremental 893.9 hectares of land was cultivated using 96 bulls.

The intention of using the private sector for the supply and distribution of input has not been successful. Nine (48%) of the NLPD management respondents confirmed that the scattered and irregular demand for animal feeds in the rural areas made retailing of these products unattractive. Therefore, the schemes had to depend on the large producers for the

supply of the inputs, and to the various states. The costs of the transportation and handling were, however, borne by the farmers.

The loan repayment by NACB standard was generally considered to be satisfactory. The number of visits by farmers to NACB branches also contributed, to a certain extent, the default observed in this program.

The renewal of loans fell far below the expected target of 80%. Out of the total loans disbursed only 7,246 representing 30% were renewals. About 57 % of the participants attributed defaults to the attitudes of the NACB Branch Managers towards loan recovery drive.

Table 4.9: Incremental Meat Production as a result of the schemes Initiatives

	Performance Indicator	1988	1989	1990	1991	1992	1993	1994	1995	1996	Total
A.	**CATTLE**										
1.	Number of Beneficiaries/Loans	1169	2187	3529	2942	2665	2663	1520	1024	706	18365
2.	Average No. of Animals Issued/loan	3.96	3	3.5	3	2.33	2.06	2.2	2	2.3	2.87
3.	No of Production Cycles	1	1	1	1	1	1	1	1	1	1
4.	Total No. of Animals Fattened/Produced	4370	5181	12618	8940	6215	5431	3360	2048	1642	49805
5.	Dressed Wt. Equivalent(Kg)	159.5	160	159.5	159.5	159.5	159.5	159.5	159.5	159.5	159.5
6.	Total Meat Production(Tonnes)	738	921	1970	1408	990	862	533	327	259	8008
B.	**SHEEP**										
1.	Number of Beneficiaries/Loans	56	226	776	215	287	243	126	222	115	1929
2.	Average No. of Animals Issued/loan	27.41	12	14.41	17.64	7.92	16.27	12.96	17.8	14	15.54
3.	No of Production Cycles	1	1	1	1	1	1	1	1	1	1
4.	Total No. of Animals Fattened/Produced	1535	2744	11182	3793	2273	3954	1633	3952	1610	29968
5.	Dressed Wt. Equivalent(Kg)	22.5	23	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
6.	Total Meat Production(Tonnes)	35	71	196	105	46	84	37	89	36	699

Source: Computed from NLPD Databank, Kaduna, 1997

Table 4.9: Incremental Meat Production as a result of the schemes Initiatives

	Performance Indicator	1988	1989	1990	1991	1992	1993	1994	1995	1996	Total
A.	**CATTLE**										
1.	Number of Beneficiaries/**Loans**	1169	2187	3529	2942	2665	2663	1520	1024	706	18365
2.	Average No. of Animals Issued/loan	3.96	3	3.5	3	2.33	2.06	2.2	2	2.3	2.87
3.	No of Production Cycles	1	1	1	1	1	1	1	1	1	1
4.	Total No. of Animals Fattened/Produced	4370	5181	12618	8940	6215	5431	3360	2048	1642	49805
5.	Dressed Wt. Equivalent(Kg)	159.5	160	159.5	159.5	159.5	159.5	159.5	159.5	159.5	159.5
6.	Total Meat Production(Tonnes)	738	921	1970	1408	990	862	533	327	259	8008
B.	**SHEEP**										
1.	Number of Beneficiaries/Loans	56	226	776	215	287	243	126	222	115	1929
2.	Average No. of Animals Issued/loan	27.41	12	14.41	17.64	7.92	16.27	12.96	17.8	14	15.54
3.	No of Production Cycles	1	1	1	1	1	1	1	1	1	1
4.	Total No. of Animals Fattened/Produced	1535	2744	11182	3793	2273	3954	1633	3952	1610	29968
5.	Dressed Wt. Equivalent(Kg)	22.5	23	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
6.	Total Meat Production(Tonnes)	35	71	196	105	46	84	37	89	36	699

Source: Computed from NLPD Databank, Kaduna, 1997

An equivalent of 49,805 heads of cattle were purchased. With an average weight gain per head of 60kg, the estimated beef produced as a result of the schemes is 8008 tonnes, while the estimated mutton produced is 699 tonnes (Table 4.9).

The SAR had based its analysis of benefits on 4 heads of cattle per loan. While this was almost achieved at inception, this has progressively declined to an average 2.7 heads per loan in 1996. It was anticipated that the schemes would produce incremental output of 8,968 tonnes of meat from cattle and sheep fattening schemes alone by 1996 (i.e. PY10). This anticipation is predicated on efficient input delivery systems and improved animal husbandry practices. However, the actual by PY10 was **8,707** tonnes, a maginal decrease of 3%. This is so because given the higher level of domestic inflation due to the N*aira* devaluation arising from the macro-economic policies; including the Structural Adjustment Programme, SAP, introduced in 1986, the loan amounts could only purchase limited number of stock.

4. 2. 2 Financial and Economic Analysis

The essence of re-estimating the economic rate of return and other financial parameters at schemes' completion is to ascertain whether their implementation did produce the effects as

anticipated at appraisal. The extent to which these re-estimates compare with appraisal estimates is an indication of the schemes' performance.

Using the 1996 data, the level of profitability of the various enterprise were compared with the appraisal calculations (**Table 4.10**). All the enterprise types – cattle and sheep production show favourable returns to equity (owners/stakeholders). The sheep production (**Table 4.10 (b)**) returned a higher net cash benefits to equity of N12,300 and net returns to labour of N198. Cattle (**Table 4.10 (a)**) had a net cash benefit to equity of N3,963 and to labour of N124. This is compared with the net cash returns of N1,500 and N600 for cattle and sheep respectively.

The small holder credit scheme would enable the livestock farmer to improve on his productivity and expand his level of stock. This anticipation is predicated on efficient input delivery systems and improved animal husbandry practices. Additional stock purchased under the scheme constitute incremental to normal traditional stock. This is the basis of the analysis.

Table 4.10 (a): Cash Flow Analysis of Cattle Fattening Credit Scheme

S/N	Item	Unit	Quantity	Unit Cost(N)	Value (Naira)
1	Cattle Sales	Head	2	13000	26000
2	Loan	1	1	10000	10000
3	Equity	1	1	11383	11383
	Total Inflow				47383
	CASH OUTFLOW				
1	Stock Purchase	Head	2	9000	18000
2	Operating Costs				
	-Supplementary Feeds		1	1071	1071
	-Medication		1	1926	1926
	-Salt Lick		1	440	440
3	Loan Repayment		1	10000	10000
4	Interest Payment(18%, 4mnts)		1	600	600
	Total Outflow				**32037**
	Net Cash Balance				15346
	Net Cash Balance to Equity				3963
	Net Return to Manday(124 Days)				124

Deflated to 1986 prices (Source: NLPD Databank, Kaduna, 1997)

Table 4.10 (b): **Cash Flow Analysis of Sheep Fattening Credit Scheme**

S/N	Item	Unit	Quantity	Unit Cost(N)	Value (Naira)
1	Sheep Sales	Head	8	3800	30400
2	Loan	1	1	10000	10000
3	Equity	1	1	11800	11800
	Total Inflow				52200
	CASH OUTFLOW				
1	Stock Purchase	Head	8	2600	20800
2	Operating Costs				
	-Supplementary Feeds		1	1100	1100
	-Medication		1	400	400
	-Salt Lick		1	200	200
	-Molases		1	300	300
3	Loan Repayment		1	5000	5000
4	Interest Payment (18%, 4mnts)		1	300	300
	Total Outflow				28100
	Net Cash Balance				24100
	Net Cash Balance to Equity				12300
	Net Return to Manday(122 Days)				198

Deflated to 1986 prices (Source: NLPD Databank, Kaduna, 1997)

Only beef production is considered as traded in this analysis. All other products are taken as non-traded. For beef, import parity price has been calculated (**Table 4.11**). The economic prices of the non-traded product - mutton have been determined by shadow pricing with the standard conversion factor of 0.85. Costs of inputs are based on average value per stock. To reduce to 1986 prices, beef price has been deflated with world Consumer Price Index, CPI, while non-traded commodities were deflated with domestic CPI.

For costs, Bank financing of the various components has been taken as proxy for foreign exchange components. The local component has been shadow priced and thus reduce to economic costs. Foreign exchange components were deflated to 1986 prices using MUV index while the domestic components were deflated with domestic CPI.

Table 4.11: Import Parity Price, Beef

Item	1988	1989	1990	1991	1992	1993	1994	1995	1996
Current Dollars(c/kg)	252	257	256	266	244	253	256	276	288
World CPI Deflator	1	0.94	0.86	0.84	0.8	0.83	0.87	0.85	0.88
1986 Constant Prices	252	242	220	223	195	210	223	235	253
$/tonne	2520	2416	2202	2234	1952	2100	2227	2346	2534
Naira Exchange rates	4.284	7.38	7.95	9.82	18.8	21.996	21.99	21.99	21.99
Naira Equivalent (N/Tonne)	10796	17829	17503	21942	36698	46189	48976	51589	55731
Add Handling Charges/tonne	85	128	170	213	255	298	425	510	552.5
Add Transport to Reference Mkt	383	383	765	765	1148	1530	1530	1530	1912.5
Total	11263	18339	18438	22919	38100	48017	50931	53629	58196
Add Mkting Costs (10 of Overhead) Reference Mkt Price(N/Tonne)	1126	1834	1844	2292	3810	4802	5093	5363	5820
	12389	20172	20281	25211	41910	52819	6024	58991	64016

Source: Computed from NLPD Databank, Kaduna, 1997

The economic net benefits of the various enterprises based on the values of production and inputs are given in **Table 4.12**. These are mainly for the credit components, for which data are available.

Table 4.12 (a): Economic Analysis of Net Benefits at Enterprise Levels):Cattle Enterprise

Year	Prodn. (Tons)	Econ. Price (N'000)	Benefit (N'000)	Inputs (N'000)	Net Benefit (N'000)
1988	697	12.4	8642.8	1458.57	7184.23
1989	827	20.2	16705.4	1699.03	15006.37
1990	2012	20.3	40843.6	4710.13	36133.47
1991	1428	25.2	35985.6	6278.64	29706.96
1992	990	41.9	41481	4102.5	37378.5
1993	875	52.8	46200	6050.2	40149.8
1994	547	56	30072	3623.77	26448.23
1995	485	65.2	31622	4152.12	27469.88
1996	432	80	34560	5206.34	29353.66

Source: Computed from NLPD Databank, Kaduna, 1997

Table 4.12(b): Economic Analysis of Net Benefits at Enterprise Levels:

Sheep Fattening Enterprise

Year	Prodn. (Tonnes)	Econ. Price (N'000)	Benefit (N'000)	Inputs (N'000)	Net Benefit (N'000)
1988	35	14	490	88.15	401.9
1989	62	10.92	677	130.83	546.2
1990	252	13.04	3286.1	607.61	2678.5
1991	85	9.92	843.2	387.16	456
1992	51	9.48	483.5	218.62	264.9
1993	89	21.72	1933.1	634.75	1298.3
1994	37	26.5	981.2	255.99	725.3
1995	42	31.28	1313.8	268.86	1044.9
1996	32	35.76	1144.3	310.23	834.1

Source: Computed from NLPD Databank, Kaduna, 1997

The re-estimated ERR and NPV are given in **Tables 4.13 (a) and**

Table 4.13 (a): Economic Analysis (All Credit Schemes)

Project Year	Total Project Cost	Credit Cost	Net Benefit Cattle	Net Benefit Sheep	Total Benefit	Net Projec Benefi
1988	30024.53	9007.359	7184.23	401.85	7586.08	-1421.2
1989	23789.05	7136.715	15006.37	546.21	15552.58	8415.8
1990	29446.04	8833.812	36133.47	2678.47	38811.94	29978.
1991	24082.87	7224.861	29706.96	456.04	30163	22938.
1992	37613.76	11284.13	37378.5	264.86	37643.36	26359.
1993	37641.86	11292.56	40149.8	1298.33	41448.13	30155.
1994	41924.95	12577.49	26448.23	725.25	27173.48	14596
1995	84094.69	6288.743	26448.23	725.25	27173.48	20884.
1996	72933.76	6288.743	26448.23	725.25	27173.48	20884.
1997	20962.48	6288.743	26448.23	725.25	27173.48	20884.
1998	20962.48	6288.743	26448.23	725.25	27173.48	20884.
1999	20962.48	6288.743	26448.23	725.25	27173.48	20884.
2000	20962.48	6288.743	26448.23	725.25	27173.48	20884.
2001	20962.48	6288.743	26448.23	725.25	27173.48	20884.
2002	20962.48	6288.743	26448.23	725.25	27173.48	20884.
2003	20962.48	6288.743	26448.23	725.25	27173.48	20884.
2004	20962.48	6288.743	26448.23	725.25	27173.48	20884.
2005	20962.48	6288.743	26448.23	725.25	27173.48	20884.
2006	20962.48	6288.743	26448.23	725.25	27173.48	20884.
					NPV =	11947
					ERR =	69

Table 4.13(b): Economic Analysis (Cattle and Sheep Fattening Schemes)

Project Year	Project Cost	Cattle & Sheep Cost	Net Benefit Cattle	Net Benefit Sheep	Total Benefit	Net Project Benefit	Cummulative Benefit
1988	29899.4	9007.36	7184.23	401.85	7586.08	-1988.92	-11563.92
1989	23716.3	7136.72	15006.37	546.21	15552.58	-8163.67	-19727.59
1990	29333	8833.81	36133.47	2678.47	38811.94	9478.92	-10248.67
1991	23982.4	7224.86	29706.96	456.04	30163	6180.62	-4068.05
1992	37481.2	11284.13	37378.5	264.86	37643.36	162.16	-3905.89
1993	37281.7	11292.56	40149.8	1298.33	41448.13	4166.43	260.54
1994	41471.3	12577.49	26448.23	725.25	27173.48	-14297.77	-14037.23
1995	42150.3	13261.21	26448.23	725.25	27173.48	6211.01	-7826.22
1996	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	-1615.22
1997	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	4595.79
1998	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	10806.79
1999	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	17017.8
2000	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	23228.8
2001	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	29439.81
2002	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	35650.81
2003	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	41861.82
2004	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	48072.82
2005	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	54283.83
2006	20962.5	6288.74	26448.23	725.25	27173.48	6211.01	60494.83
					NPV =	N5,317	
					ERR =	16	

On the basis of the above scenarios, the re-estimated ERR is 16 % at the NPV of N5,317:00, using 12% discount factor projected to 20 years (for cattle and sheep only). The marginal change in the re-estimated ERR is an indication of the low level of investments in other components of the credit schemes.

The Staff Appraisal Report, SAR, had estimated the overall Economic Rate of Return (ERR) to be 20%, while the calculated

ERR (All Credit Schemes) is 69%, with the Net Present Value (NPV) of N119,472:00.

4.3 NON-FINANCIAL PERFORMANCE

4.3.1 Project Design:

In general terms, the survey among project staff revealed that the performance of the Bank in the identification, appraisal and supervision of the project was satisfactory. However, at the preparation stage, Nigerian national participation was minimal. The project was, however, later redesigned in December 1989 by a team of experienced bank staff in close collaboration with senior management staff of the project and other divisions of Federal Department of Livestock & Pest Control Services (FDL & PCS). With the experience gained at that time, the redesign was more thorough in that implementation responsibilities were delegated to the states through the Agricultural Development Programmes, ADPs.

4. 3. 2 Fund disbursement by the bank:

The record at the NLPD shows that a total of 24 US$ million was disbursed for the small-holder credit schemes as at December, 1996 instead of the target of 34 US$ million. This represent about 70.5% of the appraisal estimate. The reason given for this low level of draw-down was primarily due to the low level of

counterpart funding between the fourth and fifth years of implementation. The level of counterpart funding during the early years of the project was quite encouraging as it reached about 75% of the appraisal budget in 1989. Between 1991 to 1993, the levels of counterpart funding dropped to as low as 51% in 1993. Even when the counterpart funding had been approved, delays were always experienced in the release of the funds by the Federal Ministry of Finance. The Banks level of financing of the small-holder fattening schemes was, however, found to be adequate.

The NLPD and NACB management confirmed that the Bank supervision of project implementation was satisfactory on the whole. At the end of the project, a total of 18 Bank supervision missions were carried out as against 10 planned.

4. 3. 4 Borrowers Performance:

The performance of the schemes was about 55%, which on the whole is considered satisfactory. This shows that both counterpart funding and overall schemes implementation and management were above average. However, the inadequate and untimely release of counterpart funding greatly slowed loan draw-down at the initial stage of the project. Furthermore, the massive devaluation suffered by the naira also increased the burden of counterpart funding of the Nigerian government by the year 1993.

The stability of project management leadership has greatly facilitated project implementation and achievement. That is, only one Project Manager was removed throughout the life of the project. However, it was observed that the restriction on levels of expenditure imposed on project management by government, although done in good faith, had at times slowed procurement and, therefore, loan draw-down.

4.4 MAJOR CONSTRAINTS OF THE SCHEMES.

The Second Livestock Development Project (SLDP) became effective at a time when macro-economic structural changes, including SAP, were being introduced in the economy. The Federal Government counterpart funding requirement did not match the massive devaluation and the excessive inflation in the economy. Consequently, loan draw-down was far below appraisal estimate in the first three years of implementation. In addition, the inability of NACB to agree with the state-on-lending agencies during the early years contributed to the initial low draw-down of the loan.

Weak institutional linkages with state institutions like Agricultural Development Programmes, the State Ministry of Agriculture etc. slowed down project implementation greatly since NLPD was the

main implementer of the schemes in all the states of the federation.

By identifying these constraints, it was possible to determine the type of assistance to provide for the schemes in the country as a development strategy that can encourage livestock production and consequently farmers' income in rural areas. Expectedly, capital ranked highest, 70 (37.9%), followed by livestock feeds 40 (21.6%), Poor pricing 28 (15.1%), Transportation cost 21(11.3 %), labour 15 (8.1 %) and market accessibility 11(5.9 %). A potential livestock fattener may have in hand viable project which he or she is capable of undertaking, but may be unable to carry it out because of lack of the necessary capital. Similarly, inadequate livestock feeds in the rural areas seems to be pre-eminent among other problems, including technological and marketing being faced by beneficiaries in the livestock sub-sector.

In this section, therefore the constraints to effective performance of the livestock credit schemes implementation in Nigeria are examined in Table 4.14.

Table 4.14: Percentage Ranking of Constraints to Small holder Credit Schemes

S\No.	Constraints	Frequency	(%)	Rank
1	Lack of Capital	70	37.8	1
2	High cost of Livestock Feeds	40	21.6	2
3	Low prices of products	28	15.1	3
4	High cost of transportation	21	11.3	4
5	High cost of labour	15	8.1	5
6	Market availability	11	5.9	6
	Total	185	100	

Source: Field Survey, 1999 (Multiple response)

4.4.1 Farmer's Constraints

Capital

Capital is the most important factor of production in livestock fattening program. This is because all activities require certain basic inputs, many of which will have to be bought. The small-holder fattener will need capital to purchase livestock, livestock feeds veterinary drugs and inputs, hire extra labour, etc. The results of the survey showed that most of the participants of the credit schemes normally get their working capital from the sources listed in Table 4.15.

Table 4.15: Sources of Capital

Source	%
Borrowing (All Sources)	57
Sales of farm produce (livestock inclusive)	31
Sale of goods	8
Other sources (gifts, family, etc.)	4
Total	100

Source: Field Survey, 1999

About 25 % of the respondents indicated that lack of capital and/or credit at reasonable rates of interest is one of the major constraints in livestock credit scheme. Only 11 % of the respondents indicated accessibility to any institutional credits. Most of the respondents (86 %) attributed their lack of access to credit facilities to the red tape-ism, graft and corruption of the financial institutions. Over 57% of the capital used, however, come from NLPD/NACB livestock credit scheme. Since these participants are largely from farming families, the general shortage of available capital also apply to them.

Table 4.14 shows that 70 of the 100 participants attributed their inability to effectively participate in livestock fattening to lack of capital. As in all businesses, a farm enterprise requires finance for procurement of inputs, and for wage payments. About 87% of the

respondents indicated that lack of capital and/or credit at 'reasonable' rates of interest is one of the major constraints in livestock fattening program.

Labour

Labour is a deciding factor in both agricultural and livestock production, whose combined efforts is needed to generate wealth. It is a conscious activity of man, in which he expends his energy and human endowments upon the natural and artificial environments for the production of agricultural and livestock outputs (Norman, 1972).

In the absence of enough male labours, both farmers and the small-holder fatteners resort to hiring of labours. About only 20 % all the respondents interviewed confirmed the use of few hired labours to compliment their self employment due to high cost.

To get information about the labour characteristics of households, respondents were asked to give information on age, sex, marital status etc. The result of the survey shows that the average household in the survey area is 6 member. Details about labour is presented in the Table 4.16 below.

Table 4.16. : Labour Use by sex and activity

Sex	Activity engaged in	Man Hour per Week	%
Male	Crop farming, Livestock rearing	52	68.4
Female	Rabitry, Poultry	24	31.6
Total		**76**	**100**

The number of people within the family unit actually involved in both farm work and livestock production as given by the respondents varied from 3 persons to 6, indicating very low labour force. An examination of the sex composition of the livestock fattening participation shows that males outnumbered females. This has been attributed to the fact that in most areas of the north, women do mostly indoor activities. The male participants accounted for 68.4 % of the total, leaving 31.6% represented by female members as shown in Table 4.16.

The amount of labour available for farm and livestock activities depends on the following factors:-

(1) the number of household members who work for the family is determined by size of household, age, and sex .

(2) the length of time each household member is prepared to work for the family farm.

(3) the availability of financial resources to pay for non-family labour.

As expected, most of the labour for livestock production (65.2%) are undertaken by family labour. Non-family labour during the survey period accounted for only about 18.2% of the total man-

hour input for the livestock fattening program. These include hired labour, contract labour and communal labour.

Fluctuation in Market Price of the Scheme Animals

In Nigeria, there is a dearth of regularly published meaningful market price information on livestock. This and the annual price fluctuations and trends place a very severe constraint on the farmers and scheme managers in planning the timing of loan disbursement and when to dispose of the animals. The prices of fattened livestock is dependent on a number of factors, including period of sale, the demand for the product, the supply to the market, the distance from the point of production, the transportation cost and whether there is a substitute for such a product. Observations, however, showed that upward price trend of the early 1989 may have passed its peak probably due to declining consumer purchasing power. Therefore, a good returns on investment to beneficiaries of scheme may become more difficult to realize. Several groups of scheme beneficiaries have complained about the poor markets for their animals particularly in the far north. This has led to efforts by some of them to pool their fattened animals and transport them to the southern cities where prices are more attractive.

Market

Nearly 5.9% of the participants attributed lack of markets and/or marketing problems as a constraint. This indicates that market is not a serious constraint. This is not suprising because, while it is true that middlemen and traders have often 'cheated' small peasants with regards to the sale of livestock and products, and agricultural commodities, it is also a fact that these middle-men and traders have often provided virtually the only link between the small producers and the rural markets. In the absence of reasonable transport and storing facilities, these livestock producers tend to dispose of their products at 'fair' prices.

Misconstruction of the Credit objective: Many farmers deliberately misconstrued the Government objectives in instituting credit programmes. The Livestock credit scheme is being regarded by most farmers as a "national cake", a bonus or a political patronage or even a subsidy that must necessarily be distributed equally to the masses at the grass root level.

Diversion of Credit Facilities meant for fattening: Observations from the field have confirmed that diversion of funds disbursed to beneficiaries for purchase is a very common phenomenon. Diversion may either be partial or complete depending on the degree of supervision by technical officers after disbursement. It is more common among civil servants and "absentee" farmers and

where disbursements are made at the time prices of animals are highest.

Mismanagement of the fund: This is most common where supervision by credit and extension officers has been minimal and where a farmer is over ambitious in his investment than his managerial ability can cope with.

Poor record keeping and Accounts by beneficiaries: Most smallholder farmers are uneducated and therefore depend on crude method of accounting. This makes it difficult to account for the funds disbursed and so they are unable to know whether they are gaining or losing. Because they are unable to quantify their inputs, their expectations of the net cash balance always acts as a source of discouragement or encouragement.

4.4.2 Institutional constraints.

One of the objectives of this study is to determine the general performance of the scheme in terms of credit management, loan disbursement and repayment as well as input procurement. These problems are classified and ranked according to the institutions involved. The problems identified for NACB are shown and ranked as in Table 4.17.

Table 4.17: The Ranking of problems faced by NACB.

Problems	No. of Respondents	Percentage	Rank
Slow pace of Top-up Funds	33	15.5	1
Delay processing	21	9.9	2
Overtly complex legal documentation	16	7.5	3
Poor loan recovery efforts	14	6.6	4
Lack of staff motivation	11	5.2	5
Poor attitude by Attached staff	7	3.3	6
Diversion of loans by beneficiaries	6	2.8	7
Time deposit by NACB Managers	4	1.8	8
Total	**212**	**100**	

Source: Field Survey, 1999 (Multi-Response)

Delay in processing of applications forms: This lead to excessive delay in loan disbursements at the right time of the year when prices of livestock are lowest and crop residues abundant.

Complex legal papers: The process of involving at least two guarantors who must be present physically and with their passport photographs to sign the undertaking can not augur well for a credit scheme that is supposed to be soft and without collateral. Apart from discouraging the participants of the scheme, it lengthens the processing time as well as increased transaction costs to the farmer.

Lack of commitment and interest on the part of some NACB Branch officers: The SLDP credit scheme is viewed by many of them as a separate programme which is interfering with their normal schedules of duty. Most of them therefore developed lukewarm attitude towards the scheme, even with interventions from their Headquarters and Livestock Credit Unit (LCU). This type of attitude tends to have strong effects on the progress of the scheme in the country.

Ineffective and inefficient loan recovery efforts: The issue of good loan repayment is very crucial in a viable credit scheme because it reduces the degree of capital rationing by NACB. Surprisingly, NACB failed to realize the fact that the task of ensuring smallholder loan repayment is her primary responsibility. While it is a fact that in any credit scheme there are likely to be defaulters, it is, however, also true that the only way to minimize default is through regular visits to the loan beneficiaries and improved credit supervision.

Slow pace of Top-up funds to NACB Branches by LCU: All states experienced this problem for nearly one calendar year in1989. Many farmers identified for the scheme during the period had to withdraw while others lost confidence in the ability of the

Bank to deliver the credit facilities to the smallholder farmers. This, of course, is an important reason for the poor performance of the scheme by the states.

Diversion of funds to Time Deposits: It was a common practice to find funds meant for farmers lodged in time deposit account with recall period ranging from one week to three months by the officials of the credit institution. During this period, farmers whose loans have been approved would have to wait for funds to be available. Farmers travelling from their homestead to such NACB Branches often get discouraged and disillusioned.

Lack of staff motivation: Motivation is an inducement or encouragement given to staff to make them perform willingly and well in a given circumstance. There is the need for the people to be motivated so that they could give their best to whatever they are doing. NACB officers and scheduled officers often give lack of motivation as reasons for their non-performance. Many atimes, there is lack of functional vehicle, non-payment of night allowances and non-self development opportunities.

4.4.2.1 National Livestock Projects Division (NLPD)

The major problems identified with NLPD are shown in Table 4.18.

Identification of wrong beneficiaries: Farmer's combines the evaluation of technical and credit w criteria. The former is the responsibility of NLPD. A beneficiary must provide the following information;

- source of cattle e.g. cattle market
- supplies of crop residues
- source of regular water
- an area suitable for feeding and holding cat preferably with shade
- previous experience in livestock production
- labour to care for the animals daily.

farmer. This is, however, the responsibility of the credit offi
the NACB who should visit the farmers jointly with the
Officers to evaluate the credit worthiness. Such factors
degree of motivation towards the scheme, the inten
utilization of family labour as well as the farmer's attitude t
some situation could be a possible delineating criteria.

Inadequate supervision and extension services:
observations in the field, the performance of Livestock ex
services seems to be unsatisfactory in most states of the c
It is important to point out that supervision should start as s
loans are disbursed. This includes guiding the beneficia
the right animals to buy, identifying them by ear-taggi
ensuring that he adheres to the technical advice given
management of livestock, including the required feed,

ration and health. Regular visits are the panacea for any successful extension.

Inadequate publicity and education of the farmers: Poor publicity and awareness of the scheme is a limiting factor to the progress made so far. Publicity campaigns at the moment are almost nonexistent in all the states. Enlightenment should be focused on the need for farmers to use the loans for the purpose they were meant to serve.

Lack of regular and effective monitoring and evaluation: At each stage of implementation, it is necessary to assess the influence of certain elements on the credit scheme. Regular credit monitoring by state, District and Extension Officers is almost nonexistent, either due to laziness or failure to appreciate the need to undertake such visits. For the scheme to continue and expand, it is essential that both beneficiaries, the financiers (NACB) and technical supervisors (NLPD) are convinced of its ability to increase home produced beef and mutton with its consequent economic benefits to the farmer. Credit information will only be available if regular monitoring and evaluation of the scheme are undertaken.

Delays in procuring and delivering the inputs: From the survey results, NLPD has played a major role in the provision of technical support services and supplies of input such as molasses, feed, drugs, and mineral salt licks in the past three years to the participating farmers. The advantages of these are that the required balance and economic rations and doses of drugs, as well as, minimum cost are available to the farmers. However, prices of these inputs have also become so exorbitant in recent times because most of the grain-related agro-industrial by-products such as wheat bran, dry brewers grains, maize bran have become scarce and expensive. These, coupled with rapid increase in the number of loans disbursed, have made it practically difficult for NLPD to meet the growing demand. However, a lot still have to be done in the area of feed procurement and distribution. Beneficiaries have complained that, at the moment only cotton seed cake (CSC) is being procured and distributed in the northern part as supplementary feed for ruminants. There are probably, still a significant quantity of cotton seed cake left but there has been a dramatic fall in production of Dried Brewers Grains (DBB), wheat offals and Ground-nut cake. There is little doubt that some livestock owners, especially those from Mambilla Plateau in Taraba State participate in the scheme purely to obtain the benefits of input supplies and services rather

than for the credit to purchase animals for fattening. The study revealed that it is more expensive to feed the scheme animals with only cotton seed cake as a supplement and still make profit, as has been the case five years ago. Analysis of high-energy feed-stuff has shown that Rice bran is fairly palatable to farm animals if fed along with molasses. Apart from being a cheap source of feed, rice bran if fed along with reduced amount of CSC and molasses can yield the required dry matter, energy and crude protein needed to fatten cattle at the rate of 0.5 kg per day. Rice bran is a valuable feed and therefore advisable to be included in livestock feed to reduce cost.

<u>High overhead and loan administration costs</u>: It is not uncommon for credit-related institutions to complain of the exorbitant costs of administering loans. This is confirmed by the responses of the NACB Managers especially in, northern part of the country, where these costs manifest in the forms of vehicle repairs and maintenance, night allowances, overtime, fueling and lubricants, transport and travel and general expenses due to long distances. These costs cannot be justified when compared with the output in terms of the number of loans being supervised.

Insufficient coordination among implementing institutions:

All levels of management involved in the credit scheme need free flow of information on which to base decisions, to plan, to organize and to control. This free flow or coordination of information is lacking in the NLPD/LCU/NACB relationship. The NACB Branches in some parts of the northern states are yet to recognise the importance of coordinating with NLPD and sometimes LCU to produce the necessary information needed to ensure effective and efficient credit monitoring, evaluation and management. The NLPD state officers have listed lack of such documents as the issue vouchers, receipt vouchers, defaulters registers, loan register and cash book copies from NACB as constraint in evaluating the success and scale of operation of the schemes at any point in time.

CHAPTER FIVE

5.0 SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 SUMMARY OF FINDINGS

The adoption of the direct disbursement approach of small holder credit facilities to livestock farmers is now firmly established in the country.

5.1.1 Socio-economic variables

From the survey, it was observed that over 92 % of the people interviewed indicated livestock and crop farming as their primary occupation. An average of 6 members per household recorded during the survey do not only contribute labour for the farming activities but also provide man-hour input in the small-holder livestock fattening schemes. The low level of education has provided them with little or no choice than to go into some form of trade, farming and small-holder fattening. Majority of the cattle fattening population have an average income of above N13,786:00, while those involved in sheep fattening, have an average income of N3,233:00. There is a strong relationship between the beneficiaries in small-holder Livestock credit schemes and crop farming, stressing the vital role played by crop production in the determination of effective participation in the livestock small-holder credit schemes.

5.1. 2 General Performance of the schemes

The schemes have, to a large extent, achieved the overall objectives of increasing livestock productions and farmers' incomes. The intervention has caused an incremental production of 10,160 tons of beef, 1415 tons of mutton and substantially increased the incomes of the over 44,340 participating farmers in the last ten years. In addition, the schemes took the advantage of the complementarity between crops and livestock and actively promoted the use of animal traction by developing a credit model that included implements for the cultivation of crops and ox-carts for transportation of crops and crop residues. An estimated incremental 893.9 hectares of land was cultivated using 96 bulls from the schemes. However, the intention of using the private sector for the supply and distribution of input has not been successful. The scattered and irregular demand for animal feeds in the rural areas has made retailing of these products unattractive. Therefore, the schemes had to continue to depend on the large producers for the supply of the inputs, while the NLPD had to fill in the gap with regards to distribution to the various states. The cost of transportation and handling are, however, borne by the farmer.

5.1.3 Gaps between planned financial and economic projections and the actual.

Both the financial and economic analysis of the credit for cattle and sheep production schemes at the farm level produced favourable rates of return. The sheep production returned a higher net cash benefits to equity of N12,300 and net return to labour of N198. Cattle had a net cash benefit to equity of N3,963 and to labour of N124.

The economic net benefits of the various enterprises based on the values of production and inputs was found to be positive for all the years. The re-estimated ERR and NPV for all Credit are 69% and N119,472 respectively, while Cattle and Sheep Fattening scenario were 16% and N5,317 respectively. These show areas of future focus. Net benefits after deduction of project costs have been discounted at 12% over a 20 year project life. The re-estimates are considered favourable and fully justify investments on the schemes when compared with the 12 % discount rate. It is assumed that after year 7, project costs would maintain current output levels at 50% of PY7 costs. The marginal change in the re-estimated ERR is an indication of the low level of investments in other components of the project.

5.1.4 The socio-economic benefits of the credit schemes to the beneficiaries

Majority of the cattle fattening population have an average income of above N13,786:00, while those involved in sheep fattening have average income from the scheme of N3,233:00, thus increasing their per capita income. The schemes brought about a more complete crop - livestock integration into the economy, resulting in self-sufficiency in food products for the country. It has also brought about improved access to production resources such as capital, labour, land and efficient management of their farms. Access to new technologies, inputs and markets have made the enterprises more profitable.

5.1.5 The constraints to effective participation in smallholder livestock credit schemes

The study shows that capital, marketing facilities and appropriate pricing ranked highest as the main constraints to effective participation in small-holder fattening in the country. Other constraints such as land, transportation and labour constitute varying degrees of difficulties to effective participation. Similarly, the correlation coefficient, which is 0.935, indicates a strong positive linear relationship between crop production and the

location of livestock small-holder fattening scheme, confirming crop-livestock integration.

All the analyses point to the fact that the problems identified have been responsible for the slow pace of progress, and low disbursements and recoveries during the first three years of the scheme. The results showed that over 62% of the problems militating against the success of the scheme in the zone are attributable to the NACB, while about 25% are caused by NLPD. This confirms the reports received from the states in the zones concerning the attitude of NACB staff in general towards the scheme.

The results also showed that quite a substantive percentage of the failure is attributed to faulty identification of beneficiaries. This has led to poor repayment response from particularly the civil servants and the urban elite. This is in contrast to the over 52% of those actually involved in livestock production who repaid their loan fully when due. This confirms an earlier observation that the success of the scheme lies with involving the actual rural livestock farmers.

project objectives could be achieved.

2). While the supply of farm inputs is best left to the pr sector, there must be some exceptions mainly becaus the nature of livestock operations and the lack of incen for retailers to market some specific livestock feeds.

3). Farmer involvement at an early stage in designin schemes is essential, otherwise as was seen in the gra reserve development component, putting infrastru alone does not necessarily result in automatic settleme

4). Making the credit schemes demand-driven, has at t caused a slow down because of delay in disbursing to the NACB branches in the field.

5). Experience with the livestock fattening model has iterated the fact that new technologies, particularly regards to livestock production must be tested overtim

socio-economic parameters established before they are presented for adoption by farmers.

6). Internal organisational structure of the NLPD which placed units of dis-similar function, made coordination difficult, thereby slowing down scheme implementation.

5.2 RECOMMENDATIONS

Sustainability of the schemes should be designed to address two major areas: (a) sustaining the physical achievements already in place and, (b) sustaining the scheme beyond the project period. The NACB should agree to continue funding the livestock credit through their network of branches located all over the federation. The NLPD on the other hand, should continue to provide the necessary technical assistance and support to the LCU. This high optimism arise from the high demand of livestock credit observed in the study. So long as there is demand for livestock credit, NACB should continue to provide funds for the financing.

In order to have a well managed and successful small-holder credit scheme which can adequately address these problems, the following recommendations are suggested:-

1). The project management should be given a little more autonomy in order to facilitate decision-making and accelerate scheme implementation. Future projects that have credit component should vest the overall responsibility of credit fund under one institution.

2). Procedure for disbursement of credit should be made as simple as possible so that a farmer can obtain a loan within a reasonable period of time. NACB should also appoint rural credit officers that could process loans and disburse to farmers after obtaining the funds from the nearest NACB branch.

3). Repeat loans should be made automatic and should not undergo the same documentation as new loans. Anything other than this, frustrates the farmer and discourages them to repay loans.

4). The commercial banks should be encouraged to lend money for livestock enterprises through Livestock Cooperative Societies due to high cost of loan administration.

5.) Both NACB and NLPD should adequately motivate the staff involved in the scheme by providing those factors that enhance productivity, which include regular promotion, better pay,

recognition of hard work, job security, regular training and re-training.

6.) NACB should open more rural branches and Local Government Areas should be staffed with qualified livestock/veterinary personnel as credit officers.

7.) Livestock extension services to the scheme beneficiaries should be reorganized to involve teaching, visiting, delivering of the required inputs and formation of livestock cooperative societies.

8.) The scheme Management Information System (MIS) should be improved and communication gap between the NLPD, NACB and LCU be bridged.

5.3 STRATEGIES FOR IMPLEMENTING THESE RECOMMENDATIONS

The development and communication of strategy are among the most important activities of any manager. As Rose and Kemi (1984) put it, "without a strategy the organisation is like a ship without a rudder, going around in circles; it's like a tramp, it has no place to go". The near poor performance of the livestock credit schemes in Nigeria must, therefore, be attributed to lack of proper articulation of strategies, the wrong strategy and/or even lack of implementation of the reasonably good strategies earlier put in

place. In order to implement the recommendations effectively, clear and meaningful strategies must be developed. The following strategies, if implemented effectively should reduce the many problems of the small-holder credit scheme in Nigeria to a manageable level:-

(1) In order to reduce unnecessary bureaucracy in the processing of application and hasten disbursements, livestock cooperative societies should be used as avenues for loan extension. This means, all those requiring loans for the livestock credit scheme must form themselves into some cooperative societies, as a condition. Farmers should, therefore, organize themselves into viable cooperative societies at the district and village levels; then apply for the loan in bulk, for group guarantee, and easy control of disbursement and recovery. In this way, there should be no need for individual beneficiaries presenting two guarantors as it is the practice at the moment.

(2) Improvement in extension and credit supervision should adopt the following strategies:

(a) Regular visit to the fattening scheme for teaching and demonstrating ration formulation for maximum results.

(b) There should be one livestock extension officer attached to 30 beneficiaries at a time, for effective coverage and maximum attention.

(c) Carry out livestock shows and field days at district and village levels to publicise and educate farmers for the need to form viable cooperative societies.

(d) Establishment of functional livestock service centres in all NLPD District offices for easy access of inputs to beneficiaries.

(e) The arrangements for the sourcing, procurement and timely distribution of inputs for the scheme should be carried out during the wet season. Distribution to all the District Officers should be completed before onset of the dry season for the next disbursement season.

(3) The bulk of NLPD's total overhead cost comes from credit activities rather than their primary role of extending technical services to the beneficiaries. In order to reduce this cost, the following steps should be taken:-

(a) NLPD and NACB officers should jointly carry out the appraisals of potential beneficiaries, extension services and loan recoveries.

(b) Strict compliance with cost-effective trips by the State, District and Extension officers. Only official journeys on approved extension and work plans and for the purpose of enhancing the progress of the scheme should be allowed and/or allowances, overtime paid.

(c) Adoption of zero based budgeting (ZBB) to eliminate low priority activities and improve effectiveness by shifting funds to high impact activities such as formation of livestock cooperative societies, extension services and information gathering.

(4) In order to improve efficiency and effectiveness in the scheme the reward system and other organisational benefits should be implemented as follows:-

(a) staff performance should be measured by the number of loans disbursed and or recovered during the period. When they (officers) realize that their outputs are being measured against a predetermined standard, they will make effort to improve their performance, particularly, when rewards or sanctions are specified for higher performance or non-performance.

(b) NACB should provide motor cycle and vehicle loans to the extension officers at low interest rate to purchase their own vehicles for easy movement. Alternatively, separate vehicles be permanently attached to extension officers for the purpose of appraising, supervising and recovering loans that are due.

(c) Night allowances, transport and overtime claims should be paid promptly.

(d) The identification of missing skills and a coordinated and relevant training of all officers involved in the scheme will no doubt improve their effectiveness and efficiency.

(5) The need for coordinated information exchange between the agencies implementing the scheme cannot be over-emphasised. In order to remove communication gap:-

(a) All scheduled officers should be given free access to the Accounting documents to enable them compile relevant information on the scheme.

(b) Separate Officers be assigned the responsibility of retrieving, collating and disseminating data and processed information within the related institutions handling the scheme.

(c) All important circulars in respect of the scheme should be copied to LCU, NACB or NLPD officers, as the case may be.

(6) (a) A strong link should be established between groups of small-holder beneficiaries supplying well finished and fattened livestock for slaughter with the butchers and modern abattoirs.

(b) The scheme beneficiaries should form themselves into marketing cooperatives and transport their fattened animals by road or rail to urban cities in the South for better prices.

(c) Sheep (Rams) fattening period should coincide with the Muslim festival of "Id-el Kabir" when very high prices are realised.

5.4 LIMITATIONS OF STUDY

There were a number of limitations in the study. These include:

1.) Reluctance of some of the beneficiaries to cooperate in giving their socio-economic backgrounds and incomes.

2.) Some of the farmers are illiterates and did not keep records or willing to divulge information.

3.) The cross-sectional surveys generated data that are varied because their responses are also varied.

4.) Selection of the participants on the basis of their accessibility resulting in distorted judgements of the questionnaire.

5.) The coverage of the area of study is limited and only a small number of purposively selected locations and beneficiaries; and only two small-holder credit schemes, cattle and sheep, were involved; hence the findings, which can only be broadly indicative, would need to be further validated through more extensive surveys.

6.) The estimates used are rather conservative and have been limited to those quantifiable benefit models only, where data availability permit their calculations.

5.5 CONCLUSION

The study concludes that, although the scheme attained over 50% performance rating, it could have done better but for the problems enumerated. The study, therefore, suggested among others, that loans should be disbursed through cooperative societies, improvement in credit supervision, entrenchment of reward systems for staff who perform well and proper coordination and exchange of information between the implementing agencies.

It is, therefore, necessary that the small-holder livestock producer given all the necessary credit attention, if the objectives and targets of the schemes are to be achieved. Priority should be particularly given to the efficient and effective implementation, monitoring and evaluation and, of course, a strong political will to mobilise the small-holder farmers to benefit and improve their living conditions. In order to achieve these, there has to be implicit coordination among the implementing institutions (NLPD, NACB, LCU) with a view to avoiding the problems, reduce the over head cost and a refinement of the methods of operation and supervision.

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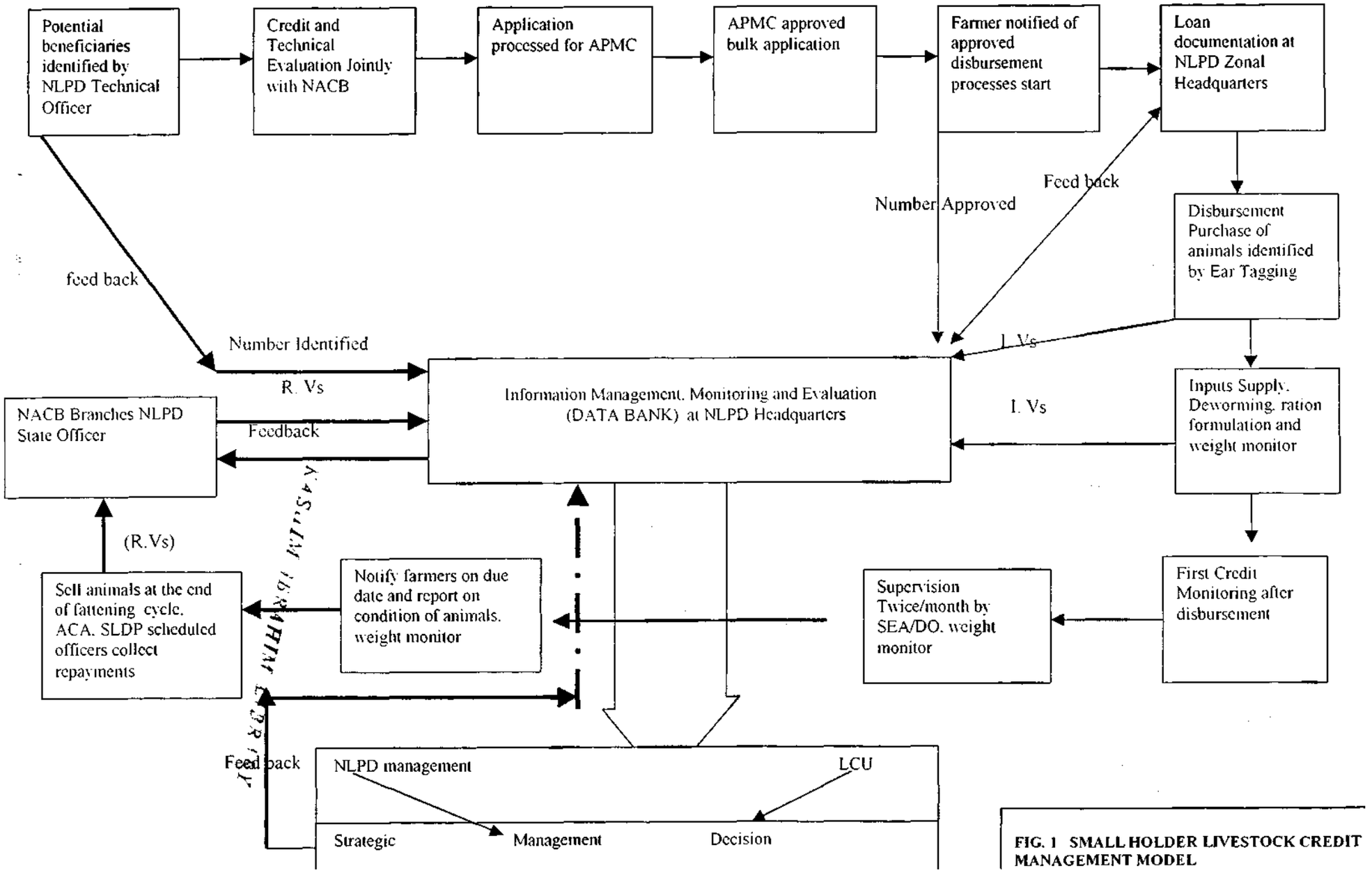


FIG. 1 SMALL HOLDER LIVESTOCK CREDIT MANAGEMENT MODEL