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**AGRICULTURAL SUPPORT PROGRAMMES IN THE
DEVELOPING AREAS OF SOUTH AFRICA**

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**AGRICULTURAL SUPPORT PROGRAMMES IN THE
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by

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Johann Kirsten
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Degree: PhD
Department: Agricultural Economics, Extension and Rural Development
Promoter: Professor Johan van Zyl

ABSTRACT

The Farmer Support Programme (FSP) was introduced in South Africa by the Development Bank of Southern Africa (DBSA) as one of the major agricultural development strategies to support black farmers who have been historically denied access to basic support services. The introduction of this paradigm shift in development thinking was also a response to the ineffective but costly large scale project approach in black agriculture during the 1970s and 1980s.

The main objective of this study was to evaluate the performance of the FSP and assess the contribution of the programme to increased agricultural productivity and improved household food security. This was achieved through a three year research programme which included two rounds of household surveys of FSP participants in three areas, i.e. Venda, Lebowa and KaNgwane and through interviews with the implementing agents, farmer groups and extensionists in these areas. The implementation and success of each of the FSPs were evaluated. The provision of each of the support elements included in the programme, i.e. credit, extension, input provision, mechanisation services and marketing was also critically evaluated based on a literature survey of the international experience on provision of support services to smallholders in developing countries.

The implementation of farmer support programmes succeeded in improving the access to basic support services of agricultural households in the developing areas of South Africa. The FSP thus succeeded in alleviating many of the constraints these households experienced because they were previously denied many of the basic support services and institutions. The evidence from the three case studies shows, however, that the results of the improved access and comprehensive provision of services are not uniform. The varying degree of success can be attributed to a number of factors, such as the historical context of the target areas, the different approaches followed by implementing agents in the implementation of the programmes, the natural resource base and finally the degree of farmer participation. It was determined that coordination, commitment and participation are crucial elements in the successful implementation of farmer support programmes.

This study has shown that the FSP has the potential to improve agricultural productivity and household food security if correctly implemented. The evaluation of the FSPs in the three areas has provided valuable lessons for future implementation of FSPs. In addition to the lessons and suggested improvements it is recommended that the task of levelling the playing field for the farmers in the developing areas of South Africa, should be given a high priority in the Department of Agriculture in the new government. With the expected change in emphasis and reorientation towards black small-scale farmers the case for a national strategy to normalise agricultural support services should be high on the agenda. A coordinated national strategy with localised programmes based on the principles and lessons of the FSP would be the best way to equalise access to all basic agricultural support services.

LANDBOU-ONDERSTEUNINGSPROGRAMME IN DIE ONTWIKKELENDE GEBIEDE VAN SUID-AFRIKA

deur

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Graad: PhD
Departement: Landbou-ekonomie, Voorligting en Landelike Ontwikkeling
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UITTREKSEL

Die "Farmer Support Programme" (FSP), oftewel boerdery-ondersteuningsprogram, is deur die Ontwikkelingsbank van Suider-Afrika bekendgestel as een van die vernaamste landbou-ontwikkelingsstrategieë in Suid-Afrika met die doel om swart kleinboere te ondersteun wat voorheen toegang tot basiese landbou-ondersteuningsdienste ontsê is. Hierdie paradigma-verskuiwing in ontwikkelingsdenke in Suid-Afrika het ook plaasgevind as reaksie op die ondoeltreffendheid en hoë koste van grootskaalse projekte in swart landbou in die sewentiger- en tagtigerjare.

Die hoofdoelwit van hierdie studie was om die prestasie van die FSP te evalueer en om die bydrae van die program tot verhoogde landbouproduktiwiteit en verbeterde huishoudingsvoedselsekerheid te bepaal. Dit is gedoen deur middel van 'n navorsingsprogram van drie jaar wat twee rondtes van opnames onder deelnemers aan die program in drie gebiede ingesluit het, te wete, Venda, Lebowa and KaNgwane. Daar is verder ook onderhoude met die verskillende implementeringsagente, boere en voorligters in die drie gebiede gevoer. Die inligting wat deur hierdie proses ingesamel is, is gebruik om die implimentering en sukses van elk van die programme te bepaal. Daarbenewens is die voorsiening van elk van die ondersteuningselemente in die program, t.w. krediet, voorligting,

insetverskaffing, meganisasiedienste en bemerking ook krities beskou, hoofsaaklik gebaseer op 'n literatuuroorsig van die ondervinding in ander ontwikkelende lande met die verskaffing van die gemelde dienste aan kleinboere.

Daar is bevind dat die implementering van die boerdery-ondersteuningsprogram daarin geslaag het om swart boere se toegang tot basiese landboudienste in sekere van die ontwikkelende gebiede van Suid-Afrika te verbeter. Die FSP het dus daarin geslaag om van die beperkings te verwyder van hierdie landbouhuishoudings, wat voorheen toegang tot verskeie landboudienste geweier is. Die resultate uit die drie gevallestudies toon egter dat die effek van die verbeterde toegang nie in al die gebiede eenvormig was nie. Die wisselende graad van sukses van hierdie programme kan aan 'n hele aantal faktore toegeskryf word. Hierdie faktore sluit onder meer in die historiese agtergrond van elke gebied, die verskillende benaderings gevolg in die implementering van die program, die natuurlike hulpbronne, en laastens die mate van inspraak wat boere in die implementering van die program gehad het. Dit het verder duidelik geblyk dat koördinasie, toewyding en deelname kritieke aspekte in die suksesvolle implementering van boerdery-ondersteuningsprogramme is.

Die studie het ook getoon dat die FSP die potensiaal het om landbouproduktiwiteit en huishoudingsvoedselsekerheid te verhoog indien die program korrek geïmplementeer is. Uit die kritiese evaluasie van die FSPs in die drie gebiede is waardevolle lesse geleer wat van besondere nut kan wees in die toepassing van soortgelyke programme in die toekoms. Bykomend tot die verskillende lesse en voorgestelde wysigings, het dit ook duidelik geword dat die taak om die landbou se speelveld gelyk te maak 'n hoë prioriteit in die Departement van Landbou van 'n nuwe regering moet geniet. As die verwagte klemverskuiwing en heroriëntasie na swart kleinboere in gedagte gehou word behoort die saak vir 'n nasionale strategie om ondersteuningsdienste in die landbou te normaliseer, hoog op die agenda te wees. 'n Nasionale strategie gekoördineer binne een ministerie met plaaslike programme, soortgelyk aan die FSPs, word daarom beskou as die beste manier om toegang tot landbou-ondersteuningsdienste gelyk te stel. Die lesse en ondervinding met FSPs behoort hier van besondere waarde te wees.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

1.1.1 Structural periods of South African agriculture

Since the beginning of the 20th century South Africa's agrarian history has been characterised by three distinct periods of structural change (*cf.* Marcus, 1989; Van Zyl *et al.*, 1987; Brand *et al.* 1992; Vink, 1993).

South African agriculture experienced two periods of structural change up to the early 1980's. The first period consisted of the initial steps aimed at the territorial segregation of white and black farmers¹. The Natives' Land Act of 1913 served both to confirm the segregation of ownership and to set in motion the abolition of various forms of tenancy, principally share-cropping. The years after the passage of this Act saw a large-scale conversion of peasant farmers into farm labourers. During this time large-scale intervention in agriculture was institutionalised by legislative measures such as the Marketing Act of 1937 and the Co-operative Societies Act of 1939. State intervention was mainly directed towards the interests of *bona fide* white commercial farmers, excluding others, such as smallholder black farmers, and part-time farmers. According to O'Meara (1983 : 185) three factors stand out during this period, i.e. the rapid growth of co-operatives; the changing price structure of agricultural commodities; and the growing labour shortages on white farms. These three factors, according to O'Meara, lead to a considerable "concentration of capital in agriculture" during this and the following period.

¹ It is unfortunate that the terms "white" and "black" have to be used, but they should be interpreted in terms of the particular historical context of South African agriculture and its inherent dualism. The same applies to the terms "natives", "bantu" which are used interchangeably with the term "black". The term "homeland" is used extensively and refers to the former black self-governing and independent territories created under "Grand Apartheid".

The second structural period was after World War II and saw the increased mechanisation of commercial farming and the introduction of high yielding technology. The trend of increased mechanisation was, according to O'Meara (1983 : 184), already noticeable since 1937 with the number of tractors increasing eight-fold between 1937 and 1950. These innovations were mainly directed towards increased production in white commercial farming. However, since 1970, efforts were also directed towards increased agricultural production in the "homeland" areas.

Capital and labour remained complementary factors of production due to the increased use of tractors in grain farming, but became substitutes with the adoption of mechanical harvesting by grain farmers around 1970. Subsequent to this period there was a stabilisation of the permanent labour force along with higher wages, but also increased use of temporary/seasonal labour consisting of women and children. Government intervention in homeland agriculture was directed towards physical betterment planning and administrative control. The so-called farmer settlement approach became the mainstay of agricultural development efforts in the late 1970s and early 1980s.

The third period of structural change in South African agriculture started early in the 1980s, and witnessed a major change in farm policy - the result of changes in the broader political economy on the one hand, and of more direct policy reactions to the needs of the farming sector on the other. Brand *et al* (1992 : 360) identify at least seven such shifts in policy.

- Farmers were increasingly exposed to market-related interest and exchange rates.
- Budgetary allocations supporting white farmers declined by some 50 percent since 1987 (See also Vink and Kassier, 1991 and LAPC, 1993a).
- The real producer prices of important commodities such as maize and wheat declined by more than 25 percent in real terms since 1984

and 1986 respectively.

- An extensive deregulation of controlled marketing in terms of the Marketing Act. This trend has in fact increased since the release of the report of the Kassier Committee of inquiry into the Marketing Act at the end of 1992. During 1993 a number of marketing schemes and marketing boards were voluntarily suspended and abolished. Examples include potatoes, bananas, dry beans, rooibos tea and eggs.
- Changing tax treatment for agriculture has, for example, seen the writing off of capital purchases extended from one to three years, thereby reducing the implicit subsidy.
- There has been a shift away from settlement schemes, as the major instrument of agricultural development in the developing areas, in favour of an approach based on the provision of farmer support services such as infrastructure, extension services and research, and access to credit and markets.
- The Land Acts have been scrapped, and certain elements of labour legislation were made applicable to farm labour.

Vink (1993) identified a further two important policy changes in this period:

- There was a reduction in the institutional confusion by the amalgamation of all the "own" affairs and "general" affairs departments of agriculture and through the dismantling of the Department of Development Aid.
- The tariffication of farm commodities, mainly as a result of the pressures arising from the Uruguay Round of the GATT and the signing of the new GATT deal on 15 December 1993.

The changes in farm policy since the early 1980s have had significant effects on the agricultural sector, while it is important to note that different farming regions have experienced different circumstances. Aggregated data show that the sector is becoming more flexible in at least some parts of the country. This is highlighted by the improved aggregate debt service ratio along with financial difficulties for some groups of farmers; increasing land use intensity in high potential regions and "over-cropping" in more marginal regions; the aggregate decline in farm size; shifts in the cropping pattern; and the relative absence of yield effects.

While the initial years of the third period of structural change were mainly characterised by more market related policies, drought effects, etc., recent years could well be labelled the democratisation of the agricultural sector due to the repeal of the majority of discriminatory laws, such as the 1913 and 1936 Land Acts. These entitlement actions will have to be complemented with a range of empowerment actions or affirmative measures to correct the imbalances of the past. This will hopefully ensure that South Africa will have a just, and fair agricultural dispensation by the year 2000 where everybody will have an equal opportunity to compete. But what will be the characteristics of such a restructured agricultural sector?

1.1.2 Features of a restructured South African agricultural sector

The effects of policy changes are felt long after their promulgation. This is especially true for the repeal of the Land Acts and the policy changes that took place during the third structural period. According to Brand *et al*, (1992) the effects of these changes will mainly flow through the financial position of farmers, land use patterns and farm size and ecological considerations. The future agricultural dispensation will, to a large extent, be influenced by events that have already taken place.

The major challenge for South African agriculture is to cope with the problem of dualism. The commercial agricultural sector is beset with problems of the same nature as those of agriculture in the developed market economies, while the subsistence sector is plagued with problems similar to those experienced elsewhere

on the African continent. The inequality is, partially because of its origins, a manifestation of inequity. Differences in the quality of natural and other resources are insufficient to wipe out a disparity as illustrated by comparative data: Whereas the area of farm land per capita of rural population varies between 0,70 hectares and 2,72 hectares in the homelands (including the TBVC States but excluding Qwaqwa), it amounts to 18,13 hectares in the rest of South Africa (Van Rooyen *et al*, 1993).

Future developments will have to include revitalization of the commercial sector, development and commercialization in the present subsistence sector and land redistribution and restitution. The latter will logically follow the repeal of acts designed to facilitate racial division of land, such as the Natives' Land Act (1913), the Native Trust and Land Act (1936) and the Group Areas Act (1956). To this could be added removing the racial exclusiveness of benefits obtainable from institutions such as the Land Bank.

Developments will essentially include the opening up to all farmers of areas historically preserved for white farmers. As part of a policy of affirmative action within a free enterprise economy, members of previously disadvantaged groups - mostly Africans - may in future receive preferential treatment in the procurement of farms dispossessed by the Land Bank because of previous farmers' failures to honour debt obligations.

Policy measures will inevitably have a drastic effect on the size of South African farms. Van Rooyen, *et al* (1993) are of the opinion that one can expect a continuum of farm sizes. It is also expected that in the view of land reform and given a flexible market oriented approach one could see a large number of small farms and fewer large farms. Brand *et al*, (1992 : 364) also predict that farms in the high-potential regions and in areas close to metropolitan concentrations will get smaller. The occurrence of a large number of smallholdings (in homeland areas) relatively far removed from urban concentrations constitutes an abnormal economic spatial location pattern. This is likely to change where economic forces are allowed to dictate land-use patterns. It is therefore very likely that one could see a large number of small farmers around urban concentrations producing for lucrative high

value urban markets.

It is also expected that the move towards more market related policies will lead to shifts in crop production in the commercial farming areas to the higher potential areas and livestock farming to the dryer areas. A shift to planted pastures is most evident in the marginal commercial cropping region.

From the discussion above it can be concluded that the restructuring of the agricultural sector can be predicted with a large degree of certainty. Political requirements will further demand changes towards a greater participation of black farmers in the agricultural economy of South Africa. Land reform and redistribution programmes will be viewed as an important instrument to promote reconstruction in the agricultural sector.

It was mentioned earlier that the inherent dualism of South African agriculture poses the greatest challenge to a restructuring programme. One has to be realistic and accept that it will take a long time to rid the rural economy of the imbalances created during the period of apartheid rule. Much of the proposals and options discussed earlier will have the earliest visible results through a process of integrating black farmers and potential beneficiaries of a land reform programme into the commercial agricultural establishment. This will of course also include the reform and reorientation of the present governmental and agricultural support structures to serve the needs of the large number of small farmers in the rural economy. Although the LAPC/World Bank proposals (see LAPC, 1993b) go a long way to ensure an integrated approach to the restructuring of the rural economy, it will for a number of years still be necessary to consider the different needs and demands of the households living in the less developed rural areas of South Africa. It is unlikely that a restructuring process will in a relatively short period of a year or two get rid of the intrinsic dualism of the South African rural economy.

The disparities between agriculture in the less developed areas and the traditional "white" commercial agriculture is a matter of great concern in this process of restructuring South African agriculture. Affirmative action measures will be necessary to remove these imbalances, inequities and inequitable access to

resources and markets. This is particularly necessary in the case of the large number of people living in the less developed rural areas (homelands) trying to make a living from agriculture, but who lack access to inputs, credit, infrastructure, extension and markets. It is therefore felt that programmes addressing these constraints could make a meaningful contribution to the restructuring of the rural economy as a whole and the agricultural sector in particular.

It is against this background that this study intends to determine the potential of a comprehensive farmer support strategy to enable black small farmers in the "homelands" to compete with the (white) commercial farmers. These small-scale black farmers still have serious handicaps. Backlogs in the provision of education have left them with fewer farming and managerial skills, being in general poor, they have very little capital, and due to the traditional communal tenure system in the "homelands" they lack experience in individual entrepreneurial action.

1.2 PROBLEM STATEMENT

Agriculture in the less-developed areas (or "homelands") is often viewed as inefficient and unproductive as compared with modern farming in the White commercial areas. The principal cause of this inequality and dualism is the unequal distribution of access to resources, markets and power. It is often argued that fair access to resources and markets is an important precondition for economic efficiency in the long term. The lack of fair access can be highlighted as follows (Van Rooyen, undated):

- Agricultural policy has over the years favoured large-scale, full-time property owner farmers;
- Laws, such as the 1913 and 1936 Land Acts, which established the racial division of farm land, and a host of other measures. The net effect of this has been that black farmers are at present confined to farming in the "homelands" which constitute 13 per cent of the total available land.

- Legislation and regulations lead to a situation where black farmers are often not in the same bargaining position as white farmers and are also not served by a comprehensive agri-support system, including physical infrastructure, extension, financing, co-operatives and marketing support.
- Access to high quality information and training services is another area where there is a large discrepancy. Black farmers rarely have the advantage of a well structured information system.
- Black farmers are in a weaker position than white farmers with regard to access to financial assistance. The conditions under which black farmers operate are often of such a nature that commercial financial institutions cannot or will not make funds available to these farmers.
- Agricultural research in South Africa is mainly directed at large scale commercial farmers.
- Finally, the black farmer, and in particular the black small farmer, does not have the same political influence as his white counterpart, so that policies and assistance programmes do not address the problems of black farmers.

These conditions resulted in the dichotomy between a highly developed, commercial agriculture within most parts of the RSA and the less developed, technically inefficient agriculture within the developing areas (Kassier & Groenewald, 1992). Complex political, economic and cultural factors, prevailing in the broader economy, have inhibited the development of a commercially sound agricultural sector in these areas.

Most of the less developed areas are characterised by high population densities, low per capita income, low aggregate agricultural income as a proportion of total income and low levels of nutrition (Van Zyl & Coetzee, 1990). Available land has been subdivided into non-viable units and communal grazing areas have been over-utilised, resulting in the gross deterioration of agricultural resources. In view of the high opportunity cost of non-agricultural labour and the lack of institutional support

for the small farmer, the incentives for increased production are small. In many instances the provision of agricultural technology has been based upon the needs of the developed commercial sector and is inappropriate for application in the developing areas.

Most households, although situated in rural areas, are dependent on wage income derived in other sectors of the economy (Nieuwoudt & Vink, 1989). Consequently large areas of under-utilized and unutilized land exist. The poor performance of the agricultural sector in most of these areas must, therefore, be explained in the broader context of the economy.

The existence of under-utilized agricultural resources in the presence of increasing un-employment and poverty, is sufficient economic justification for providing comprehensive agriculture support to large numbers of rural households which are already involved in agriculture, albeit at a low level (De Klerk, 1992). Effective agricultural support services over a broad front would increase food security, generate employment and assist in containing the serious environmental degradation occurring in these areas.

There is strong evidence from other regions in Africa that a broadly based farmer support strategy is an effective way of promoting agricultural development. The implementation of this strategy in Zimbabwe, with the development of the institutional support and incentives for small farmers to improve production, has led to large increases in their contribution to the total agricultural product. Malawi and Kenya can be quoted as good examples, while efforts to support small scale sugar farmers in KwaZulu have also proved to be successful (Lyne, 1990).

There are indications that a comprehensive farmer support strategy is an appropriate option to remove inequities in agriculture as well as inequitable access to agricultural resources (Van Rooyen *et al*, 1987). Farmer support programmes, providing complementary, co-ordinated and timeous services to the broad mass of farmers have the potential of raising the overall utilization and efficiency of agricultural resources. Numerous long and short term benefits can be derived from implementing a farmer support strategy (Singini & Sibisi, 1992). The Farmer

Support Programme, better known as the FSP, was formally introduced in South Africa by the Development Bank of Southern Africa in 1987 as one of the major agricultural development strategies to support those black farmers who have been historically denied access to basic support services (Christodoulou, *et al*, 1993).

The concept of the Farmer Support Programme (FSP) as implemented in some "homeland" areas in South Africa was initially one of serving and supporting emerging and smallholder agricultural producers in order to gain equitable access to resources and support services making them more efficient competitors in agricultural resource markets and enabling them to gain better control over their own destiny. In the initial phases of implementation of the FSP emphasis was largely placed on commercialisation which restricted the applicability of the FSP. This resulted in broadening the objective of FSP to promote economic development by improving farmers' access to support services over a broad base in a sequential and evolutionary manner (Christodoulou, *et al*, 1993).

It has to be determined whether this strategy is sustainable, affordable, acceptable and effective in promoting rural development and improved agricultural productivity. The perception exists that the programme will only improve household food security, with little hope of creating a class of emerging small farmers or of improving rural livelihoods in general. It must also be determined whether the FSP, as currently implemented, can be replicated in other areas or whether it has the correct characteristics to be promoted as a national strategy of service provision to the majority of smallholders. The experience with these programmes could assist in showing the way how to restructure agrarian institutions "without killing the goose that lays the golden egg". This aspect is the major challenge of agrarian restructuring in South Africa, but as Eicher and Rukuni (1992) point out "*...the dilemma is that the development literature is virtually silent on how to reform strategic rural institutions to serve both commercial and communal farms without squandering the agricultural surplus*".

1.3 OBJECTIVES

The first objective of this study is to show the evolution of strategies and policies for agricultural development in homelands up to the present where the emphasis is placed on broad based support programmes to rural households.

Secondly, the study endeavours to look into experiences with providing credit, fertiliser, hybrid seeds, extension and other support services to small-scale farmers in other less-developed countries in the world. Thirdly, and related to the latter, is the objective of reviewing the literature to assess the current approaches to and debate on service provision to small-scale farmers in developing countries.

The fourth objective is to highlight the South African experience of providing support services on a broad base and in a sequential manner to farmers in the less developed areas of South Africa. This is done by using case studies in three of the areas where the Farmer Support Programme (FSP) was implemented.

The purpose of this part of the study is to evaluate the performance of the FSP and assess the contribution of the programme to increased agricultural productivity and improved household food security. To determine how FSPs should be adjusted for future implementation, it will also be necessary to determine the reasons for the varying degree of success the programme has had in different regions.

The success differs from region to region due to a variety of factors. It would, therefore, be necessary to compare the implementation of the programme in different areas to determine which aspects should be addressed to ensure that the FSP will have positive effects on food production, household food security and household income. It should also be determined whether this programme is merely designed to help subsistence households to become more food secure, or whether it is implemented for increased production or rural development in general.

1.4 DELIMITATIONS

This study focuses only on agriculture in the less developed areas of South Africa or the so-called "homelands". Of particular concern is the improvement in agricultural productivity in these areas by providing improved agricultural support services to farmers and households. It is argued that such a process or programme could serve as conduit for the revitalisation of the rural economy. The study intends to provide a descriptive and qualitative overview of the implementation of the Farmer Support Programme and also critically analyses the provision of the various support elements of the programme. As such the study will therefore not involve an efficiency analysis of the programme and the participants.

The study assumes a particular political context and accepts the well debated and well documented events which led to the removal of all *de facto* production rights from black farmers and the eventual destruction of the vibrant black peasantry of the late 19th century in rural South Africa.

1.5 RESEARCH METHODOLOGY

The bulk of the information for this study was obtained from a three year programme to evaluate the implementation of farmer support programmes in three of the "homeland" areas in South Africa, i.e. Venda, Lebowa and KaNgwane. The evaluation programme involved interviewing households and farmer groups by means of structured questionnaires in the target areas where the FSPs were implemented. Two surveys were carried out in each of the areas. The first round of surveys was done during 1991, and the second in the period between December 1992 and January 1993. From the survey results it was possible to determine the impact of the programme as well as to evaluate the various elements of the programme. In addition to the household surveys, officials from the implementing agents in each of the "homeland" areas were visited and interviewed to obtain additional insights into the institutional aspects and the actual implementation of the programme. Leader farmers, members of farmer groups, farmers and extension officers were also interviewed to determine the perceptions of various role players of the programme.

1.6 OUTLINE OF STUDY

This study is primarily concerned with an appropriate agricultural development strategy for the less developed areas of South Africa in the process of agricultural restructuring. With this in mind one needs to have some historical background on the evolution of agricultural development strategies in South Africa. This is discussed in Chapter 2. The chapter deals briefly with the history of agricultural development in the homeland areas. The reasons for the paradigm shift in South Africa away from investing in capital intensive large scale projects to broad based small farmer support is also described. The motivation and benefits of such a broad based approach or "unimodal strategy" (after Mellor and Johnson, 1984) are discussed further, after which the elements, guidelines and objectives of the programme are outlined.

The experiences in other countries that implemented similar broad based small farmer support strategies as well as the issues and debates regarding each of the various support elements are discussed in Chapter 3. Chapter 4 reports on the experience with the implementation of the FSPs in the three study areas in South Africa. This comprehensive chapter reports on the findings of the three year evaluation programme as mentioned earlier.

Chapter 5 reviews the experience with the FSPs and highlights the factors which led to the successes and failures of the support programmes. It discusses the future of the programme based on lessons gleaned from the FSPs studied. This chapter draws heavily on the major findings and conclusions of Chapter 4. In the final section of the chapter the role of the FSP in a restructured agricultural sector is contemplated. Conclusions and recommendations are discussed in the final chapter.

CHAPTER 2

A HISTORICAL OVERVIEW OF APPROACHES TO AGRICULTURAL DEVELOPMENT IN THE HOMELANDS

2.1 INTRODUCTION

In his PhD study of 1982 Cobbett argues that there has been little tradition of agricultural development planning in the homelands of South Africa up to the mid seventies. This however, changed towards the latter part of the decade, with the introduction of development plans by development planners for the homelands. These plans had been produced to further two political objectives: Firstly, to lend credibility to the strategy of separate development and to demonstrate to a hostile and critical world that the South African government was making a sincere attempt to accelerate the homelands' development. Secondly, the plans would bolster the politically weak bureaucracies and power structures within each homeland because they would show the South African government's willingness to provide the political and material assistance upon which they depended.

The establishment of the Native Trust (as a result of the Natives Trust and Land Act of 1936); the Tomlinson Commission's recommendations regarding agricultural development in the homelands; the establishment of departments of agriculture and agricultural development corporations in the homelands during the 1960s and 1970s; and the establishment of the Development Bank of Southern Africa in the early 1980s were important milestones in the changing pattern of agricultural development in the less-developed areas of South Africa. Three clearly defined approaches to agricultural development can be identified, i.e. betterment planning, large scale capital intensive and farmer settlement projects, and the more broad based farmer support approach.

This chapter considers the evolution of strategies for agricultural development in the homelands since the passing of the 1913 and the 1936 Land Acts. To put this

in context it is, however, also necessary to look at the history of black agriculture since 1870 up to the enactment of the Natives Land Act of 1913. This is done to show how black farmers were actually marginalised and that there was no question of agricultural development *per se* during these years.

2.2 APPROACHES AND POLICIES TOWARDS BLACK AGRICULTURE DURING THE END OF THE 19TH AND BEGINNING OF THE 20TH CENTURY

During the second half of the nineteenth century black and white communities became increasingly interdependent with a significant economic advancement amongst the blacks. Particularly noticeable was the emergence of a thriving peasantry, particularly in the Eastern Cape and southern Highveld regions and the most productive period in the history of black farming since the 1870s (Bundy, 1979). At that time there was evidence of successful entrepreneurship by black farmers. After 1890, and in some instances, earlier, the process of economic advancement was halted and the slide into rural poverty and wage labour for blacks gained momentum. Bundy relates this to the discovery of gold and the development of the mining industry on the Witwatersrand.

The growing demand for black labour by the mines for the production of "yellow gold" and by the white commercial farmers for the production of "yellow maize" lead to a desire by white landowners to ask the government for the imposition of rules and regulations which restricted black subjects with regard to land occupation and use. Davenport (1987 : 392) lists the ban on black land ownership in the Boer Republics of the Orange Free State and the South African Republic (ZAR); the exclusion of Africans from the right to purchase land in Zululand in 1904; and the Glen Grey Act of 1894 in the Cape Colony as examples of such rules and regulations which restricted black access to agricultural land. The Glen Grey Act imposed a labour tax on all able-bodied men in the district who had not worked outside the district for at least three months in the previous year. Some commentators also see the demand for cheap labour as the economic reasoning behind the implementation of the Natives Land Act of 1913. Davenport (1987) supports the argument by stating that the Natives Land Act of 1913 can be viewed as ".. a law made for the mining houses so that they could have enlarged reserves

from which to recruit labour". He however adds that it is also a law "...designed to curb black farming practices at a time when white farming was beginning to pick up.." (Davenport, 1987 : 393). An Act not often referred to but which also contributed to the demise of black agriculture is the Land Settlement Act No 12 of 1912. This Act, according to Davenport (1987) was designed to check black share cropping in the Orange Free State, and to prevent the purchase of land by syndicates of blacks in the Transvaal.

In this process it became less possible for black people to pursue a relatively independent existence as petty agricultural producers as opposed to wage earning labourers. Rent-paying tenants became labour tenants who lost control of certain classes of land and paid increased taxes and fees as white commercial interests sought to secure the new markets and to break the peasantry. The various regulations and Acts discussed above culminating in the Natives Land Act of 1913 cast a long destructive shadow over the future of black farming. It can therefore be concluded that the period from 1870 up to 1913 saw a gradual process whose result, if not purpose was to destroy black agriculture. No agricultural development or any attempts to purposefully promote farming among blacks can be noted. Policies on black agriculture were continuously influenced by other considerations so that the promotion of farming was undermined.

2.3 THE "BETTERMENT" YEARS

Several commissions appointed towards the end of the 19th century and the beginning of the 20th century reported on the critical conditions in the "homelands" caused by critical overcropping and overstocking, and recommended that black farmers should be trained how to use agricultural land in an efficient and sustainable manner. One of these commissions was the Native Commission of 1881-82 which noted that some of the locations where the "natives" were residing were fully occupied. The Commission called for the "natives" to utilise the land more fully by living in larger communities, cultivating a greater variety of crops, manuring and irrigating their land, and separating it from that used for grazing and residence (Cobbett, 1982 : 5). This was the first recommendation which actually implied a form of betterment planning only put into practice in later years.

2.3.1 Betterment in the years before and during the Second World War

Themes such as conservation and villagisation was discussed long before the 1930s. Despite these concerns as well as recommendations regarding agriculture in the homelands, the first agricultural school for blacks was established in the Transkei only in 1905. A special technical agricultural service as part of the Department of Native Affairs was established in 1929 (Union of South Africa, 1955). This division could not achieve much due to a lack of technical knowledge of soil conservation and it was only until the establishment of the South African Native Trust that betterment planning, soil conservation and villagisation really took off. The betterment initiatives emanating from the Native Trust and Land Act of 1936, as expressed in Proclamation no. 31 of 1939, constituted the first attempt by the state to deal with the situation of declining productivity and deterioration of the soil (De Wet, 1987 : 86, 110).

In Chapter 19 of the Tomlinson Commission's report (Union of South Africa, 1954 : Ch. 19, p176) an effort was made to distinguish between the various approaches followed by the agricultural division of the Department of Native Affairs towards the development of agriculture in the homelands. Since its establishment in 1929, and until 1936, the division concentrated on improving the farming practices of black farmers through various extension efforts. These efforts did not succeed because crop rotation and similar practices were not possible due to lack of available cultivatable land. Efficient animal production was also not possible because of overstocking (Union of South Africa, 1955 : 74).

The years between 1937 and 1945 are viewed as a transition period where extension still played an important role but increasingly more emphasis was being placed on soil stabilisation and reclamation. Because of overstocking and soil erosion in the reserves the agricultural division concentrated its efforts on soil conservation. As a result, extension work took a subordinate role in agricultural development. However, as much time as possible was still allocated to the training of black farmers. This training took place through extension, demonstration plots (to show the advantages of good cultivation methods, fertilisers and improved seed), financial assistance (subsidies!) to purchase farm equipment (50%), fertiliser

(50%) and seed (50%) as well as the provision of ploughing and transport services at reasonable prices (Union of South Africa, 1955 : 84). All these efforts and subsidies had disastrous results and were all suspended after a few years. The demonstration farms and plots had disappointing results and the subsidies also did not increase the utilisation of the various inputs. For instance, the subsidisation of seed was exploited by some farmers who consumed the "cheaper" seed as food.

Cobbett (1982 : 8) considers the inter-war period as one of official neglect, because the "native" question was replaced by other considerations. The quality of life in the homelands was very poor, and was worsening. This was partly due to a lack of technical knowledge, as explained earlier, and also as a result of the lack of funds and personnel during the Second World War. Thus it was virtually impossible to execute new soil conservation projects or to maintain existing and completed projects. The actual task of the technical agricultural service of the Department of Native Affairs to stabilise the agricultural areas in the homelands and to "rehabilitate and train" black farmers only began after the Second World War, i.e. 1946. Thus, in the period 1946 to 1954 the agricultural division paid all its attention to soil stabilisation and reclamation while virtually nothing was done in terms of extension and the improvement of farming practices.

De Wet (1987) views the strategy of betterment planning as being rooted in the Native Trust and Land Act of 1936 (Act no 18 of 1936). The Act established the South African Native Trust ("Trust") to administer those areas set aside for exclusive black occupation in terms of the earlier Land Act, as well as those additional areas designated for black occupation in terms of the 1936 Act itself. The Trust was empowered to adopt remedial and redemptive measures for the existing reserves. It was argued that this approach was necessary because of overpopulation, overstocking, erosion and the resulting deplorable condition of the reserves.

Land acquired by the Trust was to be used primarily to institute remedial measures for locations to recover. The Trust would systematically begin rehabilitating the existing locations mainly through a process of limiting the number of stock in the native areas (De Wet, 1987 : 87). According to the Native Trust and Land Act of

1936 the Trust acquired 4 million hectares in the released areas and also became the owner of crown land in the reserves of almost 8.5 million hectares. The 4 million hectares Trust land became *ipso facto* betterment areas with the Trust having full say and control over the land. The Trust did not have the same say over land in the reserves and land could only, with the permission of the occupants, be declared as betterment areas (Union of South Africa, 1955 :75).

The approach to betterment and agricultural development embodied in the 1936 Act was seemingly based on a belief that the poor state of land and farming in the native areas had primarily technical causes, i.e. was due to bad farming practices by the peasant (Yawitch as quoted by De Wet, 1987). To improve agricultural production in the homeland areas, effective control was needed. Enabling legislation was provided in the form of Proclamation No 31 of 1939 which was designed to combat overstocking. This proclamation, as replaced by Proclamation No. 116 of 1949, enabled the authorities after consultation with the residents, to declare it a betterment area, whereafter they could assess the number of cattle units. It furthermore prescribed that livestock in these betterment areas should be reduced up to the recommended carrying capacity of the particular area. Officials of the Department of Native Affairs were empowered to conduct a cull of animals at their own discretion. Due to the culling of large numbers of animals the betterment policy did not get much support from the black people in the reserves. So it came about that much of the soil stabilisation and rehabilitation works were only carried out on Trust farms in the scheduled areas (Union of South Africa, 1955 : 89).

Work began before the Second World War broke out - mainly erection of fences, the construction of contour banks, dams, roads and dipping tanks, and according to De Wet (1987), only where it had been requested. As indicated earlier, progress was seriously hampered during the war years as more than 50 per cent of the technical officers were involved in active service, fencing material and machinery were unavailable and there was a general lack of funds. Of the 380 000 hectares on which rehabilitation work had started after 1936, only 4 300 hectares were completed by the end of 1945 (Union of South Africa, 1955 : 76).

2.3.2 Betterment in the post-war years.

After the war, betterment was taken up with renewed vigour, and in a somewhat altered form. By the end of 1953 almost 272 000 hectares had been bettered and a further 40 projects on a total of 370 490 hectares had been partly completed. De Wet (1987 : 89) refers to a speech, entitled "A New Era of Reclamation" made by D.L. Smith, the Secretary for Agriculture in the Smuts government, in January 1945, which introduced a new approach to betterment planning. According to this, planning committees were to be set up in each of the four Native Affairs zones. The planning committees' approach would be governed by a number of guidelines (*cf* De Wet, 1987):

- the settlement of land in the most advantageous manner;
- the demarcation of residential, arable and grazing areas to ensure the best utilization of land;
- the establishment of rural villages to accommodate families of workers in industries and other services;
- the settlement of "surplus population" - people not being accommodated on viable farming lots - in such rural villages, and;
- lastly, various conservationist and improvement measures, such as fencing, diversion and contour banks and stock limitation.

As in the pre-war years the keeping of too many stock was viewed as the main cause of deterioration in the reserve areas. Government spokesmen stressed the fact that there would never be enough land for every native in the reserves to become a full-time peasant farmer. It was therefore necessary to house the surplus population in villages close to employment centres. This proposal and guideline formed an important link between the rehabilitation of the reserves and large scale industrial development after the war.

De Wet (1987) notes an important difference between the pre-war and post-war approaches to betterment planning. In the pre-war efforts, emphasis was mainly on stock-farming - seeking to limit stock numbers and erect fencing to improve grazing - and on the prevention of erosion. In these years efforts were aimed more

at the prevention of further deterioration, rather than the development of viable agriculture in the reserves, although the latter happened to be the long term goal.

The post-war efforts on the other hand were explicitly directed towards agricultural viability. The intention to settle the surplus non-agricultural population in rural villages served to divide the population into full-time peasant farmers and full-time wage labourers. This would involve the movement of many thousands of people as well as the undertaking of infrastructural and construction work. The remaining agricultural communities would also have to undergo relocation within their own areas due to the division into residential, arable and grazing areas. The post-war plan would thus, according to De Wet, require considerable social and infrastructural transformation of the reserve areas, and development in these areas were to be linked to industrial development in the urban areas. The first clear application of this approach was made by the Young Committee in the Transkei in 1941.

Authority for the proposals put forward by Smith in his "New Era" speech was granted in the form of Proclamation No. 116 of 1949 and furnished the authorities with more comprehensive powers than the earlier proclamation of 1939. The new focus of betterment planning as indicated by Smith's "New Era" speech and the 1949 proclamation was not effectively implemented until after the Tomlinson report in 1955 (De Wet, 1987 : 92).

There was increasing awareness by government officials during the 1940s of the need to initiate some form of development within the homelands; the (unofficial) policy of neglect was no longer tenable. The post 1948 period heralded the formulation of two broad strands of state involvement with respect to agricultural development planning. The first and traditional role of the Department of Native Affairs was one of stabilising and maintaining the status quo without actually engaging in development. Its function was to counter widespread soil erosion. No funds were spent on capital formation projects at all. The second strand of government involvement, developed after 1948, was directed at implementing a structural change of the homelands on a highly selective and limited basis (Cobbett, 1982).

In 1954, the Department of Native Affairs announced a change of emphasis with regard to betterment planning. It was argued that the detailed planning approach, flowing from the United Party's 1945 proposals for a new approach to reclamation, had resulted in a very slow work tempo. Accordingly, the emphasis would now move away from a system of detailed planning to the halting of erosion throughout the reserves as a necessary precondition to the establishment of agricultural viability. The immediate priority was to protect the soil-base of the reserves (De Wet, 1987 : 93).

2.3.3 The Tomlinson Commission's recommendations

Two commissions, the Fagan Commission (The Natives Law Commission 1946-48) in 1948 and the Tomlinson Commission in 1955 provided further grounds upon which the stabilisation policies were implemented during the post war period. The Fagan Commission had little impact, due to the change in government in 1948, but nevertheless provided the Tomlinson Commission with ideas and data upon which to build. The Fagan Commission suggested amongst other things that landless families should be gathered in villages inside the reserves. If possible they should be given a little plot of land just big enough to keep the women and children occupied.

The Tomlinson Commission was the first exhaustive inquiry into the homelands and was mandated to obtain the basic demographic, physiographic and anthropological data lacking at the time. It was instructed to determine the causes and the extent of poverty in the homelands and to seek remedies within the homeland strategy. With regard to agriculture the Commission's aim was to help the "Bantu" to develop an efficient and self-supporting peasant farmer class in their own areas (Union of South Africa, 1955 : 77). In their comprehensive development plan for the Black Areas in which a developed agricultural sector was to play an important, even vital role, the Commission saw the absolute necessity for the Black farmer to change his attitude and to change his approach to agriculture in general (Tomlinson, 1980 : 52). In order to ensure a developed agricultural sector as part of a diversified economy in the homeland areas, the Commission made a number of far reaching recommendations (Chapter 28). One important proposal was that the

* population and land had to be separated so as to allow "full time" farmers the opportunity of acquiring land title deeds so that they could farm economically viable units. In order to achieve this goal, tribal law and the system of one man one plot would have to be abandoned, in part at least (Union of South Africa, 1955 : 114).

The Commission also came to the conclusion that everybody in the reserve areas could not be full time farmers. Thus the Commission recommended, in similar fashion to earlier reports and statements, that viable farming lots should be created which would involve moving non-farmers off the land into rural villages.

Based on evidence before the Commission it was argued that a black family needed to make an income of £120 per year (1954 prices) in order to make a living out of full-time farming. Using this figure the Commission calculated that 80 percent of families would have had to be moved. This would have been impossible to carry out physically as well as sociologically. Using data from interviews with farmers in these areas the Commission adopted a minimum gross annual income of £60 as a basis for planning agricultural development (Union of South Africa, 1955 : 114). This would mean that only 51 per cent of the population (1951 census) would have been able to stay on the land.

The specific recommendations of the Tomlinson Commission can be summarised as follows:

1. All land in the reserves, including mission farms and land privately owned by blacks, should be declared betterment (rehabilitation) areas. Work should then start in order to prevent further deterioration by dividing betterment areas into arable, grazing and residential areas and by keeping the number of stock within the limits of the carrying capacity of the area. These policies were to be forcibly implemented where the protection of the soils demanded it.
- * 2. Settlement of farmers should take place on economic farm units. The settlement of a sufficient number of Bantu farmers in each designated agricultural zone to test the viability of the proposed farm units, particularly

in those areas of high potential.

3. The betterment areas should be divided into economic units and subsequently be sold at a uniform price through an amortisation system. The land should only be sold to farmers already settled in the betterment area and only the arable land and the residential plot should be registered in the owner's name.
4. Regarding the use of stabilised and rehabilitated land, the Commission recommended that special attention should be paid to the development and improvement of crop production. Commercial crop production on these units would ensure proper pasture control, rotational grazing and fodder crop production.
5. Existing marketing channels of agricultural products in the white areas should be used to market controlled perishable products and all non-perishable products produced.
6. It was recommended that the Division of Lands ("Lande-afdeling") of the Department of Native Affairs should be the main source of long term, intermediate and short term credit for farmers.
7. The agricultural division of the Department of Native Affairs should be developed to an independent technical sub-department to execute all the proposals of the Commission.
8. In Chapters 29 to 32 the Commission recommended special agricultural projects, such as irrigation projects, sugar cane, fibre production (sisal) and forestry.

The land-use plan suggested by the Commission was similar to existing betterment schemes. It followed more or less the same approach as the post-war effort, namely, to focus on agricultural viability. It also provided for residential areas divided in plots; arable lands divided into units; and common grazing grounds

(Union of South Africa, 1955 : 115). The basic difference was that, whereas the existing betterment areas had been planned so as to provide all families with equal access to arable and grazing land, the Commission insisted that all stabilised land should be divided into economic farming units, and that the number of families settled as farmers, should not exceed the number of such units. Sub-subsistence farming ("gebreksbestaansboerdery") could not be allowed.

The proposals amounted to a transformation of the homelands to which the government was not the ready to accede. The proposals of the Tomlinson Commission were only partly implemented. The government cut the budget proposed by the Commission for the first ten years by nearly two thirds - from £104.4 million to £36.6 million (De Wet, 1987 :97 ; Anon., 1957). Certain items such as credit facilities, mining development, development of secondary and tertiary industry, and educational facilities fell away completely. The Commission asked for £46.7 million for agricultural development and another £30 million for industrial projects which offered a means of absorbing the surplus population. The request was not granted and the government only provided £36.6 million for the following 10 years. Most of this capital was used in the betterment schemes and the creation of rural villages.

As indicated earlier, one of the corner-stones of the Tomlinson Commission's proposals was the establishment of viable agriculture by means of the removal of the surplus population from the land into rural villages. For these rural villages to be viable, industrial development was necessary. The government's withdrawal of the money earmarked for industrial development in the reserves, effectively decapitated the Commission's proposals to transform the reserves and particularly their agriculture (De Wet, 1987 : 98). The government however, supported the proposal that the farming population would have to be separated from the non-farming population for whom residential and other provisions would have to be made.

Betterment planning thus continued, implementing the proposals of the Tomlinson Commission in a modified way. Locations were still divided into residential, arable and grazing areas but plans were modified so as to cater for all the inhabitants as

the surplus population had to remain. This resulted in only a few families receiving economic farming units. The Commission's vision of creating a class of productive, full-time but small-scale black farmers could therefore not materialise.

According to De Wet (1987 : 115) and Yawitch (1981) two reasons can be identified why the Tomlinson Commission's proposals were not implemented: Firstly, that the political risks involved in moving 50 percent of the rural population were too high; and secondly that the implementation of the Commission's proposals would have undermined the government's view of the function of the reserves, namely to provide a controlled labour pool.

In the wake of the Tomlinson Commission's report betterment schemes were implemented on a selective basis, often against the wishes of the rural communities who frequently resisted attempts at the rehabilitation of their land. Land use planning did not follow the Tomlinson Commission's proposals. The recommendation on stock limitation was also not achieved due to constant resistance to cattle culling from rural black people. The kind of betterment planning envisaged by the Tomlinson Commission did, for all practical purposes never get of the ground (De Wet, 1987 : 102).

2.3.4 Betterment planning in retrospect

The focus of betterment planning before 1945 was on conservation and the prevention of erosion, and after 1945 more geared towards creating a viable agricultural base in the reserves. De Wet (1987) evaluates the policy of betterment planning in context of broader South African government policy. The responsibility for black agriculture had since 1910 been with the Department of Native Affairs and its successors. Agriculture in black areas had thus been administered separately from agriculture in the white areas. Agriculture in these areas was more subjected to aspects of "native policy" than agricultural policy. This institutional framework was partly responsible for the "two agricultures" phenomenon (after Lipton, 1977) and the unequal access to land, services, financial assistance and markets.

De Wet (1987) argues that betterment planning was unable to confront the problems of unequal access directly and that it could not achieve its own stated agricultural goals for the reserve areas. It is furthermore argued that the official diagnoses of the problems of black agriculture were either unable or unwilling to address the issue of unequal access. This was never seen as the problem of black agriculture. It was always related to overstocking, the congestion in the reserves and, as the Tomlinson Commission (Union of South Africa, 1955 : 77) argued, "the real limiting factor is the Bantu himself". The problems of black agriculture were thus predominantly viewed as sociological and psychological. The potential success of betterment planning was severely restricted by other political and economic factors within the wider South African context. The other limiting factor was the fact that most of these efforts, including the Tomlinson Commission, addressed the problems of the reserve areas within the broad framework of the policy of separate development. These political and ideological constraints were decisive and meant that betterment planning, both in the pre-Tomlinson phase as well as in the post-Tomlinson phase, had been unable to attain its stated objectives (De Wet, 1987 : 108).

The government's reaction to the Tomlinson Commission's report through its White Paper F of 1956 (Union of South Africa, 1956) was more occupied with ideological considerations than any formula for successful farming or agricultural development in the homeland areas. The government did not favour the proposal to do away with the tribal land tenure and to substitute individual tenure based on purchase. The government was also not prepared to agree to the occupation by a single individual of more than one economic farming unit. This luxury was not possible in view of the government's intention to move many people to the reserves. The rejection of the proposal for industrial development in the homeland areas resulted in less diversified jobs in these areas and therefore ruled out the creation of a local market for food producers. According to Davenport (1987 : 395) the 1956 White Paper signalled the approximate moment where government policy and the progress of black farming lost touch with each other. During the 1960s Government policy became obsessed with the continuing failure to bring about the movement of blacks back into the homelands.

Betterment was the only aspect of the Tomlinson Commission's proposals that seemed viable at the time and which could fit in the government's ideological framework. Betterment in the new form commenced shortly after the release of the government's White Paper in 1956 and continued in full until the mid 1970's (Ellis-Jones, 1987). Replanning for betterment schemes, although at a much reduced rate, continued even until the mid eighties, and primarily where communities actually requested such a programme. Much of the homeland areas were replanned, for example almost 70 per cent of the Transkei had been replanned by 1987, according to Ellis-Jones (1987 : 539).

Although considerable benefits in terms of a reduction in soil erosion and improved veld management were achieved, it was at high cost (Ellis-Jones, 1987). It appears, however, that it did not have had the positive influence on production which was hoped for. Rotational grazing was not sustained and dairy and other co-operatives organised by officials for the cattle owners collapsed (Bromberger and Antonie, 1993 : 428). The betterment approach incurred a number of major problems. A breakdown in family and clan responsibilities had led to a loss of traditional values, increased vandalism and theft. Farming operations were often neglected because arable land was situated too far away from the homestead.

2.4 PROJECT FARMING AND FARMER SETTLEMENT DURING THE 1970s AND THE 1980s

The policy of betterment continued deep into the 1970s and even during the 1980s, as indicated above. A number of changes and important milestones occurred in the post-Tomlinson years which resulted in a somewhat different approach to agricultural development in the homeland areas in addition to the policy of betterment.

Three years after the publication of the Tomlinson report in 1955 it became clear that the South African government was formulating ideas on the future long-term development of the homelands. The legal basis had been established for the granting of eventual independence by the proclamation of the Promotion of Bantu Self Government Act in 1959.

The powers of the various governments in each of the homelands were stipulated in the "Promotion of Bantu Self-government Act". In accordance with this Act the homeland governments would take responsibility for a number of issues, including agricultural development. This eventually resulted in the establishment of departments of agriculture in each of the homelands. Other changes included the acceptance of the Act on the "Promotion of Economic Development in the Homelands", no. 46 of 1968, which provided for the establishment of the Bantu Investment Corporation, the Xhosa Investment Corporation and other development corporations in each of the homelands. The Bantu Investment Corporation (BIC) was established to channel government and white agency money into the homelands. Private white capital was still restricted. The creation of the BIC was in line with the Tomlinson Commission's call for the establishment of a development body to initiate industrial undertakings (Cobbett, 1982 : 45).

This change in the institutional structure for agricultural development necessitated several additions to the agricultural development policy which was outlined in the 1970 policy document of the Department of Bantu Administration and Development. The document on the policy for agricultural development in the homelands (Departement van Bantoe-administrasie en -ontwikkeling, 1970), was the first government publication on this issue following the Tomlinson report and the White Paper of 1956. The new approach was designed as an attempt to increase production following on the failure of betterment planning to do so. The changes and additions to the existing policy included the following (Departement van Bantoe-administrasie en -Ontwikkeling, 1970 : 5 - 8):

1. The initiative in all agricultural development efforts was decentralised to the homeland governments. It was furthermore suggested that the best officials should be seconded to the homeland government to lead the agricultural development effort. It was emphasised that white officials should lead and assist the "Bantu Executive members" in this task. Subject matter specialist from the Department of Bantu Administration head office would provide advice and would oversee the execution of the policy.

2. The traditional land tenure system was to be maintained but where farmers were not making a success it had to be possible to transfer land to more successful farmers. This in a way was a turn around, back to the Tomlinson proposals.
3. A considered effort was made to provide agricultural credit for the purchase of farming inputs, draught power and infrastructure, mainly through co-operative channels. Linked to the idea of co-operative credit provision it was the notion that agricultural development should take place as part of a process of community development.
4. The co-operative movement was viewed as an ideal vehicle for agricultural development, given the communal tradition of the black people.
5. It was accepted that it would be possible to accommodate non-farmers within a particular tribe on tribal land.
6. The priority areas for agricultural development were three fold i.e. human development, physical/biological development and economic development. The first goal of agricultural development was identified as achieving maximum production. To achieve this the second priority was to consolidate uneconomic farming units. It was still believed that the total rural population would not be able to make a living from agriculture and that the "surplus population be removed through a systematic process".

According to the departmental policy it was argued that agricultural development should take place according to the principles of community development. The development of the human component should take place on the same principles as the development of the community, i.e. through active participation of the community itself. Extension was seen as the channel through which the human component could be developed to prepare individuals for the development programme.

The approach towards the physical/biological component (land, water, plants and animals) was one of optimal resource use and protection of the natural resources. Other considerations with regard to land was to strengthen the communal tenure system, with clearly defined occupation and user rights of land. These aspects as discussed above were outlined in detail in the policy document.

Other aspects included in these policy guidelines are the following :

1. Economic utilisation of agricultural resources, including the design and implementation of efficient crop and animal production systems and irrigation projects.
2. Organisation of agricultural extension, and agricultural training.
3. Agricultural research.

The new approach to agricultural development concentrated on technology transfer through greater emphasis on extension, irrigation development and mechanisation and intensive agriculture. The origin of this approach to agricultural development was to be found in the virtual absence of commercial agriculture in the homelands, which incorrectly was attributed to lack of entrepreneurial and managerial ability amongst black farmers. This then led to the secondment of white management personnel to develop modern agricultural systems in the homelands as outlined in the Department's policy guidelines discussed above. The approach to agricultural development was based on the agricultural development models of the sixties which emphasised large-scale, centrally managed irrigation, dryland and livestock projects (Christodoulou *et al*, 1993 : 2).

Flowing from the government's declared policy discussed above, increasing emphasis was also placed on large-scale centrally managed estate project farming during the 1970s (Christodoulou and Vink, 1990), particularly in the case of industrial crops "where large units were desirable" (Van Wyk, 1970 : 66). In these projects the Department of Bantu Administration acted as entrepreneur. It developed the project, acquired the experience and knowledge and transferred these projects to the Territorial Authorities as soon as they were able to manage them. Crops included in these projects were citrus, sisal, phormium tenax, tea,

pyrethrum, coffee and forestry (Van Wyk, 1970 : 66). The agricultural projects and irrigation schemes were financed and developed by the authorities. The design of these schemes were based on modern technology on tribal land (Departement van Bantoe-administrasie en -Ontwikkeling, 1970). During the 1970s irrigation schemes were established wherever possible.

The project farming approach obtained a further boost with the establishment in 1973 of an agricultural division in the Bantu Investment Corporation. This division had as its main objective the development of agriculture in the homelands by means of project farming on unallocated farms in these areas for eventual transfer to the homeland authorities. Many of the projects were also implemented by agricultural development corporations and the South African Development Trust Corporation (STK). The philosophy of optimal resource use by means of modern scientific farming methods led to a highly capital and management intensive approach. Sophisticated, mechanised, production systems using, for example, centre pivots, large tractor fleets, sophisticated milking parlours and high value cash crops proliferated (Van Rooyen, 1993).

According to Bromberger and Antonie (1993); Christodoulou and Vink (1990) and Christodoulou *et al* (1993) it appears that substantial losses were the norm with these schemes and the distribution of benefits was very limited in relation both to total need and to aggregate resources available for development. Although higher levels of resource use and the creation of wage employment were promoted through modern farming enterprises managed by parastatal companies and consultants, little was done to promote a class of self-employed farmers and improved farming methods for smallholders outside these schemes. Schemes were later adjusted to settle selected persons as "project farmers" operating under paternalistic control (Van Rooyen, 1993). Occupiers of plots were strictly selected, they had to farm according to direction and under supervision and they were dismissed from their plots if they were unsuccessful (Van Wyk, 1970 : 66). This approach, commonly known as the farmer settlement approach, focused on large schemes but concentrated on settling selected labourers as project farmers operating under strict control. Participation by so-called farmers was accommodated by using farmer committees to assist the project manager. These

farmers were however, nothing more than paid wage labourers with virtually no control over their production activities. As such a drive towards self reliant farm businessmen still did not materialise (Christodoulou *et al*, 1993). This approach was dominant in the late 1970s and early 1980s (Christodoulou and Vink, 1990).

With time disillusionment developed about these projects. They were expensive, often loss-incurring, and rarely involved spill-overs or linkages with the surrounding communities. They were often viewed as "islands of prosperity amidst an ocean of poverty" (Bromberger and Antonie, 1993 : 429). These models of development were thus viewed with increasing scepticism in terms of their undesirable impact on investment and operational costs, entrepreneurial establishment, fiscal affordability, upliftment of adjacent communities, project sustainability, and overall rural development (Christodoulou *et al*, 1993 : 3).

2.5 THE SHIFT TO FARMER SUPPORT PROGRAMMES IN THE LATE EIGHTIES

The establishment of the Development Bank of Southern Africa (DBSA) in September 1983 brought about a more consolidated approach to economic development of the homelands in general and to agricultural development in particular. The DBSA, established as a wholesaler of funds, on similar lines as the World Bank, provides concessional loans, technical assistance and policy and information support for a variety of development projects and to regional and local governments, development parastatals and NGOs who operate as implementing agents. A large part of its loan portfolio has been taken up by homeland authorities.

Since its inception DBSA provided financial support for the settlement of farmers on projects, farmer support services, rural community support elements (water, roads, training centres, etc.) and development planning and policy reform. Certain state farming and settlement projects funded by alternative public sector agencies were also taken over by DBSA in 1983. Although an attempt was made to promote a more farmer-friendly approach, most projects essentially remained large scale estate type ventures (Van Rooyen, 1993).

These projects funded by DBSA were effective where natural conditions and production required the economic use of capital and intensive management to ensure the production of high quality products and sufficient volume. However, these opportunities were restricted and the reliance on such projects did not prove to be a successful solution in solving the major problems of rural poverty and the under utilization of available resources (DBSA, 1986). This led to an acknowledgement of the limitations of agricultural projects which made it necessary to find an alternative approach to agricultural development. Thus the Farmer Support Programme (FSP) was introduced, trying to achieve a shift away from investment in projects to a programme which could provide access to support services for a large number of small holders.

Evidence from other countries in Africa, such as Zimbabwe, Kenya and Malawi, suggested that a broadly based farmer support strategy is a more effective way of promoting agricultural development. The implementation of this strategy in Zimbabwe, where institutional support and incentives were developed for small farmers to improve production, has led to large increases in their contribution to the total agricultural output. Malawi and Kenya may be quoted as other good examples, while efforts to support small scale sugar farmers in KwaZulu have also proved to be successful. There are indications that this comprehensive farmer support strategy is an appropriate option to supplement the large project and farmer settlement strategies. Farmer support programmes, providing complementary, coordinated and timeous services to the broad mass of farmers have the potential to raise the overall utilization and efficiency of agricultural resources (DBSA, 1986).

This evidence combined with the limited success of farmer settlement projects as well as requests for funding for a farmer support project by one of the agricultural development corporations, furthermore compelled the DBSA to "design" the farmer support strategy in 1986 based on two main principles (Van Rooyen, 1993):

- a) A farmer was defined as anyone (man or woman, full-time or part-time), who uses resources to produce agricultural goods; and

- b) farmers in general use the resources available to them rationally and efficiently within their own objective function and socio-economic environment.

A policy paper entitled "Policy guidelines in respect of farmer support programmes" (DBSA, 1986) was issued. This document provided a basis on which farmer support programmes (or FSPs) were subsequently implemented. The "guidelines" and the seminal work of Van Rooyen, Vink and Christodoulou (1987) was, as Christodoulou *et al* (1993) termed it, a paradigm shift in the DBSA, and for that matter South Africa's approach to agricultural development. The philosophy underlying this approach is the principle of fair or equitable access as a means of achieving justice in society. Due to the inequitable access of black farmers to the agri-support system in South Africa it was argued that measures such as a support programme, which could rectify these imbalances and provide fair access to the market, could improve economic efficiency (Van Rooyen *et al*, 1987 : 211).

The FSP approach is designed as a broad based agricultural development strategy which is crucial for increasing incomes, employment, and export earnings. In view of its broad based approach the FSP as applied in the homelands can be viewed as a unimodal strategy to agricultural development as defined by Mellor and Johnston (1984) and Johnston (1972). Although Van Rooyen *et al* (1987) and DBSA (1986) never used the term "unimodal strategy" it is clear from Timmer's (1988) interpretation of Mellor and Johnston's (1984) call for an unimodal strategy that the FSP can be classified as such. As Timmer (1988) puts it:

"a unimodal strategyis one in which a broad base of smallholders are the central focus of agricultural research and extension services and the recipient of the bulk of receipts from agricultural sales."

According to Mellor and Johnston (1984) agriculture can only play the multiplicity of roles as defined earlier by Johnston and Mellor (1961) as well as the role of generating a structure of demand, favourable to rapid growth in employment, if such a unimodal strategy is followed. This is opposed to the bimodal strategy of agricultural development which places modernization efforts primarily on large

progressive farmers while neglecting the "backward" smallholders. Mellor and Johnston saw the inherent dualism in bimodal strategies as the most common barriers to an interrelated strategy. Taken as a whole, South Africa's agrarian history during the 20th century provides a prime example of what Mellor and Johnston are referring to. Further references to FSP in this research should be seen in this context.

The following section provides the objectives, premises and elements of the farmer support programme based on the DBSA guidelines (DBSA, 1986). From this section the broad based nature of the FSP (as designed) is evident.

2.5.1 The farmer support philosophy

One of the premises on which the approach to the farmer support programme (FSP) is based is that it accepts the ability of "traditional" small farmers to respond rationally to economic incentives. These groups, however, are seriously restricted by technical, system-related and institutional factors. The supply of appropriate support services could remove or alleviate these constraints, allowing more efficient utilisation of agricultural resources, with a concomitant increase in economic activity and income levels in less developed areas.

2.5.1.1 Constraints facing farmers in the less developed areas

Farmers in developing areas experience a number of constraints which increase risk and uncertainty, and act as disincentives for increased production. Although many of the constraints are interrelated and in some cases site-specific, certain constraints, common to most areas, were identified by DBSA (1986):

i) External (or system) constraints

There are a number of constraints which emanate from the broader agricultural environment that are largely beyond the control of the individual farmer. These include, amongst others, natural risks typical of agricultural activity, the limited availability of inputs, credit, mechanisation and marketing services; poor

institutional and infrastructural support; inappropriate policies and legislation; restrictive administrative and social structures; and problems associated with land tenure and the acquisition of agricultural resources.

ii) Internal (or allocative) constraints

Although it is accepted that farmers do have the innate potential to allocate resources in an economically efficient manner, there are also a number of constraints on the actual ability of farmers to operate efficiently and over which the farmer has some control: liquidity problems; shortage of labour; lack of skills, knowledge and education; and a range of cultural factors which in some instances prevent more effective management of resources. The removal of these constraints will assist a farmer to allocate resources in a more economically optimal manner.

2.5.1.2 The objective of the Farmer Support Programme

The stated objective of the Farmer Support Programme is to promote structural change away from subsistence agricultural production to commercial production (DBSA, 1986). The programme is based on the premise that this change can be achieved by supplying comprehensive agricultural support services to emerging farmers - primarily in selected areas where the potential for development is good.

The emphasis on commercialisation restricted perceptions on the applicability of FSPs. Since 1989 FSP project descriptions increasingly provided for other initiatives to support household productive activities such as support to mechanisation and transport contractors and small business activities. These realisations and the expanding scope of the programme, according to Van Rooyen (1993), led to the change in the objective of the FSP in 1989:

"to promote economic development by improving farmers' access to support services over a broad base in a sequential and evolutionary manner".

2.5.1.3 Elements of the Support Programme

To assist in addressing the constraints identified above, the following elements have to be provided as part of a comprehensive Farmer Support Programme (DBSA, 1986):

- i) the adequate provision of appropriate **inputs** and the funding thereof (**credit**) to the farmer;
- ii) the provision of a comprehensive **mechanisation service**, which caters for all aspects of transportation, land preparation, planting and cultivation (harvesting and transport to storage may also be required), as well as the maintenance of machinery, implements and infrastructure;
- iii) the provision of **marketing channels and services** to cater for all aspects of marketing, should this become necessary (i.e. grading, storage, packaging, infrastructure and transport), as well as alleviating legal constraints;
- iv) the provision of adequate **extension and demonstration services**, information and specific **project related research** to ensure the transfer of knowledge and information to the farmer;
- v) the provision of **training** to facilitate the development of managerial skills needed both on the farm and at an institutional level. In this respect attention needs to be given to proper human capital development and the identification of management and skill deficiencies in the above groups;
- vi) the acquisition of **de facto rights** to production which would include land security, contracts and quotas.
- vii) the provision of off-farm **agricultural infrastructure** necessary to support FSP. The provision of this element differs from that of on-farm fixed improvements and is not directly paid for by the farmer. The following are seen as specific to the FSP; feeder roads and bridges, to facilitate access to

farm and service centres; fencing, such as boundary and roadside fencing and around planned agricultural areas; conservation works such as contours and soil erosion works; and finally, the planning needed for the above, such as surveying. It should be noted that the infrastructure necessary for communications and the electrification of rural communities, while important for the FSP, should be seen in the context of more general rural development. The financing of this element and the appropriate terms and conditions will be drawn from existing DBSA infrastructural projects.

Within a target area, farming localities should be identified on the basis of an area in which emerging farmers can have reasonable access to a local service centre. The service centre should, in response to demand, provide a local market for farm products and collection of products for distribution to wider markets; a retail outlet for inputs and credit; workshop; counselling room, etc. Ideally, all rural services should be concentrated at the service centre.

2.5.1.4 Target Groups

DBSA (1986) identified three categories of farmers in the less developed areas:

- i) fully commercial farmers who farm independently for their own account on a commercial basis and compete with commercial farmers throughout Southern Africa;
- ii) emerging farmers are those who have the motivation and potential to farm as fully fledged commercial farmers, but lack resources and access to the necessary support services to expand and be classified as commercial farmers. It is important to note that any farmer who produces a marketable surplus can be considered a commercial farmer, but only becomes "emergent" when he/she is able to utilize his/her agricultural resources without substantial external support; and

- iii) sub-subsistence and subsistence farmers who primarily produce for own use, but may produce intermittent surpluses.

In view of the wide spectrum of needs and the large numbers of small farmers involved, the economic allocation of support services is important. One of the development principles established by DBSA (1986) indicates that comprehensive support should be given to emerging farmers in developing areas. Although FSPs cannot be restricted to emerging farmers only, this group should clearly be considered as the target for support. However, the FSP will automatically exclude Estate Farming Projects, which would include:

- commercial farming ventures conducted on corporate principles by the private sector or development parastatals.
- a variant of the above, with a corporate institution operating a tribal farm on commercial principles for the benefit of the tribe, without the active participation of individual farmers.

Although emerging farmers were initially identified as the target group for the FSP, this was later relaxed to basically include all rural households making a living from cultivating the soil or rearing animals.

The Farmer Support Programme can be categorised as inclusive and accommodating; it will provide opportunities available to expand production up to a point where farmers can be classified as fully commercial. The services of the FSPs will be available to other farmers, but the benefits are specifically aimed at emerging farmers. The essence of the programme is that it should, through allowing economic forces to operate, serve as a spontaneous means of selecting the commercial farmers.

2.5.1.5 Target Areas

It is essential that comprehensive services are provided within an area. Furthermore, to ensure a positive demonstration effect, the support services should

be concentrated initially in defined areas. Due to the large numbers of small farmers involved, the economic allocation of support services also requires the identification of target areas. Three possible criteria for the selection of target areas are proposed:

- i) the agricultural potential of the natural resource base;
- ii) the actual and potential demand for support services by individuals and communities; and
- iii) the availability of existing technical and infrastructural support.

Areas rating high in all three categories can be classified as Immediate Growth Areas and should be given priority. Areas with a high agricultural potential but lacking categories (ii) and (iii) can be classified as Future Growth Areas. They rate as a second priority and support activities should be directed towards upgrading such areas to Immediate Growth Areas. Areas of low agricultural potential should not become target areas and support efforts should therefore be restricted.

The DBSA (1986) identified the following general guidelines, applicable to the programme as a whole, which should be used in the economic appraisal of specific programmes:

- the provision of the support services should be comprehensive and all the elements should be provided in an integrated fashion;
- attention should be paid to the effective and potential demand for support services;
- cognizance must be taken of the existing supply of support services, both within the locality and in the region as a whole and, if necessary, the services should be rationalised on a regional basis;
- the spatial allocation of the support programme needs to be evaluated;

- the sequential nature of agricultural development necessitates the coordinated establishment of support services within an appropriate time-frame; and
- as a general principle, the private sector should provide most of the services. Training, research and extension are exceptions, although the private sector can assist in making these programmes more effective. It must be recognised that in certain circumstances, public sector management may be necessary to ensure the adequate supply of services and to regulate the supply of services by the private sector.

2.5.2 Progress with the implementation of the FSP approach

Since 1987 the DBSA agricultural loan portfolio showed a shift towards FSPs and at the same time there was a decline in the investment in state and settlement projects. Van Rooyen (1989) illustrates this by showing that DBSA had supported 21 large scale irrigation projects from 1984 to 1989 and in comparison 23 FSPs from 1987 to 1989. At this stage FSPs were largely directed towards dryland farming, but the FSP approach to irrigation and livestock development was increasingly followed in later years. Despite this reported shift towards FSPs van Rooyen (1989 : 73) still viewed "[I]nvestment in farmer settlement and farmer support programmes.....as the main area of support by DBSA".

The first fully integrated farmer support programme was financed in March 1987 in KaNgwane and up to 1993 a total of 35 FSP projects have been funded by DBSA, reaching an estimated 25 000 farmers (Van Rooyen, 1993 : 15).

An evaluation of the performance of selected Farmer Support Programmes in Venda, Lebowa and KaNgwane is provided in Chapter 4 and from this more concrete evidence can be obtained of the progress and results of FSPs.

2.6 SUMMARY

Three distinct phases of agricultural development strategies followed in the homelands or less developed areas of South Africa were identified. These are

betterment planning since 1936 to the late 1970s; centrally managed project farming and farmer settlement projects during the 1970s and 1980s and farmer support programmes since the late 1980s. This classification corresponds largely with the classification of other authors, eg. Ellis-Jones (1987), Christodoulou and Vink (1990), Van Rooyen *et al* (1987), Van Rooyen (1993) and Bromberger and Antonie (1993).

The Chapter provided an in-depth overview of each of the phases of agricultural development thinking. From the discussion it is evident that these strategies were generally designed to fit into the ideology of "grand apartheid". The farmer support strategy to some extent, attempted to rectify a few of the wrongs of the past by improving the productivity of agriculture in the homeland areas with a more broad based approach. Although this was the intention of the programme, the way in which the guidelines were formulated and the way it was implemented gave the impression that only a small minority of farmers would benefit.

The remainder of the study investigates the merits of the programme, experiences and lessons with the programme and also considers changes in approach necessary to ensure the replicability of the programme over a much broader front.

CHAPTER 3

THE PROVISION OF SUPPORT SERVICES TO SMALL-SCALE FARMERS IN LESS DEVELOPED COUNTRIES : EXPERIENCES, LESSONS AND DEBATE

"The process of developing policies, technologies and delivery systems for smallholders is one of the development challenges of the 1990s."

Carl Eicher and Mandivamba Rukuni, Swakopmund, 1990.

3.1 INTRODUCTION

Many observers recognise that adequate incentives are only part of what is needed to get agriculture in Sub-Saharan Africa and other developing areas, moving again. Apart from access to incentives and an endowment of basic natural resources, positive supply response would also require a supporting framework of services such as infrastructure, communications and transport; research, extension and training; irrigation; seeds and agro-chemical supplies; veterinary services; and output marketing structures. Eicher (1994) argues that growth in agricultural output or a "smallholder-led Green Revolution" in Africa needs an efficient system of farmer support institutions (public and/or private) to diffuse improved technology (seeds, fertiliser and credit) to farmers and market the increased agricultural output. In countries that inherited dualistic agricultural systems such as Zimbabwe (and naturally South Africa) this requires the restructuring of agricultural institutions away from serving commercial farmers to serving smallholders. It has, however, proved to be difficult, as will be shown in this chapter.

In the design of the FSP it was argued that in the homelands, similar to many countries in Sub-Saharan Africa, support services were ineffective for small-scale farmers. It was shown earlier (Chapter 1 and 2) that it is precisely the ineffective provision of, and the unequal access, to agricultural support services, and the

commercial orientation of agricultural institutions in South Africa, that have lead to the need for a comprehensive support strategy, such as the FSP. Duncan (undated) confirms the importance of a supporting framework of services for sustainable growth within smallholder agriculture. Several authors (*cf.* Duncan, undated; Lele and Adu-Nyako, 1992; Mellor and Desai, 1985) also stressed the importance of developing small-scale agriculture since it should be the engine of overall economic growth by means of generating growth linkages. To ensure successful development of smallholder agriculture basic agricultural services, such as access to inputs, markets, land, research and extension, roads and infrastructure must be provided for a large number of rural households.

The relevant literature on agricultural development, agricultural change and the alleviation of rural poverty, is full of examples of smallholder agricultural development strategies which amongst other things emphasise the provision of services and support elements to smallholders. The recommendation of Lele and Adu-Nyako (1992 : 107) is one such an example: "[B]road-based agricultural growth strategies that employ the rural poor intensively are the best way to alleviate poverty. This implies assured access for the poor to factors of production such as land, credit and fertilizers. An enabling environment through the provision of complementary services such as rural roads, irrigation, infrastructure, markets, research and extension services is also needed to accelerate growth".

This chapter tries to give an overview of agricultural delivery systems and support programmes in a number of selected developing countries. The second part of the chapter discusses in detail the issues and debate related to each of the various support elements. The approaches in providing each element is discussed and lessons from past experiences are highlighted in order to assist in judging the efficiency of the farmer support programmes in the less developed areas of South Africa.

3.2 EXPERIENCE WITH SUPPORT PROGRAMMES AND DELIVERY SYSTEMS TO SMALL-SCALE FARMERS IN SELECTED COUNTRIES

3.2.1 Zimbabwe

Zimbabwe's well documented "smallholder miracle" during the first five years following independence in 1980, was largely the result of smallholders' improved access to input packages, extension and markets (*cf.* Blackie, 1987; Cliffe, 1988; Rohrbach, 1989; Mudimu, 1992; Vink and Louw, 1990; Eicher and Rukuni, 1992; Eicher, 1994). It can be argued that the miraculous improvement in smallholder productivity and household food security and the increase in marketable output due to improved services to smallholders in the communal and resettled areas of Zimbabwe, partly motivated the formulation of the FSP strategy by DBSA in 1986. Although it has never explicitly been stated, the sequence of events as well as the way the strategy has been motivated and formulated, clearly points to this. Since Zimbabwe's colonial history resembles that of South Africa and has a similar dualistic agricultural sector, it is most appropriate to discuss Zimbabwe's smallholder strategy in more detail than the other examples included in this section of the chapter.

Zimbabwe's post independence agricultural policy was consistent with the overall philosophy of "growth with equity". In implementing the "growth with equity" policy, agricultural institutions were charged with addressing the needs of smallholders while, at the same time, maintaining some support for large farms (Eicher and Rukuni, 1992 : 332). Since 1980 the Zimbabwean government has committed increased resources to the agricultural sector to enhance production of both cash and food crops by large-scale commercial farmers and the small farm sub-sector. According to Mudimu (1992 : 19) the strategies that were adopted included:

- incentive producer prices for food and cash crops;
- improvement of the institutions serving farmers, particularly credit facilities, extension, agricultural research and the strengthening of farmer organisations, and

- improvement in the infrastructure servicing farmers, mainly road networks and crop collection and marketing systems.

It was acknowledged that farmers need to have access to extension services, credit, agricultural implements, seeds, fertilisers and markets. In this regard the improvement of institutions and the improvement in infrastructure were considered as particularly important strategies. The provision of the mentioned services was considered to be the responsibility not only of the central or local government, but also of the private sector.

The implementation of the above mentioned strategies and the results experienced are summarised largely based on the work of Rohrbach (1989), Mudimu (1992), Eicher and Rukuni (1992), Vink and Louw (1990) and Wekwete (1992).

3.2.1.1 Producer prices

By increases in nominal prices of food and cash crops by an average of 75 to 110 percent between 1980 and 1986, the government succeeded in encouraging diversification of production away from high risk crops in low rainfall areas. The aim was to improve household food security and cash income. To stimulate production of drought tolerant food crops in these areas, the government instituted guaranteed producer prices for pearl and finger millets in 1984.

3.2.1.2 Marketing

The improvement of institutions and the infrastructure servicing farmers on the Communal Lands has played a major role in stimulating an increase in agricultural output, particularly in the small farm sector. The Grain Marketing Board embarked on a development program that included the construction of bulk grain depots in several centres during 1982/83 and 1984/85, as well as the establishment of primary depots in at least 13 district centres. This program was necessary to provide marketing facilities in those areas that were inadequately serviced as a result of earlier discriminatory policies during the colonial years. This program of establishing grain depots greatly reduced the distance farmers had to transport their

produce. This enhanced the accessibility of communal farmers to the market and increased their participation in the market economy.

Other marketing boards also increased their accessibility to communal farmers. The Dairy Marketing Board initiated rural dairy schemes in three pilot areas. These pilot schemes included training farmers and providing them with the necessary capital and inputs. The Cotton Marketing Board also expanded its depots from 5 in 1980 to 18 in 1986. The availability of marketing points within an accessible distance stimulated more households to market even small quantities of their crops.

3.2.1.3 Agricultural credit

Before independence the provision of credit to communal farmers was virtually non-existent. The Agricultural Finance Corporation (AFC) did not lend to this sub-sector since the basis for lending was security, based on land title. The availability of credit improved significantly since independence mainly due to two government-funded and government-guaranteed schemes. These were instituted in 1981 to enable the AFC to extend credit to farmers on the Communal Lands through the Small Farm Credit Scheme and to resettlement farmers through the Resettlements Credit Scheme.

Over the period 1980 - 1986 the value of agricultural credit extended to farmers on the communal lands increased from Z\$1.6 million to Z\$43 million. More than 77 000 farmers had access to credit in 1986 compared to the 4 400 in 1980. The number of loans for communal farmers however, declined to 30 000 in 1990/91 partly as a result of stricter credit policy due to high delinquency rates in the initial years of credit provision. The reduction in loans was also a result of managerial and loan supervision problems in "scaling-up" the number of loans from 18 000 to 77 000 in 1986. Furthermore, recurrent droughts increased the risk of borrowing and the rate of default (Eicher, 1994).

The expansion in credit facilities greatly improved the communal farmers' access to agricultural inputs, such as fertilisers, seeds and farm implements. Thus Eicher (1994) is of the opinion that the expansion of government credit contributed to the

smallholder miracle in the early 1980s.

The cooperation among government agricultural agencies also improved and produced an integrated package of inputs, particularly to farmers in communal areas. Farmers can, for example, borrow from the AFC to fund any agricultural activity, and their debts will be progressively reduced at low interest rates when they deliver their produce at a marketing board depot.

The AFC's delay in paying communal farmers because of the use of the 100% stop order system on all crop sales up to the repayment of the loan, lead to criticism from the farmers and some decided not to utilise the AFC facility. It became evident that the stop-order system had its drawbacks and the AFC subsequently embarked on a system of group lending. The AFC encourages smallholders who want loans to form groups of 20 to 30 members. Each loan group meets with AFC field staff, who consider individual loans. Loans are supplied mainly for seasonal inputs, ordered and delivered by local co-operative unions. The AFC intends that, eventually, each group will submit a single loan application for which it is jointly responsible (Blackie, 1987). Although the AFC responded magnificently to the challenge of helping communal farmers increase their access to credit in the first half of the 1980s, Eicher and Rukuni (1992) argue that there are some major institutional and administrative problems (also indicated by Eicher, 1994) facing smallholder credit programmes in Zimbabwe today. One aspect is the change in the institutions delivering agricultural credit. Blackie (1987) strongly argues for the use of the many thousands of savings clubs in Zimbabwe as rural savings and loan societies, by which the government could allocate credit to the smallholder sector without the responsibility of directly operating the entire system.

Despite the improved access to the AFC's credit facility, the loans provided to 1 133 commercial farmers are seven times the value of the total value of 30 000 loans to small farmers. This, according to Eicher (1994), highlights the difficulty for a new government (as in South Africa) to restructure agricultural institutions.

3.2.1.4 Inputs

Smallholder purchases of fertiliser and hybrid maize seed were relatively constant during the 1970s. In 1980 sales of fertiliser more than tripled and sales of seed doubled. Around 60 percent of this increase in fertiliser sales can be attributed to government funded distribution of free inputs under a one year refugee resettlement program. Between 1980 and 1985, smallholder purchases of fertiliser increased an additional 45 percent and hybrid seed sales more than doubled (Rohrbach, 1989: 24). The growth in fertiliser deliveries corresponded with the growth in the number and size of smallholder loans granted by the AFC. In some areas fertiliser purchases were funded with credit and farmers were investing a declining proportion of their own cash in this input.

There were three major sources of input market expansion during the post-independence period. Private sector companies manufacturing and distributing inputs expanded their sales and extension forces in the communal areas. Complementing the effort of the private sector companies, urban based wholesalers branched out into the smallholder farming areas and numerous small locally owned retailers established new businesses. Finally the number of co-operatives selling inputs rapidly expanded.

These measures led to a decline in input costs as transport costs declined and retailers faced greater competition. Farmers also gained timely access to inputs that were previously unavailable. According to Rohrbach (1989) the smallholders situated in higher rainfall zones seem to have benefitted most.

3.2.1.5 Extension

Another agricultural institution that had to be strengthened for communal farmers was agricultural extension. Before independence, the Department of Conservation and Extension provided extension assistance for large scale farms while the Department of Agricultural Development provided extension assistance in the communal areas. In 1981 the two departments were formally merged to create the department of Agricultural, Technical and Extension Services (AGRITEX), thus

unifying the extension services for the agricultural sector under the Ministry of Agriculture. The budget for extension was dramatically increased and emphasis was shifted from assisting commercial farmers to assisting communal farmers. This new policy increased the number of village-level extension workers in the communal areas.

After securing a World Bank loan, AGRITEX embarked on a number of activities to strengthen extension coverage in communal areas. These activities included the acquisition of trucks and motorcycles to increase the mobility of extension workers. These vehicles were sold to extension workers to eliminate the mishandling of pool vehicles. The World Bank's Training and Visit (T & V) system was introduced in one of the eight provinces in the country, while AGRITEX also experimented with a number of other extension models throughout Zimbabwe. For example, since 1980 farmers have been incorporated into groups in an attempt to achieve the target of one extension worker to 400 farmers. The group approach incorporates training sessions, labour sharing and group lending.

The removal of the artificial barriers in the functioning of extension services after independence lead to considerable improvement in agricultural extension efforts. Manpower development programmes were established at agricultural colleges and at the University of Zimbabwe. Despite these efforts extension staff are still in short supply, particularly at the senior management and research levels.

3.2.1.6 Research

The institutions involved in technology generation have also been improved. Agricultural research was reoriented to address the technology needs of farmers in the communal lands. The objective was to develop sustainable crop and livestock production systems more suited for low rainfall areas. For crops the focus was on yield stability to eliminate the food and cash income risks associated with fluctuations in crop output due to low and unreliable rainfall. As with extension, Zimbabwe's agricultural research system is also plagued with staff problems due to high staff turnover. About 60 percent of the professional staff have less than five years of work experience.

3.2.1.7 Results and lessons learned

The agricultural development strategies followed by Zimbabwe as well as the improvement of agricultural institutions paid dividends for Zimbabwe. The country was able to sustain increased agricultural production by large scale commercial farmers and at the same time it was able to stimulate increased production and marketed output from farmers on the communal lands. Between 1980 and 1986 the output of maize and cotton from black farmers in the communal areas more than doubled. These production advances were made possible by giving small-scale black farmers access to agricultural inputs, institutions and markets formerly reserved for white settler farmers, and by manipulating producer prices.

Eicher and Rukuni (1992) identified a number of lessons to be learned from the Zimbabwean experience. One that needs to be singled out is that communal farmers are keen to increase crop production as soon as the racial barriers to inputs such as credit are eliminated. But the phenomenal growth of maize and cotton production is not a function of strengthening one institution such as credit, research or extension, but a combination of affordable and profitable technology, support institutions to facilitate the uptake and use of the improved technology, favourable prices and aggressive market development.

Several scholars including Eicher, Rohrbach, Blackie and Rukuni reported on the peasant miracle of the early eighties. The sustainability of Zimbabwe's agricultural system from a long term point view was however questioned early on. Most analysts acknowledged that increased production, productivity and high levels of marketed output have been achieved by only a minority of black smallholders. Cousins *et al* (1992) also stress the contradictory nature of the "peasant miracle" with smallholder production and marketed surpluses rising rapidly during the 1980s while many households still depended on food distributed by the state. The agrarian change in Zimbabwe furthermore lead to class formation in the rural areas with households utilising the improved access, moving into the rural petty-bourgeoisie.

3.2.2 Malawi

The Malawi government's agricultural policy has emphasised food self-sufficiency and promotion of agricultural exports. A key element of this thrust has involved moving farmers from a traditional mode of production to more intensive commercial agriculture and expanded use of modern forms of inputs. There has been a concomitant emphasis on providing farmers with credit for purchase of inputs, increased availability of inputs and marketing facilities, higher product prices, and extension and training to improve farmers' overall information levels and skills (Sofranko and Fliegel, 1989).

As part of this approach the European Community funded a primary smallholder programme in the Salima Lakeshore Agricultural Development Division in Malawi which began in 1984 in typical integrated rural development fashion. This project provided funds for extension services and credit for seeds, fertiliser and other inputs focusing on maize, rice, cotton, groundnuts and livestock, the construction of feeder roads and boreholes, the provision of rural health facilities. These inputs were designed to help increase the areas under crop production and crop yields, and also to improve the general efficiency of operations. Additional social benefits included a general improvement in rural communications, clean water supply and better health facilities (Director-General for Development, 1990).

The provision of the various components in Malawi's agricultural development effort are briefly described based on the information provided in the article by Sofranko and Fliegel (1992).

3.2.2.1 Credit

A primary component of agricultural development efforts in Malawi has been the provision of credit through farmer groups (clubs) which assume responsibility for repayment and farmers' adherence to certain restrictions on the use of loans. Credit is provided in kind and it is estimated that 10 - 15 percent of the smallholder population make use of the available credit. Credit was used to fund inputs which was necessary for increased food production and to enable poorer smallholders to

reach food-self-sufficiency by farming their own land. Since credit is repayable at the end of each year, the smallholder has to grow enough to feed his household and repay the credit. [This is also the case with many of the households participating in the FSP, as will be indicated in later chapters.]

Evaluation reports of the support programmes in Malawi indicated that the credit system is primarily serving the relatively better-off farmers with comparatively low production risks. During the late 1980s low yields as a result of erratic rainfalls resulted in quite a number of credit participants deciding to default rather than to starve. The credit repayment rate dropped to a low 72 percent during those years. As farmers defaulted on credit repayments, they lost their eligibility for production loans in the following year. Their productive capacity subsequently declined causing them to drop out of the credit system (Director-General for Development, 1990)

Credit provision through the farmer club strategy was conducive to high loan repayments in certain areas, but as Sofranko and Fliegel (1989) indicate, it does have some trade-offs. A certain amount of selectivity would enter into who ultimately gets membership in a club. In many areas it often happens that smaller, labour-poor farmers and by definition, female operated farms, are excluded from these farmer clubs due to the perception that they are more risky.

3.2.2.2 Extension and farmer training

Smallholders' utilisation of new agricultural inputs is the main thrust of Malawi's agricultural development efforts. The main vehicle by which this transformation is to occur is the extension service working through farmer clubs to disseminate new information and farming techniques. Malawi's extension service has undergone dramatic growth with the number of field level technical assistants increasing with 66 percent. The farm assistant-to-farm household ratio was calculated as 1 : 827. Around 20 percent of the farmers participated in group meetings under the Training and Visit system. In addition the Ministry of Agriculture runs training programmes designed to provide more intensive instruction and skills training. For this purpose day centres and residential training centres were established, all of which involve

farmers in demonstrations, lectures and discussions of typical farm situations.

Sofranko and Fliegel (1989 : 108) however, indicate some problems relating to the training effort as training targets are often not being met. Farmers are showing resistance to attending courses, material is often reported as being irrelevant because of the heterogeneity of the training groups, or the material is repetitive. In part, this is a consequence of ambitious training targets, an emphasis on numbers at the expense of quality, and of the level of training and extension staff members themselves. Data for extension and farmer training indicate a considerable amount of farmer contact but still only a small fraction of the smallholders is being reached.

3.2.2.3 Input supply and marketing

A national parastatal the "Agricultural Development and Marketing Corporation" (ADMARC) purchases major commodities from farmers and serves as suppliers of major inputs. ADMARC is the sole supplier of modern forms of agricultural inputs and the major marketing outlet. The parastatal has been expanding its network of outlets during the 1980s, with around 1 300 outlets nationwide. ADMARC's goal is to have all farm households within 10 kilometre of a facility by 1990 and already 76 percent of households are within 8 kilometres of an ADMARC depot. The evidence provided by Sofranko and Fliegel thus suggests that the marketing and input distribution system is well developed and decentralised.

The authors also discuss a number of problems with this system of input supply and marketing. These problems are typically associated with parastatals and include inadequate storage facilities, untimely deliveries, spoilage, inadequate supplies, long lines at harvest and delayed payment. These are periodic problems only and Sofranko and Fliegel (1989) are of the opinion that the ADMARC distribution and marketing system works fairly well.

3.2.2.4 Results and critical analysis

Malawi has demonstrated progress over the 1973-84 period. In terms of extension contact levels, extension-farmer ratios and formal credit distribution, it ranks above most other African countries (Sofranko and Fliegel, 1989 : 105). Fertiliser supplies have increased annually, and for several cash crops prices stayed ahead of input prices.

The perceived success of Malawi's agricultural development needs to be qualified. A number of problems related to the various support elements were identified in the sections above. In addition Sofranko and Fliegel (1989) mention the low adoption rates of hybrid seeds and certain inputs by farmers despite their availability as a further problem. In no district more than 10 percent of maize plots planted in hybrids, and for the country as a whole, slightly over 3 percent of the maize plots are in hybrid maize.

It is also true to say that Malawi's success has not touched the majority of the farm population. It would be more appropriate to say that Malawi's success in agricultural development represents a solid beginning. Important elements of infrastructure have been put in place, farm credit and other inputs are becoming available and technical assistance has been established. This represents a solid beginning but much more effort will be needed to ensure the successful development of Malawi's small farmers. Lele and Adu-Nyako (1992) are particularly critical about Malawi's agricultural development effort and highlight a number of discriminatory measures against smallholders in export and high value crops.

3.2.3 Lesotho

Another example of a support programme to small farmers is the USAID-funded Lesotho Agricultural Production and Institutional Support Project (LAPIS). The project's purpose was to develop the capability of the Lesotho's Ministry of Agriculture, Cooperatives and Marketing to support increased commercial production of high-value crops, livestock and livestock products among the nation's

small farmers. Increased horticultural production was viewed as a key objective, and the irrigated vegetable program was the main vehicle for achieving it (Artz, 1992 : 320).

The program initially entailed provision of production credit through a sub-component designed to develop and capitalize the existing network of local credit unions, development of appropriate cropping programmes, assistance in input procurement and direct technical support to participating farmers in production and marketing. These efforts were supported by associated programmes in agricultural research and education. The project started with eleven farming enterprises already established and during the initial season of the project, additional applications for support were reviewed and 19 individuals and two associations were selected for support, beginning in the 1987-88 season. The associations were already organized with financial support from other sources and were looking for viable types of production to undertake. Their combined membership was initially 55 (Artz, 1992 : 320).

The project team worked closely with participating farmers to develop their production and marketing skills and refine the technical package. In 1989 the program was redirected with the target number of enterprises being eliminated, the level of direct farmer support by the expatriate team was tapered off and dropped completely by 1990, and the overall effort was refocused to address the identified constraints with regard to credit and marketing.

From the description of this support programme provided by Artz (1992) it is evident that this programme seems more likely to be an expatriate managed, donor funded project reaching only a small number of farmers. The broad based provision of support services to all small farmers is clearly not present. The programme did however, according to Artz (1992 : 328) achieve some success. This included across-the-board increases in income from fruit and vegetable sales; decreased dependence on non-agricultural sources of income; increased expenditure on agriculture and on education, household goods, clothes; and lastly, increased total income.

3.2.4 Indonesia and Malaysia

In Indonesia it was argued that government agricultural support of the right kind and of the right amount can bring about a more equitable distribution of the social benefits of technological improvement in smallholder agriculture. The Indonesian government's support to small-scale paddy and rubber producers included physical infrastructure, extension, supply of inputs, provision of credit, assistance with marketing processing, membership in agro-based organisations (in Malaysia) (Gibbons, *et al*, 1980).

Infrastructure, especially irrigation, is of primary importance to paddy cultivation as it ensures double cropping. In the case of paddy cultivation the provision of irrigation is a precondition for effective utilisation by smallholders of the other support elements provided by the Indonesian government. In the same sense the provision of credit was viewed necessary to ensure that the smallholders adopt modern technology in paddy and rubber cultivation.

In Indonesia a nation wide extension programme caters for both double and single-cropping paddy smallholders and provides a package of items including chemical fertiliser, insecticide, high yielding seeds and a cost of living allowance to all smallholders. Credit to purchase the input package described above is available from the People's Bank of Indonesia. This production loan has to be repaid within one month after harvest (Gibbons, *et al*, 1980).

Smallholders in Malaysia are eligible to join farmers associations which operate as multi-functional, government sponsored agro-based organisations. Inputs, including fertiliser, are available to all farmers regardless of whether they are members of the farmers' association. Credit is however only available to members. These "multi-functional", government sponsored agro-based organisations were relatively new in Malaysia and according to Gibbons, *et al*, (1980) they represent an important, second generation approach to agricultural modernization. Their co-ordinated activities in the fields of extension, supply of inputs, credit provision and marketing can be more effective than individual programmes run by separate government agencies. These farmer organisations are all voluntary, but what is important, is

the availability of the opportunity to participate and to make use of the services provided.

3.2.5 Egypt

Based on experience in Egypt, Wörz (1993) came to the conclusion that production on small farms in developing countries is hampered by various factors, in particular limited potential of risk and change, low education levels, inefficient availability of capital and a weak position in markets. To address these constraints the introduction of progress in both production technologies and management were necessary. Factors hindering the latter can be overcome by applying support services as an integrated approach, and on all farms in a village, co-operative or irrigation project respectively.

During Egypt's land reform program 16 percent of agricultural land was expropriated and redistributed into large numbers of small farm units, which endangered agricultural production as well as the functioning of irrigation systems. Production promotion measures were developed and carried out by an upper management body. These so-called production promotion measures are activities organized in an integrated manner and include farm planning, provision of credit and production means, processing and marketing as well as farm machinery operations. These measures are carried out by agrarian reform co-operatives which were created prior to land distribution. Supervised production credit is extended to farmers in kind, i.e. means of production. The volumes as well as time and quality of application are prescribed and supervised at field levels by the co-operatives. Repayment of production credit is secured by marketing all cash crops co-operatively and deducting credit from the proceeds at the level of the cooperatives (Wörz, 1993 : 106 - 107).

All parcels of land are cultivated individually but in a consolidated pattern, thus maintaining large areas under uniform cropping. Consequently, irrigation remained feasible, application of sound crop rotation is guaranteed and high technology operations, such as pest control and farm machinery operations, are carried out co-operatively to ensure cost savings and greater efficiency.

On account of the description provided by Wörz (1993) it can be concluded that these support services are provided to small-scale farmers in Egypt in a top-down approach with strict control, which is typical of farmer settlement projects where the majority of decisions are taken, by what Wörz calls, an "upper management body". Besides this argument it is furthermore also debateable how many farmers were reached by this approach. From the outside it does appear as if only a relatively small number of smallholders were in fact reached.

3.2.6 West Africa

In West Africa agricultural development policies up to the early 1980s were characterised by large scale public sector involvement in development projects directed at improving small farmer production. This approach held limited benefits for small holder farmers. Because projects were too production oriented, too directive and too detached from economic and social issues, they often inhibited rather than assisted farmers, who ultimately had to bear the risk of their farming enterprise in a changing and little rewarding environment. Investment and technical support were unable to make up for deficiencies in the market and in economic systems. State and parastatal support to farmers often turned out to be ineffective in development terms and was excessively costly.

Where success was achieved, it pointed towards less state interaction and the need to empower farmers to take increasing control over structures, systems and processes needed for farming activities. Efforts were directed at increasing farmer participation in development, wherever possible, through farmer organisations regarded as the starting point and an important basis for sustainable development (Thomas and Tyobeka, 1993).

3.2.7 Iran

After the Islamic revolution of 1979, the Iranian agricultural policy had undergone change, shifting away from supporting large and mechanised farms towards the protection of small farmers. In order to serve small farmers, Rural Service Centres have been established in Iran since 1980. A study by Najafi (1991) describes the

working and effect of these service centres.

The objectives of the Rural Service Centres were to develop agricultural and rural activities, provide technical, financial and extension services and supply farm inputs and other commercial activities based on the felt needs of the rural people. Popular participation was emphasised and the village was considered as a focal point of development. To ensure farmers' participation each village council elected a representative who was in close contact with the executives of the service centres and represented the villages' needs and wants.

While the Rural Service Centres are mainly involved in increasing the rural infrastructure, they also act as a link between farmers and other local organisations that provide services or supply inputs to farmers. Several other institutions in the rural areas are involved in such activities. For example, fertilisers are distributed through co-operatives and tractor services are delivered through tractor and machinery committees.

The case study by Najafi (1991) of 11 service centres in one province of Iran revealed that these Rural Service Centres have provided some essential services to farmers but have not had a significant impact on resource productivity. The service centres in Iran experienced a number of problems. To alleviate these problems it was recommended that more financial resources, more competent personnel and a strengthening of employees' incentive to work in rural areas were required to increase the impact of these service centres.

3.2.8 Summary

The lessons from the successful smallholder development experience in the countries such as Zimbabwe and Indonesia show the fundamental role of the government in the provision of basic public goods, i.e. access to land, credit, inputs, agricultural research and extension, rural feeder roads, schools, water points, etc. Based also on the experience of other countries not discussed in this section, such as Japan, Taiwan, Kenya and China, it can be argued that broad based agricultural growth does have a number of significant advantages.

3.3 DELIVERY SYSTEMS FOR SUPPORT SERVICES TO SMALL-SCALE FARMERS: APPROACHES AND DEBATE

Based on the discussion above it seems that small farmer development packages usually consist of agricultural extension, credit, input supply, market mechanisms, infrastructure and to a lesser degree price incentives. The Farmer Support Programme was devised on similar lines. This section discusses and highlights approaches followed in the delivery of some of the elements included in these so-called "development packages". In each case the issues, lessons and debate will briefly be addressed.

3.3.1 Agricultural extension services

Technological change is often viewed as an essential component of strategies to ensure agricultural growth and to reduce poverty in the rural areas of Africa. In this regard agricultural research and extension are often given top priority to increase the productivity and incomes of the rural poor (Lele and Adu-Nyako, 1992). To perform their duties, researchers and extensionists need to know who the farmers are - whether they include women and children as well as men, and how the work is divided among them; what they are doing and why they are doing it on their farms; and how the recommended new technologies are likely to affect the farmer, the farm, and other important factors such as the supply and suppliers of agricultural inputs and credit and output markets. The benefits to be obtained from improved extension are thus closely related to the availability of improved technology, inputs, credit, and market infrastructure. As these complementary factors are often in short supply in many areas in Africa, improvements in extension and research must go hand in hand with efforts to increase their availability. In many cases extension may not warrant the highest priority (Pickering, 1989).

The relative success of extension systems in assisting farmers to adjust to new technology is inevitably variable. There are examples of complementarity as discussed above, however, extension services can also be ineffective for many other reasons, such as lack of communication and conflicts between different state agencies involved in agricultural development programmes; lack of logistical support

from base; lack of means of transport for getting around villages and farms; lack of motivation due to poor remuneration and inadequately defined or confusing goals (Ellis, 1992). Most of these problems typify the extension services in the FSP in the three case studies discussed in Chapter 4.

Agricultural extension services were established throughout Africa during the colonial period to expand the production of export crops such as cotton, groundnuts, coffee and tea. In many cases, extension contact consisted of little more than issuing improved seeds. Extension agents focused almost exclusively on progressive farmers. Extension officers also had to collect taxes and enforce prohibitions and as a result the colonial period left a legacy of distrust in government extension agents (Eicher and Baker, 1992).

After independence the focus of extension services shifted from coercion to persuasion but the focus was still on export commodities and progressive farmers. Over the past 20 years, most extension services in Africa have been ill-equipped, and undertrained relative to their counterparts in Asia or Latin America. Following a pattern established under colonial governments, most extension services are oriented toward technical problems and pay little attention to farm management issues or to the social constraints faced by rural households (Eicher and Baker, 1992).

Over the years many different systems of agricultural research and extension have been preached and practised in Africa. This section endeavours to provide an overview of the different systems of, or approaches to extension practices in Africa and to discuss their strengths and weaknesses, and to derive appropriate lessons for current and future activities.

3.3.1.1 Approaches to agricultural extension

Extension typologies can take many forms. One such a division reflects the distinction between profit oriented and public service extension as categorised by the World Bank (1990):

- Profit-oriented extension
- Public service extension
- Multipurpose rural development
- Specialised extension services

For the purpose of this discussion the five broad categories of extension identified by Pickering (1989) will be followed ; the commodity-based approach, community development-cum extension, the approach centred on technical innovation, the farmer-focused approach, and farmers' group-based extension.

The commodity-based approach

One of the most widespread formal extension systems in West Africa is the commodity-based approach (or what the World Bank (1990) refers to as profit-oriented extension). It follows an organised and coherent set of procedures designed to facilitate the production of a single cash crop and is usually not used for subsistence agriculture. The approach is based on the technical, administrative, and commercial requirements of the predominant crop and is managed usually by a parastatal board or society or sometimes by a private company (Pickering, 1989). Successful examples include the Compagnie Française pour le Développement (CFDT), which provides extension services for cotton growers in a number of francophone West African countries (*cf.* De Wilde, 1967 and Mahdavi, 1989) and British-American Tobacco Ltd in East and West Africa (*cf.* Kimani, 1989). The rapid expansion of tea production by small farmers in Kenya as a result of effective extension programmes (and the development of infrastructure, etc) administered by the Kenya Tea Development Authority, is another successful example of commodity-based extension programmes (Eicher and Baker, 1992 : 132).

In these programmes, a technically sound and well-researched package of recommendations for the crop in question is systematically conveyed to farmers, extension advice is integrated with a reliable supply of inputs and with marketing arrangements, and the company pays farmers promptly for their production (Pickering, 1989). The disadvantages of this approach, according to Pickering (1989), are the monopoly power of these parastatals and the fact that extension

advice often contributes to excessive company profits at the expense of farmers. The major criticism of specialised commodity programmes is that they often have little impact on other crops (Eicher and Baker, 1992) and that insufficient attention is given to traditional food production (Pickering, 1989).

Community development-cum extension

This approach has operated to a limited extent in Africa and rather more in other parts of the world especially in India. It is constructed around a broad definition of the functions of the extension agent and makes positive attempts to link extension to other aspects of overall community development. The extension agent had a lot of other duties such as family planning, health services included in a long list of loosely defined tasks that infringed on his time spent on actual agricultural extension. In reality the extension agent tends to be more of a general community worker. At a time when specialisation and professionalisation are clear prerequisites for technical progress in agriculture, such extension cannot significantly increase production and productivity (Pickering, 1989).

The innovation-centred approach

The innovation-centred approach in extension has the primary function of transferring to farmers technology from outside their socio-economic context, by actively promoting technical innovations and persuading them to adopt these. Inherent in this approach, and undermining its effect, is the fact that it does not take into account the farmers' circumstances. Instead of beginning with the actual conditions and constraints faced by farmers, it attempts to graft ready-made, packaged innovations such as standardised types of fertiliser and application rules to farmers who may not necessarily be capable of absorbing them. It has therefore the characteristics of a top-down approach. The lack of technical information is often a major problem in these type of extension programmes (Pickering, 1989).

Farmer-focused approach

In the farmer focused approach to extension a distinction can be made between variants in which the farmer is approached individually (through selected contact farmers) and others in which the extension service works with farmer groups. Group formation is a complex social task, and extension agents are often unequipped to do it properly. The success of group extension depends on five different sets of activities by extension staff: mobilisation, organisation, training, technical and resource support, and replication and maintenance. All five elements have to be addressed if the approach is to be successful. Various extension systems are based on group activity and take into account these principles to a greater or lesser degree (Pickering, 1989).

A good example of the farmer-focused approach is the training and visit system (T&V), which is in essence a method for organising and managing an extension service (Roberts, 1989). It puts the farmer and his constraints, abilities, and needs at centre stage and attempts to mobilise the entire extension apparatus and research system to service him (Pickering, 1989).

In the T&V approach, village extension workers carry out an intensive series of weekly or biweekly visits with farmers on a fixed schedule (Eicher and Baker, 1992). Or as Moris, quoted by Roberts (1989), states it more clearly: "T&V attempts to equip junior extension staff with changing extension messages according to a two-week cycle, and then through tight supervision to ensure they do actually work with specific contact farmers on a regular two-week schedule". The system thus aims at upgrading the technical content of field extension activities while making the field agents' contacts more predictable, and thus more accessible and more enforceable. T&V is, according to Roberts (1989 : 22), characterised by its rhythm of regular training sessions and on-farm visits.

While initial results of the T&V approach in India and Turkey appear promising, Eicher and Baker (1992) argue that it is highly unlikely that the approach could be applied in Africa without major modifications. The required level of highly trained manpower, not to mention the transport and communication infrastructure and

financial resources required for the proposed visit and supervision schedule, are beyond the reach of most African countries. Roberts (1989) refers to instances of unnecessary rigidity and random modification in the design of African T&V projects. Project designers have selected only one or two features of the T&V system that seemed attractive, without focusing on the principles underlying good extension.

It should be emphasised that T&V does not offer the extension designer a blueprint for an extension system, but rather a repository of extension principles that should ideally underlie any effective extension organisation in a developing country. Although the World Bank has been accused of favouring the T&V approach and trying to sell it, Roberts (1989) indicates that the World Bank has promoted the adoption of sound extension principles in the context of all agricultural projects. There is ample evidence that the World Bank's commitment to T&V does not prevent it from giving substantial support to other different extension approaches.

To conclude, the development of the T&V extension management system has had a major impact on extension thought and practice in the developing world. T&V has focused attention on the importance of management to extension, the importance of professionalisation of extension staff, the importance of training, the importance of linkages and feedback between extension and other disciplines, and the need for a strong field orientation (World Bank, 1990)

3.3.1.2 A critique of present approaches to extension

Belloncle (1989) is of the opinion that agricultural extension in Africa is totally misguided and is a major reason for the crisis in African agriculture. Extension services are predicated entirely on an implicit philosophy that leads to a series of erroneous assumptions causing friction in traditional African societies. These erroneous assumptions inherent in the majority of approaches discussed above are the following (Belloncle, 1989):

1. The need for close supervision which is the basic postulate of all rural development projects in Africa. A substantial share of the funds requested from external sources goes to pay for this. When projects fail, it is often

been attributed to deficient supervision and a higher ratio of field staff to farmers is normally called for.

2. The use of pilot farmers is common among extension services in various projects, and is the characteristic that most profoundly contradicts the values of traditional African society.
3. The need to compartmentalise or fragment technical recommendations based on the lack of confidence in farmers' ability to understand the strategy as a whole. This results in farmers often being treated as children.
4. Most project documents contain the concept of the model or average farm. It is not difficult to realise that this notion is by no means realistic due to the infinitely complex agrarian structure in Africa.
5. Projects are commonly targeted solely at the adult male population, yet one can not deny the importance of women and young people in agricultural production. In nearly all African societies women take an active part in agricultural work and can therefore not be ignored.

Based on his critique of the conventional approaches, formalised in these 5 erroneous assumptions, Belloncle (1989) argues the case for an alternative approach to extension services. The principal assumption underlying this model is that African farmers are indeed aware that they must alter traditional farming practices. They are therefore prepared to learn new ones provided that they understand what is involved. Belloncle, stresses a commonly held view that when innovations are technically feasible, sociological acceptable, and economically profitable, African farmers will quickly adopt them.

Belloncle (1989) therefore argues that extension approaches must be changed and a true dialogue held with existing communities to propose a type of rural development that will ensure the survival of the group without leaving anyone behind. Group instruction should take place in three stages, which Belloncle calls self-analysis, self-programming and self-evaluation.

3.3.1.3 Lessons of extension experience in developing countries

Several basic lessons have emerged over the four decades during which developing countries and their donor partners have sought to improve the effectiveness of agricultural extension systems. One set of lessons, as identified by the World Bank (1990), deals with issues essentially external to extension systems themselves. The other lessons are internal to extension. These are briefly summarised from the World Bank's (1990) more comprehensive chapter on "Extension lessons and issues".

The issues external to extension systems are the following:

- Government commitment to agriculture and agricultural extension is needed. A supportive economic policy that does not disfavour agriculture is required along with a supportive economic and institutional environment for extension.
- Institutional pluralism in extension's development contributes to success. To achieve differing agricultural goals and serve diverse target populations, a combination of public, private and voluntary extension efforts are needed.
- Public agricultural extension development is a long term process. Returns on investment from extension may take at least 10 to 15 years to be realised.
- Public sector extension requires considerable investment to operate effectively. Donors and borrowers need to pay close attention to reducing capital costs while ensuring a consistent flow of operating funds.

Four major lessons are internal to extension:

- Agricultural extension requires effective organisation and management tailored to specific situations. The advantages and disadvantages of centralisation need to be considered along with the appropriateness of

different extension management systems.

- Agricultural extension requires site-specific field methodologies and suitable technologies. Different clients, social norms, terrains, transportation difficulties and other constraints require that extension methodologies and technologies be tailored according to the particular circumstances.
- Agricultural extension systems must be relevant and responsive. Extension must be flexible, with built-in mechanisms to respond to changing policies and farmers' needs.
- Farmer participation is fundamental to sustainable extension. Farmers participate in formal extension as users of information and providers of feedback, and should be involved in program development and ultimately in setting the agenda for extension.

There is general consensus among extension agencies, donors and individuals on the lessons that have been learned from implementing extension systems worldwide. These lessons lead to several new developments in extension systems, discussed below.

3.3.1.4 New developments in agricultural extension

This section draws heavily on an article by Baxter (1989) in which he identified five significant innovations with potentially broad application that are under way in World Bank-funded projects. These innovations flow largely from lessons and experience with previous extension efforts in developing countries, as were discussed above.

Communications Systems and Technology

Three recent developments in communications systems and technology are particularly significant for extension services: the proliferation of the electronic mass media (radio and television), the availability of small, handy video cameras,

and the development of interactive video-computer systems.

Provided radio and television programmes are closely attuned to farmers' needs and conditions and are timed to complement agricultural operations, they can be a strong adjunct to field extension services - but not a substitute for them. Given the continuing expansion of market-oriented agriculture and the increasing complexity of input requirements, there is need for the ongoing education of farmers and extension staff, and radio and television would be a good way to disseminate information to them. Small video cameras can have significant impact on the quality of training for field staff and thus on the support that extension agents give to farmers and, more generally, on governments' responsiveness to farmers. Advances in microcomputer technology in the past decade have already had a significant impact on extension and on farmers' access to information and their understanding and use of this knowledge.

Privatisation and cost recovery

Given the budgetary situation of many governments and the obvious real gains in productivity of at least some farmers in most countries, privatisation and cost recovery do have an attraction. The greatest advances are being made in privatisation. Private extension services are common in some developing countries as was shown earlier in Section 3.3.1.1. There are also arguments emerging in favour of the principle of cost recovery. It at least instills a sense of financial discipline, and it is one criterium with which to evaluate the appropriateness of alternative extension strategies and activities. There are limits, however, to the priority that should be given to privatisation and cost recovery in developing effective, farmer-responsive extension systems. As research and for that matter "knowledge", with which extension is concerned, can be viewed as a public good it can be argued that government still has a responsibility to provide extension support to all farmers, many whom in developing countries work with very limited capital and farm on land in difficult environments.

Group and individual approaches

Some extension services have spent considerable energy in evaluating the relative advantages of individual and group approaches. The discussion of the individual and group approach has become a proxy for the debate over the relative merits of T&V and other extension systems. It is argued that the group approach is not necessarily more effective than a fundamentally individual approach. However, in African societies a group approach is often more appropriate. In any location, however, the extension agent must invariably use a mixture of group and individual approaches. The role of farmers' groups and individual contacts in extension requires a more pragmatic approach than is often taken, and it is argued that this should receive increased attention.

Extension-Research Linkages

The need to strengthen the role of extension in identifying agricultural problems and orienting research toward finding solutions to those problems has been stressed in a number of recent publications. There is also a renewed awareness that farmers, extension staff, and agricultural researchers operate within one overall system and that effective communication is needed among them. A development such as farming systems research (sometimes called farming system research and extension, FSR-E) could ensure better communication between researchers, extension agents and farmers. This system brings farmers' conditions and needs to the notice of extension and research.

Extension and women as farmers

There is now increased pressure on extension and research services to focus more effectively on the tasks performed by women. A common proposal is to have more female extension staff. This will however, not necessarily have the desired effect. In view of the orientation of most extension and research services, the composition of their staffs, and their poor track record in helping women, the task of developing effective extension for women farmers will not be easy. Attention should however, continue to be given to the role of women in agriculture.

The developments reviewed here are in many ways not new. They are in fact established issues in extension that required continuing attention. The most significant development according to Baxter (1989) is the greater attention being given to agricultural extension by governments, development organisations and educational institutions.

A participatory approach to extension

In response to the critique of the traditional approaches to extension as well as the lessons learned from past experience local organisations, such as NGOs, women's groups, co-operatives and rural unions started to promote a participatory form of extension. The impressions gained so far is that if its influence continues to grow it could bring greater benefits to smallholders and the rural poor than the more traditional, top-down official systems. According to Oakley (1994) there is overwhelming evidence that in most developing countries there exists practically a dual extension service. On the one hand are the established national government networks, and on the other a whole separate world of local organisations which have also taken the lead in promoting a participatory form of extension. The development of agricultural extension in the Third World is likely to be influenced by this trend in the next few years.

Oakley (1994) noted that the word "participation" is creeping into the vocabulary of many extension activities. Especially at international donor level, concerted efforts are being made to institutionalise this new thinking. Barriers in national extension programmes to these new ideas remain formidable. Governments and donors would like to see physical results. But this does not fit well with participatory approaches in which people themselves should be deciding what should be done, how and when.

Traditionally, extension has been based on a model of knowledge delivery whose dominant methodology is aimed at clients. Services have stressed organisation of the delivery system, the generation of technical messages and their communication to farmers. In the participatory approach concepts such as "farmer first" and

"farmer participatory research in extension" are more emphasised and the system is to a large extent demand driven. According to the farmer first principle, the objective is to empower farmers (and not to transfer technology). The main mode of extension is farmer-to-farmer with the extension agents only acting as facilitators. (for more details see Oakley, 1994 : 19 and Rouse, 1994 : 21). A lot of emphasis is also placed on the development of authentic people's organisations, to represents rural people's interests and serve as the vehicles of the participation process. In a truly participatory approach the role of the extension agency will also change to deliver a much more general and open-ended support of local people's development initiatives.

3.3.1.5 Summary

This section discussed various approaches to extension services. These and the various lessons, issues and new developments discussed could be of assistance in considering the extension approaches followed within the FSP framework. It should however be stressed that there is no blueprint for extension but that certain fundamentals are critically important. Extension systems need to be designed taking into account the particular local circumstances and farmer characteristics. It seems, however, that the participatory approach to extension could be a route which could have a successful impact on rural development.

3.3.2 Credit programmes for small farmers

Small farmer credit programmes in low-income countries have a long history, with some programmes dating back to the early 1900s. After the Second World War there was a surge in credit programmes to small farmers that accompanied the growth of foreign assistance to agricultural developmental efforts. During the four decades following the War governments and donors introduced hundreds of small farmer credit programmes involving tens of billions of dollars (Adams and Von Pischke, 1992).

The establishment of most of these formal agricultural credit programmes was motivated by the belief that capital shortages constrain the economic development

of small farms in developing countries (Kamajou and Baker, 1980; Yaron, 1992). The absence of what was perceived as affordable formal credit was also blamed for delaying, if not preventing, a timely adoption of new production technologies and the dissemination of non-labour intensive inputs such as fertiliser, thereby slowing down the growth and development of the agricultural sector (Yaron, 1992). The remedy used in most developing countries, is to provide public sector loans to enable small farmers to modernize their production. Typically, the loans are made at concessionary rates of interest and so disbursed as to limit the borrower's use of loan proceeds. Loans are therefore frequently disbursed in kind or in coupons exchangeable for designated production inputs (Kamajou and Baker, 1980).

Most people concerned with the design and operation of agricultural credit programmes still believe that increases in the volume of cheap credit are necessary to boost agricultural production, and that the rural poor could be brought into the mainstream of development through supervised credit programmes. It seemed that certain ideal types of rural credit institutions offered the promise of meeting farmers' "credit needs", and that experience in the industrialised countries with cooperatives and specialized agricultural finance institutions could be effectively transplanted to low-income countries (Von Pischke *et al*, 1983). These traditional views or approaches to agricultural credit have been applied in all agricultural credit programmes since the beginning of the century. The traditional approach, some times called the conventional approach to small farmer credit programmes (Coetzee, 1993) or the supply-led credit approach (Yaron, 1992 ; Ellis, 1992), is discussed in more detail in the following section. The traditional approach is predominantly supply-led as funds for lending to farmers originate from the central bank (or development bank) or from external donors, rather than from local saving in the rural economy (Ellis, 1992).

3.3.2.1 The characteristics and critique of the conventional approach to agricultural credit provision.

In the conventional approach funds for onlending to small farmers originate from outside the rural economy. Many different institutions may be involved in channelling of these funds to farmers. Some of the most popular institutional ways

of organising credit in developing countries are the following (Ellis, 1992):

- State agricultural banks (or Agricultural Development Banks and Agricultural Finance Corporations);
- Multi-purpose development agencies;
- Crop and project authorities (parastatals including marketing boards with loan repayment build into the crop marketing arrangements of the authority);
- Cooperatives and farmer groups.

The way these institutions operate, and the constraints imposed on them by government policy, also involve more specific instruments for achieving certain goals. Some main instruments of credit policy in developing countries under the conventional approach include:

- Low interest rates;
- Credit targeting;
- Loan portfolio regulations;
- Miscellaneous instruments such as the provision of credit in kind to overcome the problem of fungibility. Another common instrument is for credit provision to be linked to crop marketing.

The conventional approach to rural credit is based on two assumptions, i.e., farmers need cheap credit to induce them to produce and rural dwellers are too poor to save (Coetzee, 1993). Adams and Von Pischke (1992) add another assumption, namely that small farmers were viewed as too poor to adopt new technologies without formal loans. Credit programmes were seen to be the solution for production problems, for poverty in rural areas and as a way to correct the urban bias. Promoters argued that informal finance either played little or no positive developmental role, or that it was an evil that should be eliminated (Adams and Von Pischke, 1992). Credit programmes were thus also applied to encourage rural people to ignore the "exploitive" informal sources of finance by taking part in the formal targeted cheap credit programmes with the intension that it should encourage small farmers to take up new technology. These programmes were seen

as the "ideal" measure to advantage the small farmer and the rural poor (see Coetzee, 1988, for references).

The general validity of the premise that credit shortages inhibit adoption of new technology is also questioned by Yaron (1992). He argues that many inputs and technologies are divisible and can be adopted in a gradual manner, so little capital is needed initially. Poor marketing networks, input supplies, and distorted product prices are often more crucial constraints on technology adoption than lack of credit. Studies also indicate that farmers do have savings potential and that they would invest own funds in new technology if it proves to be profitable. This potential justifies institution building to facilitate intermediation, but not necessarily infusion of external funds (Yaron, 1992).

It was also argued that most of the target group, in this case small farmers, had credit needs that commercial banks refused to fill for reasons that were neither commercial nor economic. It was thought that many of these borrowers would be able to obtain conventional bank loans after several years of concessionary loans. Because most of these credit programmes were justified on the basis of expected increases in production, project evaluations concentrated on measuring the impact of loans on changes in borrowers' output, income or employment. The impact on the financial infrastructure was virtually ignored (Adams and Von Pischke, 1992).

Another very strongly held traditional viewpoint is that low interest rates help rural people, especially the poor (Von Pischke *et al*, 1983). Subsidised rural credit was, especially during the 1960s and 1970s, viewed as one answer to low productivity and poverty in the agricultural sectors of developing countries. There is now an emerging consensus that rural credit subsidies do not work (Braverman and Gausch, 1986). The evidence shows that increases in agricultural output have not been achieved cost-effectively, rural income distribution and rural savings rates have deteriorated and cheap loans provided by government did in fact discriminate against the poor. Cheap credit is rationed; the procedures are politically determined and provide opportunities for corruption and favouritism, with a select group of wealthy and powerful individuals capturing all the benefits (Von Pischke *et al*, 1983).

The common assumptions of credit programmes resulted in virtually identical policies and practices in small farmer credit. These include loan guarantees to induce banks to lend to target groups, concessionary loans to stimulate target lending, subsidised interest rates on loans made to ultimate borrowers, little attention to deposit mobilisation, emphasis on making relatively large loans - sometimes with generous grace periods - and an almost exclusive reliance on government and donor funds (Adams and Von Pischke, 1992). Much of what was listed here can today still be found in South Africa, and the majority of loans provided by the DBSA for the implementation of FSPs are largely concessionary loans with generous grace periods of up to 6 years.

Credit was offered to farmers in response to perceived needs and as a result loans funded a large percentage of the costs of investments made by borrowers. Loans were not based on repayment ability or the amount of cash the farmer would have available for repayment after satisfying more pressing priorities. The effects of bad agricultural years and other misfortunes were hardly ever taken into account. Loan size and repayment terms were usually determined from farm budgets constructed with little risk taken into account and expected returns often inflated by optimism. Believers in "credit needs" therefore view the provision of formal loans as beneficial. Adams and Von Pischke (1992 : 1464) comment on this view as follows:

"It is a curious linguistic twist that the terms "loan" and "credit" carry a positive aura, although "debt" often has a negative connotation. Advocates of special credit programmes for small farmers, for example, never propose that imposing more debt on poor people is an appropriate development strategy. Although borrowing may allow entrepreneurs to expand their activities, it puts them into debt, unless loans are grants disguised as credit. Borrowing may allow farmers to expand their activities, but it carries with it an additional cost through exposing them to more risk, including the risk of not being able to repay loans."

There are furthermore in-built pressures in small farmer credit programmes to disburse funds quickly and to reward staff on the basis of loans made. It is also not uncommon to find the responsibilities for training and technical assistance, loan approval and loan recovery to be divided among several agencies. These credit programmes were also more concerned with the definition of the target group and the monitoring of disbursements, the number of loans made, and their ostensible use by borrowers. No time is spend on searching for the characteristics of loan applicants who would use credit productively and repay on schedule.

The supporters of the traditional credit programmes view loans as part of a package of inputs (Coetzee, 1993). [In a certain sense this is how credit is treated within the FSP framework]. An example of this view is provided by B.R. Sen (1965):

"Credit alone is of no avail for small farmers if it is not accompanied by complementary services which will help the borrowers to use the money productively and thus enable them to avoid unnecessary debts. These services are: agricultural extension, wholesale prices for farm requisites, marketing, storage facilities, co-operatives."

Many credit projects were dressed up as programmes to promote fertiliser use, to boost purchase of machinery, to foster irrigation, to stimulate cattle production or to diffuse a particular crop or technology. Project performance was furthermore measured by the number of loans made, tons of fertiliser sold, number of tractors purchased, hectares of land irrigated, number of cattle procured with loans, and crop acreage financed by loans (Adams and Von Pischke, 1992).

Short term results from these programmes were promising (Adams, 1992). New lending institutions were build, existing institutions were expanded and large numbers of loans were made. A feeling of accomplishment based on the number of farmers initially reached was evident. However, problems were encountered with loan recovery; default rates ranging from 40 to 90 percent were recorded in some programmes (Coetzee, 1988) and as Adams and Von Pischke (1992) indicated, collection rates of 75 percent became accepted as satisfactory.

Another problem was the high transaction costs and it was clear that the institutions could only continue operations with continued injections of funds from government and donors. Even after the initial negative assessment of these programmes they were continued (Adams, 1992). Also, many of the target group of the programmes - the rural poor - did not benefit from these programmes. The targeted funds almost invariably landed in the pockets of the rural elite and large farmers. These programmes were unsustainable because they were expensive, collected too little revenue, depended too heavily on outside funding and often suffered serious default problems (Adams and Von Pischke, 1992). These negative results of most of the conventional credit programmes prompted researchers and officials to raise questions and challenge assumptions (Adams, 1992; Coetzee, 1988).

Another defect of the traditional approach to credit provision relates to the problem of fungibility (Ellis, 1992). The fungibility attribute of credit, and of loanable funds more generally, invalidates most state targets and regulations for credit delivery. Thus, fungibility makes credit activities hard to evaluate. Fungibility exists in all tiers of the credit system, from the farmer, to the financial intermediary, and to the central bank. At the farmer level, fungibility means that loans targeted for specific purposes (e.g. fertiliser and seed use in maize cultivation) may be used by the household for quite different ends (Ellis, 1992). Many credit projects treat loans as production inputs, ignoring the fact that a unit of borrowed money is identical to other units of money held by the borrower. The borrower can therefore substitute and divert the borrowed funds to other uses, or to those that give him/her the highest marginal return in consumption or production (Von Pischke and Adams, 1980). Von Pischke and Adams also discuss a number of examples of the diversion of borrowed funds by small farmers.

✓ To address the problem of fungibility many credit loans are made in kind, such as bags of fertiliser or seed, etc. This does not solve the problem as the goods provided can be sold and converted in cash if the borrower so wishes. For all practical purposes, loans in cash or kind can be used to buy any good or service available to the borrower in the market (Von Pischke and Adams, 1980 ; Ellis, 1992).

Yaron (1992) attributes the disappointing performance of the traditional "credit supply-led" approach to two factors: (a) some of the underlying premises of this approach were frequently not valid, and (b) the institutions and arrangements established or utilised for implementing the policy were often designed and operated in a nonviable manner, or within a policy and social environment hindering their effectiveness.

Furthermore, many specialised agricultural credit institutions in these traditional credit programmes have suffered from deficiencies inherent in their design. They frequently were not expected to function as true financial intermediaries that mobilise deposits to make loans. Instead these institutions have merely channelled government supplied funds to rural borrowers. The continuous availability of external funds at below-market interest rates has not obliged rural financial institutions to operate under financial viability constraints. Together with the lack of competition and limited accountability, this has led to bad loans, extremely inefficient operations, patronage and irregularities (Yaron, 1992).

3.3.2.2 Lessons drawn from the experience with small farmer credit schemes

From the critique and experience of small farmer credit programmes various lessons can be drawn. These lessons are neatly presented by Adams and Von Pischke (1992) and it is worthwhile to present parts of this section of their paper below in order to summarise the discussion above.

1. Lack of funds was not the most important problem faced by most small farmers. Product prices, land tenure, modern input costs and availability, low yields, and risk turned out to be more important factors limiting small farmer development. Credit programmes were, however, the most popular response to small farmer problems.
2. For most small farmers, reliable access to small and short-term loans was more valuable than having large and long-term loans.

3. Much of the costly technical assistance and training that accompanied loans to small farmers was ineffective. In some cases extension agents had little new appropriate technology to extend.
4. Loan guarantees aimed at inducing commercial bankers to lend more to small farmers typically had little lasting or positive effect.
5. Lending to small farmers proved to be costly, even in the most efficient programmes. Lender transaction costs were highly correlated with loan targeting: the more targeted lending is done, the higher the costs.
6. Loan recovery problems were exacerbated when excessive grace periods were attached to loan repayment, when responsibilities for making and recovering loans were shared by several agencies, when funds for lending carried a political aura, when loans were made in a rush, when loans were given to the majority of applicants and when the quality and dependability of financial services were low.
7. Small farmer credit programmes often imposed excessive debt on their clients. Relatively large loans funded large changes in technology and scale that exceeded the managerial capacities of borrowers and exposed them to more risks than they were able to manage.

3.3.2.3 New approaches to agricultural credit programmes

The negative results from the traditional programmes, the critique and lessons drawn from past experiences lead to a growing number of individuals arguing that other evaluation criteria should be applied and that alternative approaches should be followed in rural financial markets (Rhyne and Otero, 1992; Adams, 1992; Braverman and Gausch, 1986). The contention is that more attention should be given to the suppliers of financial intermediation, to long run issues such as viability of institutions, to deposit mobilisation, to the lowering of transaction costs, to cost reducing financial innovations, to building sustainable financial services, and to how policies affect the functioning of rural financial markets. Adams (1992) argues for

using loan recovery, transaction costs, numbers of people with sustained access to formal financial services and the proportion of lending that comes from deposits as measures of success. The new approach concentrates on deposits. The emphasis on viability of financial institutions and sustainability of the rural financial market is a more holistic approach. It is also an approach that acknowledges the existence of informal financial markets in the rural areas.

Rhyne and Otero (1992) argue that sound financial principles should be the basis of a successful technology of credit delivery, i.e., understanding the needs of the client, increasing efficiency by cutting administration costs, and structuring the service to motivate repayment, emphasise the provision of financial services rather than credit provision. The main points emphasised by these new views thus are: avoid loan subsidies and targeting; mobilise deposits; charge positive real rates of interest; avoid concessionary discount lines; reduce transaction costs; and emulate informal finance. Savings mobilisation, the reduction in transaction costs and positive real interest rates are the more important elements of the new approach. They warrant some elaboration.

3.3.2.3.1 Instruments

Savings mobilisation

The inability of financial institutions to stay viable under a cheap credit policy was mainly due to the fact that these institutions had no other sources of capital than the donor community and public sector finance (Coetzee, 1993). The generation of funds from savers is therefore considered to be a key feature of self-sustaining credit institutions. A strong savings base reduces the reliance on external funding. Savers and borrowers are often the same people at different points in time in the community, reducing the information costs of transactions. It can also be argued that people tied to an institution for both saving and borrowing are less likely to default on loans. Farmers with savings can often self-finance small outlays so that loans become oriented to bigger outlays with lower transaction costs per unit of money (Ellis, 1992).

Adams and Vogel (1986) argue that policies to improve savings opportunities can efficiently help the poor. An essential function of financial intermediaries is to bring together small amounts from many savers so that loans for relatively large projects involving economies of scale can be made. On the average, depositors will have lower incomes than borrowers. Policies that focus on improving services are therefore a better way to help the rural poor than is cheap credit. Based on these arguments it is evident that savings mobilisation deserves a central role in any financial programme and that agricultural lenders should focus more attention on savings mobilisation to ensure the viability of their institution.

Transaction costs

Transaction costs refer to the resources required to transfer (lend, borrow or save) one monetary unit of currency from a saver to a borrower, and recover that unit after a certain time period plus some agreed interest charge (Coetzee, 1993). Adams and Vogel (1986) distinguish between transaction costs for the lender and those for the borrower. The costs for the lender include the expenses of mobilising funds for on-lending, costs of collecting information about potential borrowers, and costs of extending, maintaining, and collecting loans. For borrowers these costs include the time taken to negotiate new loans, risk, etc. Transaction costs for both borrowers and lender are important components affecting the viability of financial institutions. The cheap credit policies of the conventional credit programmes made it impossible for most institutions to recover lending costs, with the result that these institutions either went out of business or need frequent recapitalisation from public sources. Cheap credit policies linked with strict targeting of loans to the poor imply numerous small risky loans with resultant high transaction costs per unit.

A reduction in the transaction costs of the lender will often positively impact on the transaction costs of the borrower. A number of avenues are available for institutions to reduce transaction costs. Coetzee (1993), referring to Meyer and Cuevas (1990), lists a number of possibilities: Improved communication and transportation systems; improved marketing information services to farmers, improved agricultural production based on the availability of sufficient support

services to farmers (all of these will result in less risky farmer clients and thus a less risky environment for financial transactions); improved banking regulations; reduction of risks; diversification of services provided by financial institutions; expanding the banking network; group based schemes; improved internal operations; and linking informal finance with formal finance.

Interest rate level

The level of interest rates is another factor which indicates a difference between the conventional credit project approach and the new approach to financial intermediation (Coetzee, 1993). It is argued that positive real interest rates need to be charged. This is necessary as a self-sustaining financial system requires an interest rate on loans sufficient to cover three components, namely the interest rate paid to savers (or the cost of capital); the average cost of making transactions, and a risk margin to cover the probability of default (Ellis, 1992).

The level of the first component should correspond with the opportunity costs of funds and must be high enough to ensure that savers face a positive real rate of return. The main challenge facing an interest rate policy designed to improve the credit system is to reduce transaction costs in the manner described above. A realistic rate of interest can be set in terms of the wider market rates, but credit agencies will remain non-viable if their costs are greater than the interest margin permitted.

The traditional view that market interest rates discourage farmers from making use of credit is wrong in most cases. According to Ellis (1992), it rests on the mistaken assumption that credit demand by farmers is highly elastic with respect to the price of credit, whereas for small farmers requiring short-term loans to overcome cash flow problems, demand is in reality inelastic. This is demonstrated in part by the continued high proportion of total credit that is supplied by private moneylenders.

3.3.2.3.2 Institutions

The successful reorientation of credit away from the mainly supply-led, state agricultural bank type approach requires imagination and experimentation in devising new credit institutions (Braverman and Gausch, 1986). Credit provision needs to be located in a context of diverse institutions providing several different services, not a single bureaucracy providing just one kind of service (Ellis, 1992). The key elements of more appropriate and efficient institutions reside partly in the changed approach of credit policy (savings, loan recovery and self-sustainability), and partly in the experience of credit institutions that have proved to be successful. Key elements are viability, self-sufficiency, access and efficiency. These elements can be combined in a variety of ways and are discussed in more detail below.

The new approach to rural financial services suggests that institutions should understand and reflect the financial needs of rural farm and non-farm enterprises which include the following (Coetzee *et al*, 1993a):

- ▶ Production credit, to invest in the enterprise and thus to increase the enterprises' production capacity and income.
- ▶ Consumption credit (also referred to as consumption smoothing credit), to pay for the 'working capital' of any household, ie. food, clothes and school fees.
- ▶ Savings facilities, as a safe place to deposit money to access in times of need.
- ▶ Housing finance, specialized finance to use towards the attainment or improvement of housing facilities.

Based on international and local experience, Coetzee *et al* (1993a) identify a number of principles according to which institutions under the new approach should deliver financial services. These are discussed below and to some extent confirm and summarise what has been stated earlier on.

- ▶ The provision of deposit-taking (savings) facilities should be encouraged and all legal barriers preventing institutions from taking up deposits should be reviewed. This criterium is based on the negative effects of ignoring the provision of savings facilities in conventional credit programmes. Local experience indicates that the majority of rural entrepreneurs finance themselves out of savings which imply a greater need for savings facilities than for credit facilities. Also, a lack of other financial services in rural areas are evident. This would, inter alia, include fund transfer mechanisms and insurance products.
- ▶ The institutions should be able to recover costs by charging interest rates that reflect the real cost of lending. If not, the sustainability of the institution is in question. Transaction costs and interest rates are the most important variables in calculating the ability of lenders to recover costs and thus to stay in business. Institutions' viability, potential growth and their capacity to serve their clientele over the longer term depend upon their ability to generate enough income to cover their costs.
- ▶ Lending institutions can lower financial costs (bad debt provision and operating funds) by using non-conventional forms of collateral. Through using the group approach, a part of the lack of information, which was reflected in the bad debt provision, is internalized by the group. A group approach or similar character-based, joint liability approaches, which rely on peer monitoring and other group advantages, can decrease bad debt provision and administrative cost dramatically. Conventional collateral requirements should be reconsidered and alternative collateral (collateral substitutes) arrangements, more appropriate to the local level, should be applied. This in essence revolves around character-based collateral, referrals, linked contracts and building a relationship between borrower and lender.
- ▶ Good default management. Luke warm efforts on default management usually result in luke warm loan repayments. If an institution creates a perception of being serious about the product it sells, clients usually are

serious about loan repayments.

- ▶ Institutions should be largely independent from the public sector over the long period. This point links with the point on long term sustainability.
- ▶ By following a minimalist approach, institutions can further bring down their operating costs, and thus the interest rate charged. According to the minimalist approach, credit and savings facilities are the only services provided, and international literature and national experience to date indicates this is a more successful approach. The integrated approach provides a number of support services in addition to the financial support. These include managerial training and counselling, and the cost of these services are very difficult to recover. If additional services are to be provided it should preferably be by a separate entity.
- ▶ The institution can lower the borrowers transaction costs by being accessible and in close proximity to the client. Furthermore, the lending institution can decrease the borrowers opportunity cost by processing applications speedily and by having a flexible approach to repayment terms. The institution should be able to adjust according to local circumstances. In a period of co-variate risk, e.g. a drought, no effort from the institution would result in repayment if the client's source of income declined to zero. If these clients are accommodated, by e.g. rescheduling, it tends to improve the long term relationship between the lender and borrowers which implies decreasing transaction costs over the long term to both borrower and lender.
- ▶ Decisions should be made at grassroots level and quickly. Decisions should thus be made where the information exists on which to base the decision. If a loan is for production purposes (e.g. agriculture), it also serves no purpose to postpone decisions till after planting time.
- ▶ Incentive systems should be considered in structuring the remuneration packages of staff. Experience in Indonesia indicated that it is far more

efficient to pay financial officers a bonus on deposit mobilisation rather than on number of loans extended. Incentives also are necessary for borrowers to repay loans. The way an institution operates and is structured could contribute to providing good incentives for borrowers to repay loans, e.g. access to future loans at an efficient organisation.

- ▶ Lending institutions should aim to increase their reach or to massify the provision of financial services. By linking the activities of grass roots level institutions over time it is possible to multiply the numbers of people reached. This will contribute to scale and scope economies.
- ▶ Institutions should be non-prescriptive and refrain from the targeting of cheap funds to specific groups. In almost all cases where this type of targeting was attempted it failed because the more influential succeeded in grabbing the funds away from the target group.
- ▶ The best indicator of success for these institutions is sustainability, measured in terms of the ability to recover costs and survive. By looking at repayment rates and the demand for future loans an institution's success can be measured. A high repayment rate of loans at high interest rates is a good indication of an institution's potential viability and sustainability.
- ▶ Institutions should concentrate a major portion of their efforts on women. Women suffered the most from a lack of access to credit and have proven to be more reliable clients.

A moneylenders' approach to lending can be used to illustrate the above suggestions. Moneylenders inflict high financial costs (interest rates) on their borrowers. They do, however lower the borrower's transaction and opportunity costs by providing credit on the spot - even taking it to the borrower and collecting repayments. Consequently, informal credit delivery systems are designed to collect all the costs the borrower pays.

The conventional institutions, e.g. specialised farm credit institutions, government run business credit institutions and development banks generally failed to deliver efficient financial services to rural clients. This was mainly due to the application of the conventional policies. In a new approach the following institutions could inter alia be used as vehicles for financial intermediation; NGOs; credit unions; co-operatives; money-lenders; linked markets; community banks; and loan guarantees to commercial banks.

3.3.2.4 Summary

The past approaches to financial service delivery, especially in rural areas, were neither effective nor efficient. By following sound financing principles, and by providing the services demanded by rural entrepreneurs, increased efficiency of financial intermediaries implies increased efficiency of rural entrepreneurs. Competitive formal financial systems should expand especially on the deposit side to serve much larger numbers of the rural poor. Innovation is also required to assist more poor people to become creditworthy and to have a long term working relationship with formal financial institutions.

3.3.3 Input supply systems

It has been argued by several authors (*cf.* Blackie (1987); Olayide and Idachaba (1987) and Ellis (1992)) that failure to develop effective smallholder input delivery systems is a major constraint on both technological change and production growth with existing technologies. Furthermore, authors like Singh (1990) argue that efficient input supply and distribution systems are necessary to ensure the viability of credit programmes to smallholders since shortages of inputs at critical stages in the production process can ruin a credit programme. This, however, presupposes that credit will only be used for the purchase of inputs and that the problem of fungibility does not exist (which is highly unlikely). On the other hand it can be argued that access to purchased inputs has also been constrained by lack of credit. Lele and Adu-Nyako (1992) therefore argue that institutional credit (despite all the constraints and problems) has played an important role in alleviating a cash-flow constraint in modernising agriculture in most parts of the world.

Rapid expansion of input delivery systems, especially of fertiliser, would be expected to be a major immediate source of growth in production where inadequate policies in this area have held growth back. It is also accepted that broad-based access to purchase inputs is necessary to increase small-farm productivity. Fertiliser and improved seeds are the easiest and most scale-neutral inputs to raise agricultural productivity (Lele and Adu-Nyako, 1992). Experiences in Zimbabwe since 1980 has shown how rapidly maize production could increase in smallholder agriculture, given an assured market and satisfactory delivery systems for inputs (Delgado *et al*, 1987).

The delivery system for variable agricultural inputs is only one aspect of input policy in developing countries. The other elements, as identified by Ellis (1992), are the price level of inputs, the information available to farmers concerning the type, quantity and combination of inputs appropriate for their farm systems, and finally credit for purchase of these inputs. Credit has been treated separately in Section 3.3.2 above. In this section only the delivery system, and to some extent the information available on inputs, are discussed. In the discussion on input delivery systems a number of issues are addressed. Firstly, the institutional issues, i.e. who should be involved, the private sector or the state and its parastatals. Secondly, the question whether improved delivery systems are necessary for adoption of new technology or to ensure improved access to inputs to all farmers.

The private sector in several countries, such as India, was slow to provide reliable input supply systems, especially in the earlier phases of agricultural development. Desai (1987) therefore suggests that governments (probably through parastatals) should embark on a more intensive effort on the provision of inputs.

In addition there are a number of other reasons why the state becomes involved in the markets for agricultural inputs. Firstly, it has mainly to do with accelerating the adoption of new farm technology to ensure increased agricultural output. The state intervenes since it is believed that the successful adoption of new technology by farmers may be slow and unequal if left entirely on its own. Information flows are a critical factor in rapid technological change and information scarcity is prevalent

in most peasant communities. The introduction of new seeds requires a change from non-market behaviour (saving own seed for future sowing) to market relations (buying approved seeds) and thus requires some government involvement. The state also intervenes as a result of the lack of development of markets for these inputs and because inputs such as certified seeds require quality controls and supply consistency. The state may also intervene in order to avoid errors in the input combinations by farmers (Ellis, 1992).

State delivery agencies for farm inputs come in many different forms. At one end of the spectrum there may be an agricultural development corporation (as is the case in the less-developed areas of South Africa) with wide ranging responsibilities for input delivery, credit provision, and extension services to farmers. In other cases these functions may belong to separate institutions, or input delivery may be fragmented between a number of project agencies for particular crops or particular regions. In some cases, input delivery is combined with crop marketing, research and extension in crop-specific parastatals. In others input delivery is handled by branches of the state credit agency, while extension is run from the central Ministry of Agriculture and in others the cooperative system has a role to play as exclusive final distributor of inputs to farmers (Ellis, 1992).

The basic reason for input delivery by state agencies remains the same as argued by Desai (1987) earlier and supported by Ellis (1992), i.e., to replace a private delivery system that is considered inadequate to the task of supplying farmers with timely inputs at stable and competitive prices. The perceived inadequacy may be a lack of geographical spread of outlets, unwillingness to supply small quantities of inputs to small-scale clients, poor information feedback between farmers and urban traders, etc. Olayide and Idachaba (1987) stress the argument by stating that in the absence of public involvement in farm input supply, under-investment occurs in agricultural extension and input supply and distribution infrastructure. Thus in the transition from traditional to modern agriculture, there is a tendency to rely more on the public sector for farm input distribution.

The delivery of variable inputs to farmers by state agencies is prone to many of the same difficulties that apply to state marketing agencies. These problems are well

recognised and are summarised by Ellis (1992) as follows:

1. Biases of rationing when the input is in short supply, typically favouring wealthy clients who are in a position to pay the "under-the-table" costs of acquiring input supplies.
2. Biases against small and poor farmers even when supply is unconstrained, usually due to the linkage between state credit provision and input delivery.
3. Cumbersome and sometimes unworkable bureaucratic procedures for the release and delivery of inputs to farmers or cooperatives.
4. Underpaid and poorly motivated officials who have no incentive to conduct transactions with speed and efficiency.
5. Failures of delivery to remote and outlying depots, causing erratic availability even when overall supply is unconstrained.
6. More general logistical defects in the geographical allocation and movement of inputs, resulting in timeliness failures for seasonal inputs like fertiliser.
7. Failures to transmit information on changing farmer input needs back to supply depots.

Blackie (1987) adds that official delivery systems have excessive costs relative to the development benefits from their operations.

These problems can be corrected but there are deeper problems with public delivery systems. State delivery differs from the price mechanism as it always has rules and regulations governing target farmers, quantity allocations, lending guidelines, deposit requirements and repayment schedules.

In some developing countries, such as Nigeria, commercialisation of agriculture is envisaged with private sector firms ultimately expected to handle farm input

distribution. Although such firms have better decision making processes, there are still some draw-backs as outlined by Olayide and Idachaba (1987). Market structures for some inputs are dominated by a few multinationals. Such structures affect market conduct and performance, especially with regard to price collusion. Firms also tend to concentrate input distribution in areas that promise quick returns, even if large sections of the rural sector, including whole regions, are left behind in the development process. The inadequacy of private credit facilities at the grassroots level has meant that only the rich and well-to-do can patronise these firms, thus widening inequalities of access to income-earning opportunities.

A concept that sometimes arises in discussion of input delivery, and which is central to the FSP philosophy, is that of "access". Ellis (1992) defines "access" as the ability of people, especially the rural poor, to acquire the commodities and services provided by state agencies. They are often prohibited from doing so because they do not quite fit the categories for which a particular agency was designed. The more the agencies are differentiated in order to cater for multiple products and services for many target groups, the more likely it is that an individual applicant will not fit the eligibility rules of the particular agency he or she approaches for a commodity or service.

The opposite process [Ellis, (1992) and Chenery *et al*, (1974) call it a "package approach" or "packaging"], in which a number of different products and services, such as input delivery, credit and extension, are combined in one agency (as is the case with some FSPs) can also create problems of access. This is due to the fact that the target group of an expensive package is often narrowly defined in order to constrain the total cost of the package, or because clients must subscribe to the entire package or nothing at all.

New seeds, fertilisers and irrigation water are complementary inputs. In African dry land conditions new seeds and fertiliser are often viewed as complementary. This means that the highest levels of yield are only achieved by the simultaneous increase of all three (or two) types of variable input in the correct proportions. If one input (say, fertiliser) is missing then the productivity gains of the new technology may be limited, and the farmer may do better to stay with traditional

varieties that are less sensitive to levels of chemical inputs (Ellis, 1992). Seed distribution has been a bottleneck in Third World countries. Eicher (1994) cites Cromwell *et al* (1992) stating that all government seed companies in Africa have turned out to be white elephants. The only success story in this regard, according to Eicher (1994), is Zimbabwe's seed distribution system which performed particularly well in the 1980s and is currently providing maize seed to small, medium and large scale farmers.

The complementarity between new crop varieties and chemical inputs (and to some extent tractor mechanisation to ensure deep ploughing), leads to the idea of delivering an input package (or sometimes called the "Green Revolution package") to farmers in order to achieve desired rapid increases in agricultural output. This principle was also followed in the design of the FSP. As Van Rooyen (1993) puts it "...to ensure that users have easy access to a complete package of inputs". The "package" approach envisages a major role for the state: investment in public irrigation schemes, delivery to farmers of certified seeds together with the appropriate quantities of fertilisers and other farm chemicals, provision of credit, and advice concerning the proper agronomic practices to put into effect. Although the design of the FSP makes provision that these services (especially the delivery of inputs) should be provided by the private sector where capable, much of the services named above are still provided by parastatals or agricultural development corporations in a typical "package" fashion.

According to Ellis (1992) the package approach to inputs has become less prevalent in recent times, although elements of it are still to be found in agricultural development projects (such as the FSP). In the past the problems encountered with this approach were the high overhead cost per farmer, the relatively small numbers of farmers who could be included in each scheme, insensitivity to pre-existing farming systems, insensitivity to local variations in soil and climate, failures of credit repayment and failures of input delivery.

To sum up: the problems with state input delivery systems are widespread, but consensus is yet to emerge on the appropriate roles and functions of the private sector on the one hand and the state sector on the other in this branch of

agricultural policy. Authors, such as Olayide and Idachaba (1987) as well as Stevens (1977) stress that direct farm input procurement and distribution by the government has not been successful. Olayide and Idachaba (1987) are of the opinion that efforts to provide physical, social and institutional infrastructure that would help private sector firms and cooperatives to perform better would be more productive. Government-sponsored parastatals can play an important part in facilitating such efforts, but more research is required to determine the role such institutions should play. It is likely that this role will be larger in remote areas. On the other hand, Stevens (1977) recommends that policies and programmes should be implemented that will facilitate the development of multiple competitive input marketing channels, one of which might be governmental.

3.3.4 Marketing services

In the context of the Farmer Support Programme, marketing refers to all those activities facilitating the removal of produce from the farm-gate to the point of sale. Aspects needing attention here are: appropriate grading standards; storage requirements; the opportunities and infrastructure for increased local marketing; and privatising marketing functions such as transport and storage arrangements (Van Rooyen *et al*, 1987). In this section the intention is to discuss the debate and approaches towards the provision of some of these services. It is necessary to debate what institutions are necessary to provide broad based marketing services so that the majority of smallholders can be reached.

The debate on agricultural marketing in developing countries is particularly wide and it is therefore necessary to limit the discussion on the issues outlined above. In many countries marketing is the support service that has received the least attention. Emanating from the discussion in Chapter 4 it appears that the implementing agents of the FSP have paid little attention to marketing aspects. One reason could be the small percentage of total production reaching the market. Ehui (undated) supports these views and argues that planners in African countries focus heavily on investment projects to increase agricultural production capabilities, ignoring most aspects of marketing, except investing in basic transportation infrastructure. The other aspects of marketing have usually been relegated to a

secondary role in the development process.

3.3.4.1 The efficiency of marketing systems

Despite the small share of production marketed, farmers in less-developed countries do participate in local product and labour markets. Although access to markets is important, it is not sufficient. If farmers (including small farmers) are to have the incentive and the funds to invest in raising their productivity, they need to be served by an efficient marketing system, which depends on infrastructure, information, financial institutions, communication networks, and entrepreneurial and managerial power (Lele, 1974 ; Singh, 1990). Should these be lacking, rural markets become costly for all farmers.

The traditional food marketing system comprises thousands of private sector traders, assemblers, transporters, processors, commission agents, and space arbitragers (Olayide and Idachaba, 1987). There is evidence that these systems have been relatively efficient but more within the limited context of segmented regions, than a truly integrated national market. Traditional market systems in subsistence agriculture typically suffer from inadequate transport and storage facilities, lack of standardization in weights and measures, poor dissemination of information, a large number of intermediaries, and inadequate finance for trading (Singh, 1990) and few all-weather roads. There is little information on crop outlook and on prices and lack of market facilities (Olayide and Idachaba, 1987). These problems affect all farmers, and especially the smaller farmers. It is therefore necessary to improve the functioning of agricultural marketing systems to minimise the costs experienced especially by the small farmers.

Efficient marketing systems in developing countries will not evolve automatically. For this purpose farmers as well as intermediaries must be at the centre of any agricultural decision process, they must be motivated and have the right incentives in order to encourage the necessary innovation to promote such a system (Ehui). According to Lele (1974) the emphasis in improving market efficiency must remain on widening choices available to the farmer and on improving his decision-making ability by improving those physical and institutional infrastructure causing

inefficiencies. This approach is less tangible and less attractive for policy-makers who favour implementing forms of marketing organisation and ignoring the factors that are important to ensure the success of these institutions.

In the spirit of the "invisible hand" many policy-makers assumed that efficient marketing systems will automatically be in place once production occurs. This, however, has rarely been the case. On the contrary many governments in Africa have in many instances intervened in the buying and selling of key products. There were many reasons for government intervention in output marketing in African and other African countries. The problems related to traditional markets (mentioned earlier) led to governments' involvement in order to address the constraints. The belief that exploitation of the small farmers by traders and speculative middlemen takes place, is put forward as another reason for government involvement. Governments have intervened extensively to correct "the imperfections" in marketing systems, in the belief that they are acting in the interest of especially small farmers. According to Singh (1990) the results have been dismal and informal markets developing due to over-regulation. On the whole government controlled markets have not been more efficient than the private markets they were designed to replace.

Governments usually intervened in agricultural output markets by the establishment of parastatal marketing agencies like marketing boards. With marketing boards playing a major role in the developing areas of South Africa as well, it would be worthwhile to investigate the problems related to these organisations and to learn from experiences with parastatal marketing agencies in other developing countries.

3.3.4.2 Experiences with parastatal marketing agencies in developing countries

Parastatal enterprises, usually organised as government-owned corporations, operate in almost all developing countries. They operate in (and often monopolise) markets for agricultural inputs (as shown earlier), outputs, services and trade. While most were originally organised to perform marketing functions, a number have evolved to the point where they control all aspects of production (Knudsen,

et al, 1990). Marketing parastatals were established to handle procurement and processing of crops for export, on the contention that indigenous marketing systems could not handle export trade. However, in some countries marketing boards were also established to handle subsistence and staple crops (Lele, 1974). Parastatal marketing boards tend to have certain common features and are therefore prone to similar type of weakness. Ellis (1992) lists some of the common features and defects of marketing parastatals and are herewith briefly summarised:

- Parastatals are set up as semi-autonomous bodies with supposedly independent decision-making capability in their allocated tasks. Independent decisions are rarely permitted since senior managers are usually political appointees.
- They often operate within constraints determined by wider government policies, for example, farm gate prices and retail prices. These constraints may, on their own, ensure non-viability of the enterprise, especially if enforced losses or subsidies are inadequately recouped by central government. They must also follow state regulations in other respects, which rarely promote a spirit of dynamism.
- Parastatals are often prone to much higher overhead costs than would be incurred by private traders undertaking the same functions. In some countries parastatals were established for each export crop with the responsibility for creating their own countrywide infrastructure of procurement and transport facilities, all staffed permanently through the year and thus contributing to the high overhead costs.
- Marketing parastatals are sometimes required to take on additional public-sector functions to which they are not necessarily well adapted organisationally, and for which they are not adequately reimbursed by central government. Thus their financial overheads and accounting weaknesses increase. Examples include provision of subsidised crop inputs, credit provision, extension work, and crop-specific research.

- Farmers are often treated as residual recipients of marketing income after the marketing board has deducted their unit costs.
- Many marketing boards in Africa adopted a uniform national producer price and there is also no seasonal variation in pricing, so producers and processors have little incentive to store. Consequently the marketing board bears most of the costs and risks associated with grain storage. Uniform pricing is usually justified on equity grounds but usually proved to be inefficient and inequitable (Blackie, 1987).

Marketing parastatals, especially monopoly marketing agents, have proved to be susceptible to major weaknesses and Ellis (1992) argues that it is often the small-scale producers who suffer the most as a result of these weaknesses. Exceptions, such as the Kenya Tea Development Authority (KTDA), are well documented. The basis for the successes such as the KTDA can be related to combinations of genuine autonomy from government; management appointed on merit; salary and reward structures different from the civil service; formal mechanisms for participation and feedback from farmers and an overseeing framework independent from government.

Blackie (1987) refers to the Zimbabwean experience as further evidence of successful marketing parastatals in Africa. The Cotton Marketing Board experience indicates that it is both possible and practical to use parastatal marketing to develop and extend productive cash cropping in a national context. According to Blackie, it also suggests that such intervention requires active producer involvement, progressive and innovative research programmes, and a well-defined marketing strategy. The Cotton Marketing Board's successful blend of private sector and public sector responsibilities provides a valuable example for development of other agricultural delivery systems.

The Grain Marketing Board in Zimbabwe expanded its depots into many of the communal areas. As shown earlier in this chapter it was the expansion of marketing infrastructure and facilities which contributed to the "smallholder miracle" in Zimbabwe. The experience with increased involvement of smallholders

in the marketing of staple foods increases the number and type of variables facing marketing policy makers. Smallholders will first attempt to meet their own food needs and will market only food grains in excess of these requirements. Since food grain yields in Africa are highly variable, surplus grain production from smallholders will fluctuate from year to year (Blackie, 1987). Parastatals, such as the Grain Marketing Board thus faces the problem of collecting small quantities of grain from large numbers of dispersed producers.

While there might be surplus (maize) in some regions within countries, the problem of supplying food-deficit areas is an important aspect facing many developing countries. How to develop an improved and cheaper distribution to rural food-deficit areas is a particular challenge to parastatals in developing countries.

A policy commonly followed by the marketing parastatals for both exports and food crops is to pay producers the same price throughout the country (pan-territorial pricing). This practice was usually justified as a measure to promote development of a backward region. It often led to the emergence of parallel markets. In other countries, the combination of low consumer prices, pan-territorial and pan-seasonal prices, and/or parastatal marketing monopolies have driven the private sector completely out of many agricultural markets (Knudsen, *et al*, 1990).

3.3.4.3 Other lessons related to government intervention in agricultural marketing

The experience of developing countries in crop marketing intervention has other lessons than those associated with marketing boards or crop parastatals. One is the attempts to force the marketing margin below the true cost of carrying out marketing functions resulting in potentially large budgetary costs for the state, and a much larger degree of state intervention. A second is that misapplied marketing policies with respect to producer prices and marketing margins result in parallel markets, which defeats whatever intention there was of state control in the first instance. A third is trader licensing which causes an artificial barrier to entry into marketing, reduces competition, and is invariably associated with corruption. This makes the cost of licences to traders much higher than the official fee (Ellis, 1992).

Government regulations have thus typically led to illicit trade that has raised marketing costs as well as the number of intermediaries involved (Singh 1990).

Government sponsored procurement systems have similarly been of no advantage to small farmers. Large commercial farmers have evaded the systems, while the politically less powerful small farmers have been their victims. In the same sense price controls may not be very helpful to most farmers. If prices are set on the basis of new technologies, they discriminate against farmers who use less productive, traditional technologies. This problem becomes especially acute if new inputs are highly subsidised or if the majority of farmers do not have access to new technologies. Price stabilisation programmes may offer less to small farmers than is often assumed.

Marketing co-operatives have often been seen as a solution to the perceived exploitation by small farmers in the marketing of agricultural produce (Singh 1990) and at times it became powerful instruments of socio-political change (Lele, 1974). The experience with marketing co-operatives has been similar to that of marketing parastatals. Where marketing co-operatives have been competing with the private sector, they have been successful in undercutting the distribution costs of the free market. However, the economically self-sustaining co-operatives have been confined to the marketing of commercial crops (Lele, 1974).

Pushing co-operative development too rapidly may be counterproductive because it frequently becomes a haven for subsidies. Furthermore, marketing cooperatives are likely to suffer from problems similar to those of credit co-operatives, such as, poor management financial instability, and subversion by powerful interests - usually of large farmers (Singh, 1990).

It can be concluded that marketing co-operatives may have more or less success according to the type of crop cultivated, the stage of agricultural development; and existing socio-economic and political conditions (Lele, 1974).

3.3.4.4 Summary

Lessons learned in the experience with agricultural marketing institutions can be of value in designing appropriate marketing institutions for servicing smallholder agriculture. It should however be taken into account that the traditional marketing system consisting of private traders, speculators, merchants, etc. do perform important functions which often cannot be replaced by government programmes and co-operatives except at substantially greater costs. There is little evidence in the literature of the exploitative nature of the relationship between small farmers and traders (like moneylenders). Traders function in the least accessible areas and meet the small producers' credit needs. Thus the marketing connection may have real benefits for small farmers.

Improving the marketing system should therefore not only involve the establishment of marketing parastatals or co-operatives but should primarily also utilise the existing rural entrepreneurs and traders. In this respect capacity building and assistance to these entrepreneurs could be valuable and improve marketing efficiency. Furthermore the government could play a major role in providing a reliable and accessible marketing information services as well as ensuring uniform standards and quality requirements. This view is also supported by Ellis (1992 : 119) and basically summarises the debate on marketing:

"....state assistance to help develop the infrastructure of the private marketing system, i.e. the creation and encouragement of widespread wholesale and retail markets and trading facilities, is likely to prove a less costly means of improving marketing systems than the creation of state marketing monopolies."

A marketing system based on cooperation between the state and the private sector can do much to overcome many of the problems of marketing systems in less developed countries. Improving rural market physical infrastructure and organisations could also help to rid marketing systems of their problems.

In conclusion one has to remember that transportation costs constitute a large proportion of marketing margins in Africa (and other developing areas). Thus providing new roads to serve remote producing regions could elicit a greater supply response, it could help to integrate rural and urban markets and could reduce the price spread between producers and consumers. The argument of Lele and Adu-Nyako (1992) that rural infrastructure development needs to be accorded top priority, has to be supported since it will also help to improve input delivery systems and extension provision to small-scale farmers in remote areas.

3.3.5 Mechanisation (or tillage) services

Much of the controversy and debate surrounding farm mechanisation in developing countries relates to four-wheel tractors. This is mainly due to the fact that tractors represent the substitution of machine power for animal power or labour power in operations such as ploughing, harrowing, sowing, weeding, and spraying crops (Ellis, 1992).

Those in favour of tractors argue that lack of power is a real constraint on increased agricultural output in developing countries. It is argued that tractor mechanisation can make a contribution to agricultural output. The main propositions of this view in favour of tractor mechanisation include the following (Ellis, 1992):

- Tractors increase crop yields per hectare due to deeper tillage of the soil, more consistent soil preparation, more accurate delivery to the soil of seeds and fertilisers, and generally more timely and uniform cultivation operations.
- Tractors speed up land preparations between crop cycles, allowing an increase in multiple cropping compared to animal-draught or manual land preparation.
- Tractors permit a higher value crop mix to be grown, by releasing labour from routine operations, which can then be used for additional higher marginal return tasks.

- Tractors permit additional land to be placed under cultivation by freeing up the grazing land previously required for draught animals.
- Tractors are able to place under cultivation land that would otherwise remain idle, for example by ploughing heavy soils which can only be cultivated by hand with great difficulty (See also Eicher and Baker, 1992 : 128).
- Tractors represent a power source for multiple tasks on the farm, not just for cultivation.

Some authors also mention the consumption benefits of tractors, including the reduction in the drudgery of farm work that they represent, and their use for transport and travel, aside from farm tasks.

A study by Binswanger (1978) in South Asia found little evidence in support of the above propositions. Ellis (1992) also refers to a number of studies which indicate that the yield gains are not necessarily attributed to tractors but are caused by new seeds or increased fertiliser use. The notion that machine power is an absolute constraint on higher output and that the output gains of tractors are sufficient to outweigh their disadvantages for farm size and employment, are not sustained by the bulk of evidence where tractors are concerned. The majority of studies on tractor mechanisation were, however, mainly done in South or South-East Asia, are fairly dated, and therefore do not necessarily apply to African conditions.

The issues addressed thus far covered the debates concerning the suitability and desirability of tractor mechanisation, and/or the uptake of tractors by small-scale farmers, in developing farmers. Studies generally came out not favouring tractor mechanisation and also often criticising government policies to promote mechanisation through subsidisation and cheap credit. Another issue to be addressed is the provision of tractor hire services (or tillage services) by government or private contractors. It is particularly important in the case of this study to discuss the provision of these services and its success and failures.

Tractor hire services (government and private) are theoretically attractive because of their perceived ability to spread the fixed costs of the tractor and equipment over a large number of small farmers. Although the demand for tractor hire services has been artificially increased by government subsidies, most government tractor hire schemes in Africa have not been successful because of high operating costs on fields which are small, scattered, and irregular in shape. These schemes offered farmers little advantage because of frequent breakdowns and a shortage of operators resulting in delayed planting (Eicher and Baker, 1992). Schemes to deliver tractor mechanisation services have also been plagued by poor record keeping; lack of adherence to efficient land preparation schedules; lack of spare parts and fuel; inappropriate pricing policies; favouritism and a lack of commitment on the part of some tractor owners and hired drivers; and a poor record of loan repayment (Ishuza, 1991). Uganda, for example, promoted the use of tractors through the establishment of the Uganda Government Tractor Hire Service. Like others, this scheme failed as well. The Government then encouraged the individual ownership of tractors. These new tractor owners encountered financial difficulties largely because they allowed the tractors to travel long distances between plots that were often small, awkwardly shaped, and badly cleared. In 1985 Tanzania introduced a pilot project whereby private individuals, as well as villages and co-operatives were allowed to own tractors on a credit basis. Owners had to make a down payment on each tractor purchased, equal to half the value of the tractor (Ishuza, 1991). This would of course have limited individual tractor ownership to the relatively wealthy minority.

Numerous studies of the economics of private tractor ownership and government tractor hire schemes show that while government subsidies help make mechanisation financially rewarding to individual farmers, the schemes generally have high social costs in terms of required government subsidies (Eicher and Baker, 1992). On the other hand, these services may alleviate seasonal bottlenecks in countries that do not have a class of landless agricultural workers, such as in southern Africa, where the majority of men work as migrant workers some distance from their homestead.

While there is evidence that tillage services can help provide farmers to cope with specific seasonal bottlenecks or overcome a conflict in the timing of activities, there is no evidence that these services should be administratively provided. Assuming the existence of a hire-service sector, farmers could contract for tillage services, as in Kenya and Thailand; coupons could be provided to enable them to do so without directly involving the government (Kinsey and Binswanger, 1993). As will be shown in the next chapter, the latter system is used in some of the FSP areas and proved to be successful. Groups could also purchase tractors and then hire them out to neighbours. Kinsey and Binswanger stress that there should be no administrative barriers to any possible options.

In conclusion it has to be stressed that proper tractor management and available mechanisation services will not suffice to increase agricultural productivity. A package of inputs responsive to farmers' needs must be advanced to farmers if agricultural productivity is to be increased. For example, essential inputs such as fertilisers and insecticides need to be available on a timely and affordable basis. Extension agents must assist farmers to maintain proper crop husbandry practices. Finally, the necessary infrastructure, such as roads, market centres and lending institutions must also be available.

3.4 SUMMARY AND CONCLUSIONS

The experiences of a number of developing countries in providing support services and agricultural institutions to small farmers were discussed in the first section of this chapter. Most of the countries mentioned, followed the smallholder route in agricultural development on the premise that broad based agricultural growth strategies are the best way to alleviate poverty. The lessons from the experiences of the various countries show the fundamental role of the government in the provision of basic support services such as agricultural research, extension, rural infrastructure, credit, etc.

The experience of Zimbabwe in this regard is of particular relevance to South Africa, given the similar colonial history. Furthermore, a bi-modal strategy of agricultural development was followed in the pre-independence period which

resulted in a similar dualistic agricultural sector. Zimbabwe's maize revolution showed what benefits could flow from removing the constraints and racial barriers faced by small-scale farmers. Zimbabwe's experience also highlighted the complex managerial problems involved in restructuring farmer support institutions and scaling them up to serve the majority of farmers in a nation - i.e. the smallholders.

In the second part of the chapter the debate and approaches to the delivery of certain of the support services to small-scale farmers were discussed and reviewed. Several approaches to the provision of extension were listed and discussed but most of the literature on agricultural extension emphasises that there is no blue print for an ideal extension service. When extension systems are designed they should take into account the particular circumstances and farmer characteristics. From the review of literature it became evident that government efficiencies, community participation and a bottom-up approach to extension are important aspects to be considered in the design of agricultural extension systems.

In reviewing the literature on agricultural credit programmes for small-scale farmers it is evident that attention should be given to a new approach in credit provision to the rural poor and small-scale farmers. The old approach of cheap credit and supply-led credit institutions is increasingly being discredited in favour of a new approach that emphasises savings, loan recovery and self-sustainability and viability of financial institutions.

A lot has been written on the appropriate input delivery systems for developing countries. It was highlighted that the problems with state input delivery systems are widespread, but consensus is yet to emerge on the appropriate roles and functions of the private sector as opposed to the state sector in this branch of agricultural policy. Several authors stressed that direct farm input procurement and distribution by the government has generally not been successful. Other authors are of the opinion that efforts to provide physical, social and institutional infrastructure that could improve the performances of private sector firms and co-operatives, would be more productive. Government-sponsored parastatals can play an important part in facilitating such efforts, but more research is required to determine the role of these institutions. It is likely that this role could be larger in

remote areas. It is therefore suggested that policies and programmes should be implemented that will facilitate the development of multiple competitive input marketing channels, one of which might be governmental.

Government intervention in agricultural marketing in developing countries was usually motivated on the grounds of improving the efficiency of traditional marketing systems and to rid the small-scale farmers of the perceived exploitation by private traders, merchants and money lenders. Parastatal marketing organisations were formed to perform these tasks but proved to be failures across the board. Marketing co-operatives had similar problems and weaknesses as the parastatals.

In view of the problems and weaknesses experienced by parastatals and co-operatives it can be argued that a marketing system based on cooperation between the state and the private sector can do much to overcome many of the problems of marketing systems in less developed countries. Improving rural market physical infrastructure and organisations could also help to rid marketing systems of their problems.

The literature review provided little evidence on the benefits of the provision of mechanisation or tillage services. On the whole the literature was particularly negative regarding the appropriateness of introducing tractors in traditional agricultural systems. There is, however, evidence that tillage services can help farmers to cope with specific seasonal bottlenecks or overcome a conflict in the timing of activities. There is no evidence that these services should be administratively provided. It has been shown that government tractor services failed in almost all developing countries. There should therefore be no constraints put in the way in which these services are organised and provided. Preferably it should be left to private entrepreneurs or groups of farmers sharing tractors and equipment.

The second part of the chapter provided valuable lessons on the provision of extension, credit, inputs, marketing services and mechanisation services to small-scale farmers in developing countries. These will prove to be valuable in evaluating

the provision of these services to small-scale farmers in the less-developed areas of South Africa through the FSP approach.

Readers might wonder why this chapter did not discuss the aspect of rural infrastructure in more detail. Rural infrastructure is a very important aspect in small farmer development and cannot be ignored. However, in the discussion of each element it was continuously mentioned that infrastructure development, especially rural feeder roads, market facilities, water points, etc., are prerequisites for the development of each of the mentioned services and institutions. The omission therefore does not imply that infrastructure development has been relegated to secondary status, but emphasises the fact that it should be part and parcel of support services to small-scale farmers.

CHAPTER 4

THE SOUTH AFRICAN EXPERIENCE WITH SUPPORT PROGRAMMES TO SMALL FARMERS

4.1 INTRODUCTION

The philosophy, objectives, premises and elements of the farmer support programme (FSP) were discussed in Chapter 2. This chapter deals with the implementation of the FSP in various regions in South Africa since 1987. The achievements of the programme thus far is furthermore discussed at length based on information and evidence gained from a three year evaluation programme of the Farmer Support Programme.

4.2 THE IMPLEMENTATION OF FARMER SUPPORT PROGRAMMES (FSP) IN HOMELAND AGRICULTURE

The Development Bank of Southern Africa being instrumental in conceptualising the FSP, was also largely responsible in ensuring the implementation of this programme in homeland agriculture through local implementing agents. DBSA would generally provide finance for bulk infrastructure and long, medium and short term farming capital through concessionary loans. The concessionary terms and conditions of DBSA loans were determined by the nature of capital required and a rational approach based on a long term view of what a project could afford. Interest rate and repayment periods therefore differ between projects. Transaction costs to cover risk and on-lending charges of up to four percent were allowed to support the on-lending agency. Recurrent costs are not funded by DBSA and are sourced from the public or private sector. DBSA however, will only participate if the total package of the required support elements is adequately funded and economic development criteria met in a positive manner (Van Rooyen, 1993 : 14).

While DBSA and some development agencies had already begun to introduce certain elements of a small farmer approach prior to 1987, the first fully integrated farmer support programme was financed in March 1987 in KaNgwane. To date 35 FSP projects have been funded by DBSA in Venda, KaNgwane, Lebowa, KwaZulu, Ciskei, Transkei and KwaNdebele. Van Rooyen (1993) estimates that 25 000 farmers (or households) are currently supported through the FSP projects. During the period 1984 to 1992, DBSA approved a cumulative total of over R144 million in loans for FSPs. In the 1992 financial year, loans for FSPs made up 41 percent of the DBSA's total agricultural loan portfolio. This illustrates the shift towards FSPs since 1987 and the relative decline of state and settlement projects in the DBSA loan portfolio (Van Rooyen, 1993 and DBSA annual reports).

The implementation of DBSA-supported FSP takes place in a rather complicated environment comprising a variety of mechanisms (land tenure, tribal authority systems) and organizations (e.g. public sector, parastatals, private sector, tribal authorities, non-governmental organizations). The DBSA's approach, therefore, emphasises the provision of support services to farmers and entrepreneurs without unnecessarily disturbing the prevailing social hierarchy in the different areas (Singini and Sibisi, 1992 : 353).

In most cases, the FSP package tends to be the same, irrespective of the area, mainly due to the similarity of the constraints faced by small farmers. However, there are some variations regarding implementation which should be taken into account in evaluating the performance of these programmes. The rest of the chapter will therefore consider the implementation of FSPs in selected target areas and will provide an overview of the evidence from the various programmes as well as the contribution of the FSP to certain key criteria. The Farmer Support Programmes that are discussed and analysed in this chapter are the FSPs at Mashamba and Khakhu in Venda, the FSPs at Phokoane and Kadishi in Lebowa and the first three phases of the KaNgwane FSP. It is, however, important to initially discuss methodological problems related to determining the impact or effects of the FSP. This is discussed next.

Table 4.1 Details of the FSPs in Venda, Lebowa and KaNgwane

FSP	Implementing agent	Year of implementation	Total Estimated Cost	DBSA loan
Venda : Khakhu Mashamba	Agriven	1988 1988	R2 046 673	R 270 682 R 852 624
Lebowa : Phokoane Kadishi	LAC	1988 1988	R1 937 560	R1 914 560
KaNgwane: FSP I FSP II FSP III	Agriwane	1987 1988 1990	R1 825 000 R1 466 000 R 253 000	R1 460 000 R1 418 000 R 253 000

4.3 DETERMINING THE IMPACT OR EFFECTS OF THE FSP

In order to determine the impact or effect of the FSP, the ideal would have been to compare the situation with the FSP with the conditions experienced before the implementation of the programme. Thus, to compare the present situation with a baseline scenario would give a clear indication of the impact of the FSP on aspects such as agricultural output, input usage, household income and food security. Such a baseline study was, however, never done. This is unfortunate as the case for the implementation of such a study was argued in the original guidelines of the farmer support programme (DBSA, 1986, p23):

"During the planning of the programme, an agricultural profile of the area should be established. Detailed base-line studies are not always necessary but an assessment of the following should be made:

- i) the farmers' perception of the constraints they face;*
- ii) the nature of land utilisation and distribution;*
- iii) the extent of migration, commuting and local employment in the area;*
- iv) the proportion of agricultural income to migrant income;*
- v) the institutional structures and infrastructure; and*
- vi) the identification of new constraints."*

If this had been done, the progress of implementation of the FSP would have been more readily measurable and, furthermore, the task of evaluating the FSP and of determining the impact of the programme would have been easier.

Because it was impossible to determine the impact of the FSP, the best alternative available was to compare FSP farmers with those not taking part in the programme, or easily identifiable as farmers not being members of the various co-operatives or farmers' associations or those not receiving extension and training or credit. By means of this process it was possible to obtain some idea of the impact of the FSP on agricultural output, input usage, household income, food security, debt levels and standard of living. However, this process also has flaws, as the non-FSP farmers might be able to obtain access to various support services. It is therefore not possible to arrive at intended conclusions based on the differences between FSP and non-FSP farmers.

The process of comparing the means of certain key variables of the two groups, is open to criticism as the means or average figures do not take cognisance of the distribution within each group. It is often believed that the "members" of the FSP are the rural elite, the more wealthy and those households with a larger asset base. In analysing the data from the surveys large variations in all variables and key indicators were found. To illustrate this, Table 4.2 provides an analysis of the distribution of the data with regard to certain variables as obtained from the survey of rural households in Venda. The wide variation of the data is evident from Table 4.2 and to some extent confirms that the means could well be considered as being representative and providing a fair picture of the real situation. Furthermore, if one considers the value of savings accounts and the ownership of cattle, it can be concluded that it is not only the rich and the more wealthy who join the FSP. The FSP members also do not necessarily own more cattle as is often believed.

Table 4.2 Distribution of households in Venda with regard to certain indicators

Item	FSP households	Non-FSP households
<u>Value of savings account (R)</u>		
0	45.5 %	31.8 %
50 - 1000	19.4 %	22.7 %
1000 - 2000	14.3 %	22.8 %
2000 - 3000	5.2 %	18.2 %
> 3000	16.9 %	4.5 %
<u>Access to cropland (ha)</u>		
0	14.3 %	32.0 %
0.25	2.6 %	9.1 %
0.80	1.3 %	-
1	75.0 %	45.5 %
2	5.2 %	9.1 %
> 3	1.3 %	4.5 %
<u>Share of cropland planted</u>		
0	11.6 %	35.7 %
25%	4.3 %	-
50%	-	7.1 %
75%	-	-
100%	63.8 %	28.6 %
<u>Ownership of cattle</u>		
Cows :		
0	74.0 %	81.8 %
1 - 5	11.7 %	9.0 %
5 - 10	9.1 %	9.0 %
> 10	5.2 %	-
Oxen :		
0	89.6 %	86.8 %
1 - 5	10.4 %	13.6 %
5 - 10	-	-
> 10	-	-

Accepting the flaws in the process of comparing means, it is argued that the only feasible, and probably more correct, approach would therefore be to determine and discuss the possible contribution of the FSP to certain key indicators. This was done mainly by using discriminant analyses. The results of this method are discussed in each of the three following case studies.

4.4 AN OVERVIEW OF THE IMPLEMENTATION AND RESULTS OF THE FSP IN THREE DIFFERENT REGIONS

4.4.1 Introduction

The purpose of this section is to give an overview of the farmer support programmes in Venda, Lebowa and KaNgwane and to evaluate the performance of the programme and its various elements in addressing the constraints faced by small farmers in the mentioned areas. The information used in this discussion was obtained from a three year evaluation programme of the FSP. This was obtained by means of surveys of rural households in selected target areas as well as through interviews with implementing officials. Two surveys by means of structured questionnaires were conducted by teams of interviewers in each of the areas in December 1990 to February 1991 and again in December 1992 to January 1993. Only households in selected target areas in each of the homeland territories were surveyed.

The discussion of the FSP in each of the areas will follow the same structure: initially providing a summary of the surveys undertaken and then briefly reviewing the results of the surveys. Only the results from the first survey will be used in these discussions (the results of the second survey will be discussed in Section 4.5 and will also be used to verify and test the results and conclusions from the preceding sections). The various elements of the FSP are evaluated based on these results as well as on interviews with officials from the three implementing agents. Thirdly, the contribution of the FSP is analysed as discussed in Section 4.3 and finally, various institutional aspects of the programme are briefly considered.

4.4.2 The Farmer Support Programme in Venda

The FSP in Venda consists of a comprehensive support programme in three selected target areas in Venda namely, Mulima, Khakhu and Mashamba. The three target areas were part of the Venda Dryland Crop Production project formerly financed by the South African Department of Foreign Affairs, and in later years, the responsibility of DBSA. The three farmer support programmes (FSPs) in Venda

were implemented towards the end of 1988, with the first credit provided to farmers in October 1988 intended for the 1988/89 production season.

The conversion to farmer support in these target areas was in accordance with agreements reached between DBSA management and the borrower (Agriven) in August 1986 in terms of which the Dryland Crop Project would eventually be converted into a comprehensive farmer support programme.

The constraints experienced by farmers in the target areas were identified as being:

- low local availability of agricultural inputs;
- insufficient extension and technical advisory support services;
- untimely and low level of availability of mechanisation services (winter ploughing / late planting); and
- a lack of local institutional structures to coordinate and accomplish input acquisition and produce distribution.

The main elements of the farmer support programme in Venda were therefore identified accordingly and are in order of importance:-

- Mechanisation
- Credit
- Inputs
- Extension and training
- Marketing

Mechanisation and specifically ploughing services are viewed as the main thrust of the FSP in Venda. The FSPs in Venda differ from those elsewhere in that the programmes are implemented through local co-operatives rather than farmer associations. Each FSP area has its own co-operative. Credit, ploughing services, inputs and other services are provided to the farmers through the co-operatives. By late 1989, there were three co-operatives with a total farmer membership of 932, with an average land holding of one hectare per farmer. Extension services were provided by the Venda Department of Agriculture and Forestry, while the local

agricultural development corporation (Agriven) provided training on project-related matters (Singini and Sibisi, 1992).

4.4.2.1. Sample survey of rural households in Venda

The evaluation of the Farmer Support Programme in Venda was conducted in two of the three FSPs, i.e. Khakhu and Mashamba. Household surveys in the two areas were conducted during 1990/91 and again in December 1992. This discussion will only consider the results from the first survey.

4.4.2.1.1 Area description

Mashamba

The Mashamba area is situated in the South-East of Venda along the Klein Letaba River. Mashamba has a broken topography with hilly slopes. The area is further characterised by typical savannah vegetation with sweet to semi-sweet grass species.

The average annual rainfall is approximately 800 millimetres which peaks during the summer months. Mean minimum temperatures in winter are 16 degrees centigrade with the mean maximum temperatures in summer in the region of 31 degrees. Frost has never been recorded in this area.

Compared to other villages in Venda, Mashamba is densely populated. Employment in this area is high with the majority of women involved in subsistence farming. Most of the men are migrant workers with only a few employed by the Government service. Livestock farming is one of the important activities for male school leavers and unemployed men.

Khakhu

The Khakhu area is situated on the Soutpansberg mountain range to the North of Thohoyandou. As a result of mountainous terrain, Khakhu has steep slopes with

gradients of more than 12 percent. The vegetation of the area consists mainly of tropical forests. Grazing conditions are poor due to "suurveld" grass species. The soils in the area tend to be sandy.

Annual rainfall (in good years) is in the order of a 1 000 millimetres. Rainfall peaks in the summer months occurring during intense thunderstorms. Mean temperatures are comparatively lower than the Mashamba area, with an average minimum of 6 degrees centigrade and maximum of 28 degrees. Frost may occur during cold spells in winter.

Khakhu is not as densely populated as Mashamba, but otherwise the demographic characteristics of Khakhu are similar to that of Mashamba. The only other difference is that the literacy levels in the Khakhu ward tend to be somewhat lower than in Mashamba.

4.4.2.1.2 Data Collection

Data were collected by students of the University of Venda by means of a questionnaire survey conducted during June and July 1991. The sample included 148 rural households, 75 in Mashamba and 73 in Khakhu, of which 91 completed questionnaires were useable ($n = 91$). Of the total of 91 respondents, 22 were non-FSP clients, 32 FSP clients in the Khakhu ward and 37 FSP clients in the Mashamba ward.

Two samples were drawn from each ward: The first was a two-stage sample taken from the population of rural households in the ward, assuming that all members of this population were aware of Agriven's support programme. The second was a simple random sample drawn from a list of past and present FSP clients in each ward. The object of the two-stage sample was to elicit demographic and agricultural information representative of the study area and to isolate a subset of households that did not use Agriven credit. The random sample provided comparative information about the participants in the FSP credit schemes.

4.4.2.1.3 Survey results

Household demographics

It was determined that the overall mean household size in Venda is 6 persons (including migrants). Approximately 56 percent of household members were under the age of 16 and 5 percent over the age of 60. Through an analysis of the distribution of the males and females, it has been determined that the households consist of slightly more females than males.

The difference between the economic activity of the two wards can also be attributed to the fact that there are more males in the economic active age group (16 - 60 years) in Mashamba, while in Khakhu females are in the majority in this age group. The economically active population in the Mashamba area (more males than females) was calculated as 36 percent of the population in the area, while in the Khakhu area (more females than males) 43 percent of the population was classified as economically active. There were more teachers and scholars in the Mashamba ward than in the Khakhu ward and this is probably the reason for the higher literacy level in Mashamba. Scholars and pupils in the Khakhu ward represented only 10 percent of the total population in Khakhu, while in the Mashamba ward this percentage was significantly higher, at 35 percent. With respect to levels of formal schooling it was determined that 43 percent of the total household population did not receive any formal schooling.

Household income

Household income and expenditure in the study areas are shown in Table 4.3. From this table, it is clear that income from the farming enterprise contributed only 27 percent to the total earnings of the household. Welfare payments and remittances accounted for nearly 8 percent of off-farm income. Education, food, clothes, savings and instalments were the main household expenditures in both regions.

Table 4.3 : Average income and expenditure patterns of households in Venda (1991)

Income		Expenditure	
Crops	R 132.04	Education	R 133.41
Livestock	R 206.53	Food	R 164.06
Informal trade	R 100.40	Clothes	R 130.80
Rental from land	R 0.40	Savings	R 145.51
Hiring out equipment	R 6.12	Transport	R 48.54
Occasional work	R 8.16	Durables	R 64.39
Regular cash income	R1210.69	Personal	R 68.55
		Medical	R 60.69
		Instalments	R 108.20

Farming activities

Households in the two survey areas are on average situated 436 metres away from the nearest watering point and 3.04 km away from their croplands. The average size of land owned in Mashamba was 1.03 ha dryland and 0.07 ha garden plots. In Khakhu the average size of plots was 0.8 ha dryland. No land was rented. Approximately 60 percent of the respondents considered land as the main determinant of their personal wealth. About 55 percent of the farmers are not able to purchase or rent additional land, mainly due to lack of capital or credit facilities. Almost 61 percent of the respondents indicated that they are able to work more land, but did not have the means to purchase more land.

The incidence of food cropping was high, but there was relatively little evidence of cash crops (see income from crops). The vast majority of households in the two study areas produced maize. The proportion of households producing dry beans and pumpkins was much lower. Cash income from farming accounted for 27 percent of total income. However, estimates of farm income are unreliable as few households sold produce, and respondents were not willing to give income or expenditure figures.

The mean values of the numbers of livestock were small, illustrating the lack of grazing land (61.5 percent of the respondents view this as a major constraint). On

average, the Mashamba households had 4 head of cattle, 0.6 goats and 9 chickens, while the households in the Khakhu ward had less cattle (2.6), goats (0.4) and chickens (1). These figures clearly reflect the higher grazing capacity in the Mashamba ward. In comparing the FSP and the non-FSP households, it was determined that 74 percent of the FSP households kept no cows and 89 percent no oxen. In the case of the non-FSP households 82 percent had no cows and 87 percent no oxen.

In general, 53.8 percent of the households kept cattle, while only 34.1 percent of these households had enough grazing for their requirements. This is a clear reflection of the condition of the veld, mostly indicated by the respondents as medium or poor. The respondents mostly stated that the veld is deteriorating because of drought and institutional reasons (no conservation possible, to keep less cattle is irrational). Security of tenure was listed by the majority (66%) of respondents as a major concern. The respondents indicated that they would prefer to have a title deed or some proof of ownership for the piece of land they are farming on. Only 12.1 percent of the farmers were prepared to rent out their land to another farmer.

The need for fencing to keep cattle belonging to other farmers out of crop lands, was indicated as the major problem facing farmers in Venda. In wards where the tribal system of land tenure had not been altered by betterment planning, this problem arises because stock owners may graze their cattle on any land that is not cultivated, i.e. all fallow land is regarded as communal grazing. As a result, planting is often delayed because stock owners use arable land for grazing during winter when the fields lie fallow. In bettered wards grazing, arable land and residential areas are separated according to land quality criteria. Arable fields are allocated to households but grazing land is regarded as common property. When grazing camps are not adequately fenced, there is little a farmer can do to keep cattle off the cropland. The high incidence of households reporting this problem helps to explain why most respondents favoured privatization of grazing land.

The demand for more land for cropping, or the issue of "land hunger" was identified as the second major problem facing farmers in the study areas. This issue could

have important implications for future implementations of FSPs and for land reform in South Africa in general. As subsistence farmers become increasingly surplus producers and more commercially orientated, the demand for more land will increase. To avoid the problem of land hunger, other land will have to be allocated to such farmers to accommodate their needs in their quest to become successful commercial farmers. Some reform of the present tenure system will also have to be considered to provide farmers with security of tenure. This issue of shortage of crop land will clearly have to be considered in the evaluation of the FSPs as it could be a major factor hampering progress of these farmers.

4.4.2.2 An evaluation of the implementation of the various FSP elements in Venda

4.4.2.2.1 Mechanisation

Farmers generally make use of mechanisation services provided by the three primary co-operatives. Agriven and the Department of Agriculture also provide mechanisation services. Agriven plays an important role in the mechanisation services provided by the co-operatives by providing training to drivers and assisting in the repairs of tractors, etc.

The Khakhu co-operative owns two Fiat (54kW) tractors, a one ton trailer and a light pick-up truck. Agriven financed the acquisition of the tractors, etc. The co-operative is supposed to repay the Agriven loan for the tractors but has not paid any instalment as of yet. The co-operative has recently applied to Agriven for another tractor as the co-operative experiences a capacity problem during the planting season due to the increased area under cultivation.

Members approach and request the co-operative to provide ploughing/planting services. A list is then drawn up according to the day and time members require the service. Mechanisation services are rendered to members on a credit or cash basis at a cost of R72.19 per hectare. The cost to non-members is R120 per hectare on a cash only basis. During the 1990/91 season the Khakhu co-operative rendered mechanisation services to non-members to the extent of 151.7 hectares

ploughed, 5 hectares disced and 2 hectares planted. The income earned by the co-operative for this services amounted to R6 578.

Table 4.4 : Mechanisation and input costs per hectare - Khakhu

Season	Tractor services			Fertiliser		Seed	Total cost per hectare
	Plough	Disc	Plant	2.3.2	L.A.N		
1988/89	37.50	18.75	18.75	94.32	71.37	41.50	282.19
1989/90	37.50	18.75	18.75	110.42	87.47	57.60	330.49
1990/91	65.63	32.81	32.81	93.56	85.80	53.90	364.51
1991/92	65.63	32.81	32.81	93.56	85.80	53.90	364.51

The Khakhu farmers are generally satisfied and pleased with the mechanisation services provided by the co-operative because it provides better and more reliable ploughing than Agriven's or the Venda Government's tractor services. The yields recorded by farmers are higher due to the improved ploughing service, due to the deeper ploughing resulting in better hygroscopicity of the soil.

The Mashamba co-operative owns 6 Fiat (56kW) tractors which are used for ploughing, discing and planting. The members of the Mashamba co-operative also view the tractor service as the most attractive element of the FSP.

Both the co-operatives have own transport in the form of a one ton delivery van. These vehicles are mostly used by the managers in the execution of their day to day responsibilities as well as for collecting stock, especially minor items.

Due to the poor state of access roads, very few private contractors are prepared to make deliveries to the co-operatives. The co-operative at Khakhu has to arrange for transport to deliver inputs and other products to the co-operative as Agriven provides no transport. Transport is normally hired to deliver inputs to the co-operative store. Transport costs vary but more or less amount to R250 per 7 ton truck load.

According to the head of the mechanisation division of Agriven, the tractors of the co-operatives initially had to be repaired on a monthly basis, with the co-operatives having to pay for this service. However, due to training of the drivers, the costs of repairs decreased, which furthermore improved the effectiveness of the co-operatives' services, since the co-operatives can use the expenses saved in this way on other items.

From the discussion above it is evident that the co-operatives are to a large extent the only efficient providers of mechanisation services to FSP farmers. The services also appear to be more reliable than those of Agriven or the Venda Department of Agriculture, while the farmers also have high regard for the service provided by the co-operative. It is, however, not clear if any independent tractor contractors, apart from Agriven, do operate in the two areas. According to the project description, one of the responsibilities of the primary co-operatives was the coordination and training of independent mechanisation contractors. This was apparently not adhered to and at present the co-operatives still own the tractors which originally were intended for independent entrepreneurs.

4.4.2.2.2 Inputs

The Agricultural Development Corporation of Venda (Agriven), through the primary co-operatives, is involved in various aspects of crop production in the two study areas. Agriven informs 51.6 percent of the respondents when to plough, 49.5 percent when to plant and 31.9 percent when to weed, while 31.9 percent of the respondents are informed by Agriven when to harvest. The crop lands of 72.5 percent of the respondents are ploughed by the co-operatives' tractors, while the co-operatives also do planting of the crops for 69.2 percent of the respondents and weeding for 2.2 percent of the respondents. The Venda farmers mainly use chemical fertiliser (71.4%), while 53.8 percent also make use of dung as fertilizer. Only a small number of respondents apply insecticides (13.2%), pesticides (12.1%), and herbicides (5.5%). Mechanical fertiliser application is used by 61.5 percent of the respondents; 73.6 percent make use of mechanical planting methods and only 2.2 percent harvest their crop mechanically.

The number of respondents in the study areas who have access to the various inputs mainly supplied by the primary co-operatives are the following: fertiliser (75.8%), seed (75.8%), chemicals (2.2%), ploughing services (71.4%), farm labour (1.1%), extension services (57.1%), credit (74.7%), and dips & sprays (31.9%).

It is difficult to evaluate these figures and to determine whether the support elements of the programme are functioning as intended, because non-FSP farmers were also included in the sample. The above figures, however, give a general overview of the present situation with regard to the availability and accessibility of inputs.

Table 4.5 gives an overview of the average quantities and prices of farm inputs used by farmers in the two tribal wards. These figures are averages and could, therefore, be misleading since some respondents used as much as 250 kg of chemical fertiliser, which is somewhat out of line of the calculated average.

Table 4.5 : Farm input use/purchases, Venda, 1991

Item		Khakhu	Mashamba	Overall mean
Seed	(Kg)	32.02	17.75	25.35
Chemical fertilisers	(Kg)	21.68	8.75	14.72
Organic fertiliser	(Kg)	11.90	3.48	7.50
Seed	(R)	206.43	60.13	128.40
Chemical fertilisers	(R)	44.83	21.88	32.48
Organic fertiliser	(R)	-	3.47	1.87
Ploughing service	(R)	11.38	20.16	16.11
Labour (weeding)	(R/h)	-	2.04	1.10
Labour (harvesting)	(R/h)	-	2.04	1.10

The management committee of the Khakhu co-operative, in cooperation with the extension officer, decides on what inputs (fertiliser) to use. Advice from the Dryland Crop Production Committee (DCPC) is also used in their decision making. The DCPC does soil analysis and according to the results obtained, it recommends the quantity and type of fertiliser to be used. At present the co-operative at Khakhu uses 2.3.2 fertiliser and applies 4 bags per hectare. At Mashamba only two bags of fertiliser are applied per hectare.

Primary co-operatives like Khakhu and Mashamba buy their inputs from the Venda Secondary Co-operative. There is, however, some doubt about the future of the Secondary Co-operative as discussed in Section 4.4.2.4.3 and it can be assumed that the co-operatives will have to look for other sources of supply for seasons to come. The total amount of inputs used by the two co-operatives during the 1991/92 crop season was is given by Table 4.6.

Table 4.6 : Inputs used in Khakhu and Mashamba in 1991/92

Input	Khakhu	Mashamba
Area planted	103 ha	257 ha
Seed	5 000 kg	3 924 kg
Fertiliser : 2.3.2	24 700 kg	28 700 kg
L.A.N.	7 500 kg	-

The yields of the previous season (1990/91) in the two areas are provided by Table 4.7 (due to the drought virtually no maize yield was recorded in the 1991/92 production season). These figures were provided by the implementing agent and do not correspond with household data discussed later.

Table 4.7 : Maize yields in Khakhu and Mashamba (1990/91).

	Khakhu	Mashamba
Target yields (1990/91)	3 t/ha	1.5 t /ha
Actual yields	1.6 t/ha	0.72 t/ha

4.4.2.2.3 Credit

Credit under the farmer support programme in Venda is provided to the farmers through the various primary co-operatives. Farmers indicated in the survey that in general FSP related credit was easily available. The credit officer was on average situated about 2 km away from the study areas and it took about one month for approval of their applications.

The reasons given by respondents for joining the FSP credit scheme varied from easy access (57.1% of respondents), insufficient own savings (18.7%), it meets credit needs (38.5%), cheapest source of credit (56.0%) to little or no collateral needed (2.2%). The reason for leaving the FSP credit scheme was mainly due to the respondents not being able to meet the repayment schedule (68.1%). Other reasons given were: poor service provided (30.8%) , insufficient credit offered (48.4%) and credit not available when needed (30.8%).

Members of the co-operatives receive revolving credit for fertilizer, ploughing, discing, seed, etc. Credit is provided according to the area cultivated and is calculated on a per hectare basis. Credit provided to members for the 1991/92 season amounted to R364.51 per hectare at Khakhu and R309.13 at Mashamba. The interest rate is 9% per annum (or 0.75% per month) and the farmers are given 6 months to repay. The programme manager at Agriven and the managers of the co-operatives are of the opinion that all the farmers know they have to repay their loans, that they are familiar with the terms involved and are aware of the consequences if they do not repay their loans. However, they admitted that only 25 percent of the farmers understood the principle of interest and the reason why they have to pay interest. Noteworthy was that 41.8 percent of the respondents thought that they would be brought to court when not repaying their FSP debt, 17.6 percent believed that Agriven would not serve them again and only 3.3 percent thought that nothing will happen if they do not repay their debt.

Both co-operatives have the policy that when a member does not repay his/her debt from the previous season, no new credit is issued. The co-operatives have a number of options to ensure the repayment of loans. A monthly statement is issued to all members to inform them of their outstanding debt (no statements were issued at Mashamba). If a member does not repay his/her loan after 6 months, the management committee of the co-operative meet with such a member to urge repayment. When a member after this still fails to pay he/she is referred to the local council where the chief tries his best to ensure that the member repays his debt. The last resort will of course be court action.

Most of the FSP farmers make use of the credit facility, however, some farmers prefer not to take up the credit and rather pay cash for services and inputs. Farmers are generally advised to pay cash for inputs if they do have available funds.

Crop failure and drought are the main causes of farmers not redeeming their loans. Initially, the number of loans defaulted at Khakhu were low, with only 8 farmers not repaying their loans. In the 1990/91 season the default rate increased to 25 in line with the unfavourable crop conditions. The credit situation of the Mashamba co-operative was not known to the management due to poor record keeping. According to the seconded manager, the situation can only be improved by computerising the financial system of the co-operative. This would then enable the issuing of monthly statements to farmers. Clients continuously moving from village to village and changing of identities further complicate credit management.

The loans provided to farmers by the two co-operatives are summarised in Table 4.8. With respect to the Khakhu co-operative and ignoring the last season (drought), it is clear that the loans per member are decreasing, i.e. from R207 to R150. The increase in the credit per hectare is due to increased cultivations adjacent to Thononda, the location of the co-operative.

Table 4.8 : A comparison of credit provision at the Khakhu and Mashamba FSP co-operatives.

Season	Khakhu					Mashamba				
	Members	Area Planted	Credit per ha	Total Loan	Repayment (%)	Members	Area Planted	Credit per ha	Total Loan	Repayment (%)
1988/89	182	134 ha	282-19	R 37 672	93.8	?	?	?	R 83 713	68.0
1989/90	216	122 ha	330-49	R 40 218	61.9	514	416 ha	?	R 92 846	67.6
1990/91	250	104 ha	364-51	R 37 909	33.9	592	293 ha	?	R 80 000 **	63.4
1991/92	300	103 ha	364-51 **	R 53 492	1.9 *	592	257 ha	309-13	R 75 265	19.8 *

* Due to drought

** Estimated figure

Note : Limited record keeping at the Mashamba Co-operative is one of the main problems in the FSP at Mashamba and is clearly evident from the lack of information in Table 4.8.

4.4.2.2.4 Extension

Extension services are provided by the Venda Department of Agriculture and Forestry, while the local agricultural development corporation (Agriven) provides training on project-related matters. The Mashamba and Mulima wards are both served by two extension officers, while only one extension officer attends to the training and information needs of the farmers in the Khakhu ward. Some training is also done through the various levels of the extension service of the Venda Department of Agriculture and Forestry, as well as Agriven. It was found that the Venda extension service is operating at a very low efficiency level due to inadequate training and various other factors hindering an efficient extension service. There is a great paucity of subject matter specialists within the Department of Agriculture and Forestry. During 1989 only four agricultural graduates were employed by the Department. There are no subject matter specialists who can play the key role of making contact with research stations, executing and supervising adaptive research programmes on farmers' fields, training field staff, and obtaining feedback from the field staff on farmers' problems. Evidence shows that the linkages between research, extension and farmers do not function effectively in Venda. The situation has, however, been found to be similar in other homelands (Bembridge, 1988).

Personal visits are the most common form of extension provided by the extension service in Venda, although media facilities, such as radio talks and publications, are used as well. Farmers' days are arranged to address special problems within the various fields, with guest speakers invited to talk to the farmers.

It was found that both the senior as well as the junior extension staff of the Department of Agriculture and Forestry did not have a clear knowledge of the objectives, as well as policy guidelines, according to which they should plan their work. This often results in ad hoc extension services being rendered to the farmers with little effectiveness due to the lack of coordination and follow-up efforts. It has also been found that the Planning Division of the Department is not in a position to cater for the back-up services to the extension service, whilst contact with subject matter specialists and researchers is almost non-existent. Consequently, adaptive

research and technical and extension training of staff are also non-existent, whilst the division of staff between dryland and irrigation extension service has negative effects on training. Only 7,5 percent (12 posts) of agricultural officer posts (160 posts) were filled by women (Naledzani, 1992).

Middle management was also found to be not very clear on the application of accepted management principles, an observation that was also made on field level extension workers. No work calendars were kept, hence extension on an ad hoc basis.

The conditions of service have been found to be poor in Venda, and this usually demotivate the extension worker. Elements encouraging poor performance are, amongst others, lack of accommodation, lack of transport, shorter terms of service in an operational area and non-competitive salary. Only 14 percent of field staff have been found to have more than four years experience in one operational area. Both junior as well as senior staff members were found to be dissatisfied with the level of training (Bembridge, 1988).

About 85 percent and 87 percent of middle and junior field staff respectively were found to be without transport, whilst almost all head office staff had motorised transport. Lack of transport is therefore a big constraint in field level extension work. The record keeping was also very poor, with the reporting system more for record purposes than for managerial control purposes. Only the current state of agriculture is reported on, and not the progress made (Naledzani, 1992).

Although all officers have undergone some training at an agricultural college for periods varying from 2-3 years, only 39 percent of senior staff achieved a qualification (formal) above standard eight, compared to 76 percent of junior staff. Evidence also indicated that the majority of extension officers lack practical farming experience (Naledzani, 1992).

At all the FSPs extension was provided by the Department of Agriculture and Forestry as provided for in the project description. According to the Programme Manager of the implementing agent, Agriven, this institutional arrangement is not

conducive to increased production, as the extension officers are not necessarily reporting to him despite the provisions of the project description. It is therefore felt that the extension officers should have been permanently seconded to Agriven with the aim of reporting directly to the Programme Manager or his delegate for an improved supervisory/subordinate relationship. In this way the efficiency of the extension service may be improved and its responsiveness to the development activities of the FSPs enhanced.

The present line of reporting in the FSP extension service does not encourage efficient management. The coordination and cooperation between Agriven and the extension officers seem to be a major problem area in the implementation of the FSPs in Venda. It was suggested that it would improve the situation considerably if extension officers could be seconded to Agriven.

The training of the extension officers serving the FSPs should be upgraded as a matter of priority. These extension officers should also introduce a programming approach in their day to day activities in order to improve contact with the farmers and facilitate adoption of improved varieties/techniques.

The sentiments regarding the extension element of the FSP in Venda, discussed above, were also shared by the farmers in a recent survey of rural households in Venda. The general feeling amongst the respondents, was that the extension effort is inefficient. The demand for information is high, considering that 89 percent of households want to see the extension officer more often. Only 49 percent of the farmers regarded the quality of the extension service as good. However, the service is viewed as generally available with 80 percent of the respondents being able to make use of the service when required. Because advice and support are often linked to the mechanization service, farmers' perceptions might indicate that the extension is available. This is not necessarily the case as inadequate extension service was listed by 51 percent of the respondents as one of the major problems experienced in farming. Furthermore, low attendance rates at training courses, i.e. crop production, soil conservation, crop storage, farm budgeting and livestock improvement, were also identified.

4.4.2.2.5 Marketing

The Khakhu and Mashamba co-operatives do not provide marketing facilities, as their members prefer to sell their maize out of hand. The main reason for this practice is that the farmers were at the time obtaining higher prices through out of hand sales. Prices as high as R50 per 70kg bag or R714 per ton of maize were reported during the 1990/91 season. One farmer delivered his total crop (20 bags or 1.4 ton) from his 1 hectare plot to NTK and earned an income of R419 which is equivalent to a price of R299 per ton. This compares favourably with the Maize Board's producer price of R302 (after accounting for deferred payments) during the same 1990/91 season.

4.4.2.3 An analysis of the contribution of the FSP in Venda

4.4.2.3.1 The contribution of the FSP to increased agricultural output

Information on the differences between the farming enterprises of the FSP members and those of the non-FSP members is provided in Table 4.9 below.

When comparing farmers participating in the Venda FSP and the non-FSP farmers it was determined that the FSP farmers produced on average 12.03 bags of maize per hectare compared to the 7.92 bags of the non-FSP farmers. The difference in maize production is significant at the 1% level. The question now arises whether the FSP contributed to an increase in agricultural (maize) output. An analysis was done to determine the factors which could be related to increased production. If these factors could be related to the elements of the FSP then a higher yield can be associated (at least partly) with the FSP. However, this is not necessarily the case, and thus it was felt that a discriminant analysis, similar to studies by Nieuwoudt and Vink (1989), Van Zyl et al (1991) and Lyne and Ortmann (1991), was needed to determine the factors associated with increased (maize) production.

Table 4.9 : Differences in the means of key variables between the FSP and non-FSP farmers in Venda (1991)

		Respondents		Significant differences between means (p value)
		FSP N = 69	Non-FSP N = 14	
Cropland ploughed	(ha)	4.33	3.10	0.0810
Cropland planted	(ha)	4.25	2.70	0.1328
Area under maize	(ha)	0.99	1.00	0.0219*
Area intercropped	(ha)	2.00	2.93	0.6341
Production of maize	(bags)	12.03	7.92	0.0063**
Consumption of maize	(bags)	7.04	7.07	0.4764
Maize sold	(bags)	3.89	0.85	0.0001**
Area under dry beans	(ha)	0.05	0.14	0.1393
Production of dry beans	(bags)	0.26	0.75	0.2326
Consumption of dry beans	(bags)	0.19	0.15	0.0061**
Dry beans sold	(bags)	0.07	0.21	0.3240
Area under pumpkins	(ha)	0.04	0.23	0.0000**
Production of pumpkins	(bags)	1.95	3.57	0.0000**
Consumption of pumpkins	(bags)	1.66	3.57	0.0000**
Pumpkins sold	(bags)	-	-	-

* = difference between the means is significant at 5% level

** = difference between the means is significant at 1% level

Therefore, to estimate the relative importance of the Farmer Support Programme on levels of farm output, an econometric model was designed and tested. The model discriminated between households selling produce and those which do not. It was postulated that sellers of farm produce would use more fertilizer, spend more on contractor services, use more FSP credit, rent more land, purchase more chemicals, etc. than non-sellers. In addition, it was anticipated that the incidence of households knowing the agricultural officer, and those households owning farm machinery, would be higher amongst sellers.

The results of the discriminant analysis are presented in Table 4.10. The error count for the classifications was 14.33 percent. The relative importance of each explanatory variable in discriminating between surplus and deficit producers is given by the magnitude of its partial R^2 value and the standardised coefficient.

The discriminant function in Table 4.10 was estimated with the following explanatory variables distinguishing between surplus and deficit producers: the perception that soil erosion affects production; availability of ploughing services; education expenditure and use of chemical fertiliser. The variable "soil erosion affect production", tests producers' awareness of soil erosion and conservation. It was found that surplus producers through their contact with extension officers, were more aware that soil erosion affects production of maize negatively. This clearly indicates the value of and need for an appropriate extension service in showing the farmer the importance of soil conservation practices. The important contribution of extension to increased production is furthermore illustrated by, and linked to, the variable "use of chemical fertilizer". This variable, however, also explains the importance of the availability and financing of inputs as contributing to increased production. The role of the availability of the ploughing service accentuates the importance of access to appropriate services.

Table 4.10 : Estimated discriminant function for surplus and deficit producing households

Explanatory variable	Standardized coefficient		Partial R ²	Significance P < F	Group means		
	Surplus	Deficit			Surplus	Deficit	Significance P < t
Soil erosion affect production	2.917	4.164	0.1791	0.0917	1.161 *	1.433 *	0.0856
Availability of ploughing services	18.394	12.079	0.2603	0.0520	1.000 *	1.100 *	0.0002
Education expenditure	-0.0110	-0.0077	0.3206	0.0222	110.39	102.21	0.0143
Use of chemical fertilizer	0.0159	0.0158	0.0871	0.1000	156.55	90.387	0.3473
Number of cases					25	30	

* = Dummy variable with 1 = yes and 2 = no.

From the discriminant analysis above, it is clear that factors associated with the FSPs in the Mashamba and Khakhu areas of Venda (i.e. extension, ploughing services, inputs) are associated with discriminating between deficit and surplus producers. The use of fertilisers and ploughing services is furthermore significantly

correlated with the provision of credit ($r = 0.943$; $p = 0.003$). This illustrates the positive effect of the Farmer Support Programme. In other words, it may be stated with relative confidence that the elements of the support programme contribute at least partially towards an increase in agricultural output. In addition it seems that extension, despite the reported inefficiencies and lack of coordination, also contributed to increased production.

4.4.2.3.2 The contribution of the FSP to marketable output

From Table 4.9 above it is evident that there is a significant difference ($p = 0.0001$) between the quantity of maize sold by the FSP farmers and the quantity marketed by the non-FSP farmers. It has been calculated that the FSP farmers sell on average 3.89 bags (80 kg) of maize while the non-FSP farmers only sell 0.85 bags. This difference could with some degree of certainty also be attributed to the support elements provided by the FSP.

The fact that farmers are selling a certain percentage of their crop should, however, be put in perspective by considering the case of one farmer at Mashamba. This particular farmer harvested 18 bags of maize during the 1990/91 season (more than an average yield), which is 6 bags more than his home consumption and he could, theoretically be classified as a commercial farmer selling surplus production. This is only theoretically, because there will be nothing left of his marketable surplus after he has paid the equivalent of 3.8 bags for his inputs, 2.4 bags for milling costs and 3-4 bags for transport and labour. Thus, the reason for the FSP farmers selling maize is mainly to be able to repay their production loans and to cover other costs which they may have incurred in the production process. It therefore seems as if profits from farming are still marginal for most farmers.

Dankwa (1992), using the same survey data, determined that 51.7 percent of the households are net consumers, whilst 48.3 percent sold some of the maize produced. In the case of the non-FSP households 88.2 percent of the households were identified as net consumers, with only 11.8 percent selling between 26 and 50 percent of their maize crop.

4.4.2.3.3 The contribution of the FSP to increased use of inputs

Table 4.11 provides a summary of the average quantity of inputs used by FSP members and non-FSP members, as well as the cost of the various inputs used. From this information it is possible to determine how the FSP, through the availability of inputs and the provision of extension advice, contributes to increased usage of inputs, for example hybrid seed and chemical fertiliser. The FSP members in Khakhu and Mashamba used on average 144.24 kg of fertiliser, compared to the 27.38 kg of fertiliser used by the non-FSP farmers. These figures could, however, be misleading because some households used up to 200 kg of chemical fertilizer and some none.

Table 4.11 : Household input purchases by FSP and non-FSP farmers, Venda, 1991

Item	Respondents		Significant differences between means (p-value)
	FSP (N = 69)	Non-FSP (N = 14)	
Seed used (kg)	28.98	15.66	0.4771
Fertilizer used (kg)	144.42	27.38	0.0000**
Organic fertilizer used (bags)	1.52	25.45	0.0000**
Ploughing service rented (R)	14.46	19.14	0.1504

* = difference between the means is significant at 5% level

** = difference between the means is significant at 1% level

Of more importance, however, is input usage per hectare. It was calculated that the FSP farmers used on average 28.37 kg of seed and 156.5 kg of manufactured fertiliser per hectare. The non-FSP farmers on the other hand used 27.9 kg of seed and 36.6 kg of fertiliser per hectare. The non-FSP farmers used mainly their own seed, which is clear from analysing the amounts farmers spend on purchased seed. The FSP farmers spend on average R165 on hybrid seed while the non-FSP farmers spend only R13 on purchased seed. The high usage of organic fertiliser by the non-FSP farmers is also an interesting and significant difference between the two groups. This does to some extent reflect the lack of availability of chemical fertiliser to the non-FSP farmers as well as a lack of credit (finance) to purchase

fertiliser.

The FSP farmers in the two wards furthermore indicated that they were generally satisfied (98% of respondents) with the availability of inputs. The non-FSP members on the other hand were to a large extent dissatisfied with the availability of all the inputs. Only 7 percent of the non-FSP farmers had regular access to fertiliser and seed. The FSP farmers considered the availability of pesticides and labour to be a major problem with only 3 percent of the farmers indicating that they could obtain chemical pesticides. Apart from this, it is clear that the majority of inputs are generally available in the right packaging and quantity when needed.

To determine the contribution of the FSP in Venda to the increased use of agricultural inputs a model was developed which discriminates between households using large quantities of purchased fertilisers (> 150 kg) and those using small amounts (< 50 kg). Apart from fertiliser, all the explanatory variables tested in the model were considered. This model was considered because it analyses the household's intention to produce a larger output. The model also has more degrees of freedom in the smaller group. This is desirable as the tests and statistical significance are more reliable. The error count for discriminating between the high and low applications was 19.26 percent.

These two explanatory variables, included in the discriminant function, in effect imply that extension is the major factor associated with higher usage of inputs, in this case fertilizer. It can be concluded that elements of the FSP can be associated with increased usage of fertilizer. The same conclusion was drawn when a similar function was fitted to discriminate between households which used large quantities of purchased seed (> 50 kg) and those using small amounts (< 10 kg). Apart from seed, all the explanatory variables tested in the model were considered. This model was considered because it analyses the household's intention to produce a larger output and supports the function discussed above (correlation between seed and fertiliser). The error count for discriminating between the high and low applications was 12.69 percent.

Table 4.12 : Estimated discriminant function for high and low fertilizer input farming in Venda

Explanatory variable	Standardized coefficient		Partial R ²	Significance P < F	Group means		
	High	Low			High	Low	Significance P < t
Carry out soil conservation practices	5.9954	9.3061	0.6917	0.0001	1.937*	1.407*	0.0000
Want to see the extension officer more often	13.2127	10.2889	0.2116	0.0001	1.000*	1.132*	0.0001
Number of cases					31	53	

* = dummy variable with 1 = yes and 2 = no

Again, as expected, all the explanatory variables selected, namely chemical fertiliser application, mechanical fertiliser application, the use of chemical insecticides and the number of males, had positive signs. The mechanical fertiliser application and the use of chemical insecticides were the most important variables discriminating between the two groups. The statistical significance of the variables were high. The use of chemical fertiliser and mechanical fertiliser application are the two important variables in determining whether the households are using large quantities of seed. In other words farmers applying modern farming methods i.e. chemical fertiliser by mechanical applications are intended to use more seed. Again these results could be linked with the extension service. This is due to the fact that extension and advice is important and indispensable to the adoption of modern farming methods by these farmers.

From these two discriminant analyses it is clear that effective extension (linked to the variables "applying soil conservation practices", "chemical fertilizer application", "mechanical fertilizer application" and the "use of chemical insecticides") is one of the most important factors in the FSP contributing to higher input use.

Table 4.13 : Estimated discriminant function for high and low seed use by Venda farmers.

Explanatory variable	Standardized coefficient		Partial R ²	Significance P < F	Group means		
	Surplus	Deficit			High	Low	Significance P < t
Use chemical fertilizer	0.0027	0.0316	0.2709	0.0000	136.00	5.468	0.0000
Mechanical fertilizer application	21.1994	16.9186	0.1917	0.0063	1.680 *	1.928 *	0.0007
Use chemical insecticides	15.0127	14.6115	0.3200	0.0027	1.360 *	1.500 *	0.0848
Number of males	2.6692	2.2253	0.2065	0.0770	2.160	3.286	0.0530
Number of cases					25	32	

* = dummy variable with 1 = yes and 2 = no

To qualify these conclusions it was necessary to determine whether higher input use can in fact be associated with membership of the FSP. Based on cross-tabulation procedures and the calculation of chi-square values, it was found that only increased usage of fertiliser could be related to FSP membership. There seems to be no relationship between FSP membership and increased purchase of hybrid seed. This also agrees with the results in Table 4.11.

4.4.2.3.4 The contribution of the FSP to improved household food security

In Section 4.4.2.3.1 it was indicated that FSP farmers have proportionally more sellers than net consumers as compared to the non-FSP households in Venda. This implies that the food security situation is less critical in the FSP group than in the non-FSP group. When considering the household expenditure figures in Table 4.14 below, it is evident that the non-FSP households spend relatively more on food and groceries than the FSP group ($p = 0.0328$). The fact that the FSP households sell more maize and spend less on food/groceries places the group in a better food security position. This may again be explained partly by the fact that the FSP group had more contacts with extension personnel and also had more access to production inputs than the non-FSP group.

Using the survey data and Ordinary Least Squares procedures, Dankwa (1992) calculated the elasticities for both FSP and non-FSP households in Venda. The estimated food/groceries expenditure elasticities were inelastic and significant. The expenditure elasticity for food/groceries for the non-FSP group was 0.80 and highly significant ($p = 0.0089$). On the other hand the estimated elasticity for the FSP group was slightly lower (0.78) but also highly significant ($p = 0.0067$). These results imply that the non-FSP group spend more on food/groceries than the FSP group as shown in Table 4.14.

Table 4.14 : Income and Expenditure differences between FSP and non-FSP members in Venda, 1991

Items	FSP farmers N = 69	Non-FSP farmers N = 14	Significant differences between means (p-value)
Savings account	2005.21	1052.85	0.0000**
Income from crops (R)	144.59	32.14	0.0000**
Livestock sales (R)	186.23	80.00	0.0000**
Funeral policy (R)	421.59	439.64	0.0000**
Monthly insurance premium (R)	18.04	92.57	0.0000**
Education expenditure (R)	108.46	59.36	0.0694
Food/groceries (R)	122.29	150.28	0.0328*
Clothes (R)	122.04	121.42	0.5913
Transport (R)	34.62	53.07	0.2076
Durables (R)	30.04	28.07	0.1500
Personal expenditures (R)	56.53	31.43	0.0000**
Medical (R)	48.68	40.28	0.3341
Instalments (R)	65.91	71.85	0.9182
Total Expenditures (R)	1028.20	1087.97	

* = difference between the means is significant at 5% level

** = difference between the means is significant at 1% level

The results put the FSP clients in a comparatively better position as far as food security is concerned. From these findings it may be concluded that the provision of support services to subsistence farmers will help improve the food security situation in rural areas.

4.4.2.3.5 The contribution of the FSP to increased household income and improved standard of living

The differences between the FSP and non-FSP farmers with regard to household income and household expenditures are indicated in Table 4.14 above. From the table it is evident that the FSP farmers earned significantly higher amounts from the sale of crops and livestock. The FSP farmers had bigger savings accounts than the non-clients (a measure of an increase in the standard of living of the households within the FSP). The non-FSP farmers paid significantly higher amounts for insurance and funeral policies. A further indication of the higher standard of living of the FSP members is the FSP members' higher household expenditures on education, durables, personal and medical expenditures. The non-FSP farmers had higher expenditures on the more basic items like food, transport and instalments. However, no definite conclusions can be made with regard to the contribution of the FSP to household income and standard of living. It is often argued that usually it is the households with a higher standard of living (the more wealthy), who in any case are participating in the FSP programme. It is therefore not totally correct to conclude that the FSP contributes to improved standard of living as the situation before the implementation of the FSP is not known.

In an analysis done by Sartorius von Bach *et al* (1992) it was also shown how the FSP in Venda has influenced the need hierarchies of participants. Deficit producers are still focusing on basic needs while surplus producers cater for higher order needs. The main expenditures are on basic goods, i.e. food and clothing, followed by higher order needs, i.e. education and durable household items.

4.4.2.3.6 The FSP and household debt

The weighted average value of new seasonal loans increased from R130 in 1988 to R213 in 1990 (constant 1990 prices). The FSP farmers' outstanding balance over the three year period was only R14 per client. The reason for this is probably because 81 percent of all clients sampled thought that Agriven would take legal action against defaulters. Although the outstanding balance is quite low, the fact remains that the FSP farmers do on average owe the co-operatives R14 while the

non-FSP farmers do not have any outstanding debt over the same period (See Table 4.15).

Table 4.15 : Household access to credit amongst FSP farmers and non-FSP farmers in Venda, 1991

Items		Khakhu	Mashamba	FSP farmers	Non-FSP farmers
Households sampled		32	37	69	14
Amount borrowed per client 1988	(R)	260.28	17.78	130.24	22.50
Amount borrowed per client 1989	(R)	286.94	104.80	189.27	32.92
Amount borrowed per client 1990	(R)	321.89	120.13	213.70	62.83
Mean outstanding balance 1988-90	(R)	3.98	22.66	14.00	0
Clients who thought that Agriven would act against defaulters	(%)	83.3	78.8	80.9	-
Clients who were not sure what would happen to defaulters	(%)	2.8	3.0	2.9	-

From Table 4.15 below it is also evident that the FSP farmers borrow larger amounts than the non-FSP farmers and thus have a greater risk of defaulting. The past drought resulted in a number of FSP farmers unable to repay their loans. In a recent survey 30 percent of the respondents indicated that they owe more due to the drought. The FSP credit scheme increases the farming risk of these farmers when considering the variability in climatic conditions.

4.4.2.4 Institutional aspects

4.4.2.4.1 Introduction

The institutional structuring of the farmer support programme, as outlined in the project description, and the loan agreement between Agriven and the DBSA, provides for a well defined interdependent arrangement of roles of all participants in each target area. The project description assigned various responsibilities to the following participants:-

- Agriven (the borrower)
- Venda Department of Agriculture and Forestry (Venda Government)
- Venda Secondary Co-operative
- Local authorities
- Primary Co-operatives
- Farmers
- Venda Dryland Crop Production Committee

This section provides a brief overview of the institutional structure as implemented and compares the current role of the participants with the outline provided in the project description. Finally some concluding remarks will be made.

Discussions with various officials showed that the joint responsibility of Agriven and the Venda Department of Agriculture and Forestry creates problems and to some extent contributes to the inefficiency in the implementation of the programme. This will be evident from the discussions of the various institutions and committees.

4.4.2.4.2 The FSP Action Committee and Farmer Committees

According to the project description, the FSP Action Committee was supposed to be instrumental in initiating the establishment of, and assistance to, the primary co-operatives, but was found to have effectively disbanded. The Committee was comprised of the Programme Manager and the Manager : Extension and Specialist services (representing Agriven) and unofficially representing the Department of Agriculture. The representative from the Department has since retired and it is understood that he had in fact lost interest even before retirement. No substitute has since been appointed by the Department of Agriculture and this has effectively rendered this committee non-existent.

The position of the programme manager as a member of the FSP Action Committee is undesirable since being a member of the implementing team, he also reports to the FSP Action Committee. The absence of the FSP Action Committee creates a gap in terms of institutional responsibilities and the coordination of the FSP and is

therefore bound to affect the FSP's efficiency. The FSP Action Committee is supposed to assist the co-operatives in their organizational structuring, day to day management and training of staff. It seems that the programme manager is now performing most of the duties of the FSP Action Committee. The role of the Venda Dryland Crop Production Committee is also not clear.

On the other hand, farmer committees were found to be non-existent at all the FSPs. This also creates an institutional gap, and consequently certain responsibilities have been abdicated. In practice, however, it has been learnt from the seconded manager at Mashamba co-operative that such a committee is not necessary because the manager usually takes all production decisions in conjunction with the extension officer. Whereas the management committee at Khakhu was very much involved in the taking of production decisions, the management committee of the Mashamba co-operative did the solving of disputes between farmers.

4.4.2.4.3 The Venda Farmers Secondary Co-operative

It has been established from the programme manager that although the Venda Secondary Co-operative did supply inputs and some logistical support regarding mechanization, no training was ever provided to the staff of the primary co-operatives. The establishment of viable marketing channels was also never attended to. In fact, training responsibility as per project description, has been delegated to too many parties. This encourages the non-performance of any given task as no real accountability can be identified.

However, the Venda Farmers Secondary Co-operative has since been closed down due to financial problems. An alternative supplier of inputs and logistical support must now be sought.

Even during the period of its existence the VFSC did not really offer competitive prices, a factor that directly affected the production costs of the farmers. It is therefore advisable not to prescribe any single supplier to the primary co-operatives, but rather encourage the co-operative's management to buy from the cheapest

suppliers. The consignment arrangement did not get off the ground since the VFSC supplied inputs on 30 days terms in order to alleviate its financial problems. The implementation of the consignment buying of stock will, however, greatly improve the financial position of the co-operatives.

4.4.2.4.4 The Venda Government

The formation of the Farmer Committees according to the project description was the responsibility of the Venda Department of Agriculture and Forestry. The non-existence of these committees indicates the failure of the Department to attend to the issue. Coupled with the failure of the Department to nominate a substitute for the FSP Action Committee, the attitude and/or dedication of the Department towards the FSPs becomes questionable.

The provision, in accordance with the project description, that the Department should provide the extension service seems to completely overlook the findings of Bembridge (1988) on the quality of the extension service in Venda.

Extension services to farmers in all of the three FSPs in Venda are provided by the Department of Agriculture and Forestry as specified in the project description. According to the programme manager, this institutional arrangement is not conducive to increased production as those extension officers are not necessarily reporting to him, despite the provisions of the project description. It is therefore felt that these extension officers should have been permanently seconded to Agriven, reporting directly to the programme manager or his delegate for an improved supervisory/subordinate relationship. The efficiency of the extension service can be improved and its responsiveness to the development activities of the FSPs enhanced.

4.4.2.4.5 Local Authorities and Primary Co-operatives

The role of the local authorities in solving disputes have been minimal, except at Khakhu where the local headman (chief) is directly involved in the activities of the co-operative.

It was found that all three primary co-operatives in the Venda FSP were not involved in the purchase and marketing of surplus produce of members nor in the development of viable marketing channels. It also seems as if these co-operatives do not have the capacity to perform such a task. It would be of some benefit if this could be delegated to the Marketing Department of Agriven as an interim measure until such time as the co-operatives are capable of performing this task. The importance of the marketing function in the commercialization of subsistence agriculture cannot be over-emphasized.

4.4.2.4.6 Farmers

Farmers have virtually no input in policy and decision-making of the FSPs, except at Khakhu, where the farmers have some say in decision making mainly through the Management Committee of the co-operative. According to the seconded manager at Mashamba Co-operative, this situation is caused by the lack of knowledge on the part of the co-operative (FSP) members. The co-operative management is therefore expected to make all policy and production decisions.

The decisions on the land are not taken by the farmer themselves. They cannot decide on the type and quantities of production inputs to be used. At Khakhu it was learnt that although farmers participate through the Management Committee on production decisions, individual choice is limited as all plots are established with the same per hectare package of inputs (quality and quantity) and the individual is debited with a loan facility in proportion to the size of his plot.

4.4.2.4.7 Coordination of the institutional structure

From the analysis of the actual institutional structure as implemented and currently operating it appears that most of the institutions and/or committees are defunct, which however, does not necessarily lead to negative results. With respect to the existing structure of institutions, it seems more appropriate to have a slimmer institutional set-up consisting of only **one** implementing agent with **coordinating** functions, so that all FSP elements are provided. Results show that especially the extension services are not effectively included in the Venda FSP package because

this function falls under the auspices of the Venda Department of Agriculture.

In general, it can be concluded that the implementing agents in Venda are determined to contribute to the upliftment of the rural population. Institutional record keeping is improving. The increase in own decision-making of especially the participants and the co-operative in the Khakhu ward clearly indicate that the FSP meets the objective of "learning-by-doing" approach. It should, however, be emphasized that the effectiveness of implementation of the programme will increase if more attention is paid to the other elements of the FSP, i.e. extension, marketing, etc.

4.4.2.5 Summary

The constraints experienced by Venda farmers in the target areas were identified as being:

- low local availability of agricultural inputs;
- insufficient extension and technical advisory support services;
- untimely and low level of availability of mechanisation services (winter ploughing / late planting); and
- a lack of local institutional structures to coordinate and effect input acquisition and produce distribution.

As indicated in the introduction, the purpose of this section was to determine how the implementation of the FSP in Venda helped to alleviate the above mentioned constraints and also to determine whether the FSP achieved its goals defined in the project description.

After initially providing an overview of the results of a sample survey of rural households in Venda, an overview of the implementation of the FSP elements was provided. From the discussion it can be concluded that the implementation of the FSP and the various elements of the programme, to a large degree succeeded in alleviating the mentioned constraints. Farmers who joined the FSP had improved access to inputs, extension advice was generally available to them and

mechanisation services were more available and more reliable. The farmers' appreciation of and high regard for the mechanisation services provided by the FSP co-operatives could be related to the fact that untimely and low level of availability of mechanisation services was probably the biggest constraint for many of the Venda farmers. This was further emphasised by the important contribution of this element of the FSP to increased maize production, as shown in the discriminant analysis.

Although extension advice was provided to farmers in general, and also contributed to increased production, the farmers' dissatisfaction with the extension service was clearly evident from the results of the household survey. This stems to a large extent from a lack of commitment by the extension officers of the Venda Department of Agriculture and also from a lack of coordination between the Venda Department of Agriculture and Agriven. The extension officers are not responsible to the FSP programme manager and they do not report to him at all. This creates all sorts of problems, mainly in terms of total lack of coordination and accountability.

In evaluating and reviewing the project description it is evident that an over-designed institutional structure for the implementation of the FSPs in Venda was intended. As described in the original Farmer Support Programme description, a FSP requires (1) adequate provision of appropriate inputs and the funding thereof (credit) to the farmer, (2) the provision of a comprehensive mechanisation service, (3) marketing channels and services, (4) extension and demonstration services, (5) training, (6) the acquisition of the *de facto* rights to production and (7) the off-farm infrastructure. In order to provide the above, an institutional structure is required, so that each element can support the other to obtain growth and development in Venda.

From the institutional analysis it is evident that the local institutional structure as a whole is still lacking coordination and efficiency. Some of the institutional structures established at implementation of the FSP, have disbanded or are in effect defunct. This aspect, being identified as the fourth constraint facing farmers, is clearly not resolved and it seems as if institutional inefficiencies, duplication and

coordination are the major problem of the Venda FSP at present.

For a more efficient operation of the FSP in Venda, a review of the institutional framework within which the FSP operates is recommended. No institution or organization and/or committees should be involved and responsibilities assigned unless there is a clear definition of accountability by such an institution, organization and/or committee. All efforts must be aimed at closing the responsibility-accountability gap. This will comprise cutting out the "dead wood" in the FSP's institutional framework.

The FSP should, within Agriven, be accorded a higher level of managerial and organizational structure than the current sub-section in which the programme is managed. A fully fledged FSP section should be established within Agriven, manned by a team of well-qualified personnel rather than the present one-man show. All personnel involved in the FSP must, as a matter of practical rationality, fall under the supervision of a well-qualified FSP Programme Manager.

In analysing the impact of the FSP in Venda it was determined that the FSP can with some confidence be associated with:

- increased agricultural output;
- increased sales of surplus produce;
- increased use of inputs, eg. fertiliser and hybrid seeds;
- increased household food security;
- a higher standard of living; and
- increased farming risk due to higher debt levels.

Although the implementation of the FSP in Venda seems to be generally successful, unfavourable climatic conditions, higher indebtedness and institutional inefficiencies could influence the success of the programme to a large extent.

4.4.3 The Farmer Support Programme in Lebowa

4.4.3.1 Introduction

The Farmer Support Programme in Lebowa was initially implemented in two selected target areas in Lebowa namely, Phokoane and Kadishi. The programme was later also implemented in other target areas. Only the FSPs at Phokoane and Kadishi will be considered in this discussion. Phokoane covers an area of 1 700 ha of dryland maize previously cultivated by the Lebowa Agricultural Cooperation (LAC) for their own account. The FSP in Phokoane entails the settlement of individual farmers on plots of 0,5 to 2 hectares arable land on the farms Rietfontein 876 KS, Vleeschboom 869 KS, Leeukraal 877 KS and Vierfontein 869 KS, which constituted the Phokoane Maize project financed by DBSA in 1985. Areas of 30, 30, 20 and 15 hectares respectively on each farm was retained as nuclei, to be farmed by the Phokoane tribal authority for their own account. The FSP in the Kadishi region was introduced to a relocated community on the farm Elandsfontein in the Bushbuckridge region in early 1990.

The conversion to farmer support in these target areas was in accordance with an agreement reached between DBSA management and the borrower (LAC) in late 1986 in terms of which the Phokoane Dryland Crop Project would eventually be converted into a comprehensive farmer support programme. Previous farming constraints identified in the target areas were:

- low local availability of appropriate agricultural inputs;
- insufficient extension and training support services;
- untimely and low level of availability of mechanisation services; and
- a lack of local institutional structures to coordinate input acquisition and produce distribution.

This situation led to the implementation of a farmer support programme in Lebowa. About 500 individual farmers were settled in the Phokoane area on the existing 1 700 ha of cultivated land. Moveable assets (vehicles and mechanisation equipment) were transferred from the current Phokoane maize project (LAC) to the

Phokoane Co-operative. Settled farmers would be provided with production inputs, credit, marketing support, mechanisation services, extension, training and demonstration and research. The structuring of the necessary institutional arrangements in order to facilitate the above and ensure the integration of the privatisation of the project and the Farmer Support Programme were also given considerable attention.

The following principles formed the foundation of implementing the privatisation programme at Phokoane:

- comprehensive support services would be provided to individual farmers to be settled on the basis of demand.
- sufficient flexibility of the provision of support services would be adhered to in order to foster independent decision making by individual farmers within the constraints of the proposed project model.
- goods and services would be provided to farmers at economic rates.

The programme consists of the following elements to provide comprehensive farmer support services:

- the utilization of existing facilities in the two localities to facilitate the provision of the following farmer support services:
 - production inputs and capital requirements;
 - credit to farmers;
 - training; and
 - extension, demonstration and research;
- the establishment of private contractors to provide ploughing and transport services to the farmers and the local community;
- the creation of suitable marketing structures and arrangements to facilitate efficient produce distribution;
- the provision of the necessary financial support for the construction of co-operative buildings and facilities, and;
- the provision of the necessary institutional support to facilitate proper development of local institutional structures with the eventual aim of

independent decision making at individual and local levels.

The support services would address the major constraints identified to ensure that farmers utilize existing agricultural potential, skills and facilities in raising productivity. Existing skills would be upgraded through efficient training and extension support. The development objective was set as settlement of individual dryland maize farmers and the provision of comprehensive agricultural support services and incentives to settled farmers to make them more efficient and help towards commercial production.

4.4.3.2 An overview of the implementation and extent of the FSP in Lebowa

The Lebowa Farmer Support Programme was implemented towards the end of 1988, with the first credit provided to Phokoane farmers in November 1988 intended for the 1988/89 production season. The first group of farmers also took part in the first training programme during that year. The Phokoane FSP was the first FSP to be established in Lebowa. The FSP started in November 1988 with 12 groups consisting of approximately 700 farmers. In 1990 the FSP concept was also introduced to the community at Elandsfontein in the Kadishi valley. A meeting was organised and interested farmers were invited to visit Phokoane. A nucleus of 15 interested farmers was established in this way and a programme of training courses started at Elandsfontein.

By the end of 1991 the picture of the Lebowa FSP was as follows: In the Phokoane region there were 28 groups with approximately 2 100 farmers, in the Ndebele region 8 groups with approximately 750 farmers; in Kadishi 2 groups with approximately 120 farmers, while there were 4 groups in Sekhukhune with approximately 360 farmers. This gives a total of 42 groups with approximately 3 330 farmers supported by the FSP in Lebowa.

At the end of 1992, 3 114 farmers were members of the Phokoane FSP, 146 members of the Kadishi FSP, 342 FSP members in the Ndebele region, and together they cultivated a total area of 3 885 hectares.

The implementation of the FSP initially had to overcome obstacles like the mistrust, resistance and suspicion of the actions and activities of the Phokoane co-operative. The implementation of the FSP in Phokoane became the responsibility of the manager of the Phokoane co-operative at that time. The approach of the FSP at Phokoane, and for that matter the whole of Lebowa, obtained a personal characteristic due to the commitment, belief and calling of the particular individual. He designed the FSP in Phokoane and implemented it with imagination and originality. Crucial to the development of the programme was the freedom allowed to the co-operative manager by the Lebowa Agricultural Corporation (LAC). In technical terms, the approach can be described as participatory development which in practice means regular contact with farmers, understanding and involvement. The programme is based on voluntary participation with nobody being forced into the programme. Training is the basis of this integrated support programme and is a prerequisite for participation.

Food security was identified as the basic need of the community in the Phokoane area. The goal of the FSP in Phokoane was therefore accordingly determined to be the increase of maize yields. The urgency of food security superseded any long term ideals of promoting commercial farmers. Thus, the FSP objective of supporting the emerging farmer to become a commercial farmer was overridden by the immediate aim of increasing maize production to improve food security. It was believed that improved food security through visible food production would overcome suspicion and resistance. The lack of knowledge was identified as the main obstacle inhibiting increased production. The transfer of knowledge by means of extension and training was regarded as the solution to the problem.

The main elements of the Farmer Support Programme in Lebowa are, in order of importance:-

- Extension and training
- Inputs
- Mechanisation
- Credit
- Marketing

Extension and training were for various reasons, as described above, the main thrust of the FSP in Lebowa. Mechanisation and specific ploughing services, as well as agricultural inputs, were generally available and used in the rural areas of Lebowa. Lack of knowledge was however the major problem farmers faced in these areas. Knowledge of agricultural production being the major constraint, therefore, naturally resulted in the emphasis of the programme being placed on extension and training. Ploughing services as well as credit and inputs are provided to the farmers via the primary co-operatives at Phokoane and Kadishi.

4.4.3.3 Sample survey of rural households in Lebowa

Two areas were identified to evaluate the implementation of the Farmer Support Programme in Lebowa, i.e. Phokoane and Kadishi. Household surveys were conducted during April to June 1991 and again in December 1992. Only the results from the first survey will be used in this section.

4.4.3.3.1 Area Description

Phokoane

The Phokoane area of Lebowa is situated approximately 50 kilometres East of Groblersdal. The topography is hilly with no rivers. The area is highly populated with the majority of the inhabitants belonging to the North-Sotho speaking Bapedi tribe. The area has deep fertile soils with a high average annual rain fall of between 600 and 700 millimetres. The main crops grown in Phokoane are maize and groundnuts.

Kadishi

The Kadishi area is situated in the Bosbokrand region, about 30 to 40 kilometres West of Graskop. The area is very mountainous with many small streams. Kadishi is not as highly populated as Phokoane. Likewise the Bapedi people reside here. The area has good soils with an annual rainfall of 600 to 700 millimetres.

4.4.3.3.2 Data collection

Data used in this study were collected by means of a questionnaire survey conducted during April to June 1991. The sample included 42 households in the Kadishi area and 131 households in the Phokoane area. However, only 33 and 92 questionnaires, respectively, were usable. Due to the difference between the two areas and for institutional reasons, two different questionnaires were used. Comparisons between the two areas will therefore be somewhat difficult. The evaluation of the FSP in Kadishi experienced further difficulties due to political unrest and divisions in the community as well as the fact that the survey was done only one year after implementation.

Two samples were drawn from each area: The first was a two-stage sample taken from the population of rural households in the area, assuming that the total population was aware of the Lebowa Agricultural Corporation's (LAC) credit scheme. The second was a simple random sample drawn from a list of past and present FSP farmers in each area. Of the total of 125 respondents, 29 were non-FSP farmers (12 in Phokoane and 17 in Kadishi) and 96 FSP farmers (80 in Phokoane and 16 in Kadishi).

4.4.3.3.3 Survey results

Household demographics

The overall mean household size in the survey areas is 7.8 persons (including migrants). Due to some limitations in completing the questionnaire, the unemployment rate could not be determined. The economically active population in the Kadishi area (more females than males) made up 57.1 percent of the population in the area, while in the Phokoane area (more males than females) the economically active population was 60.9 percent. Approximately 35 percent of household members were under the age of 15 and 4 percent over the age of 65.

Household income

The household income and expenditure patterns of rural households in Phokoane and Kadishi are shown in Table 4.16. From this table it is clear that income from the farming enterprise contributed 68.4 percent to the total earnings of the household. Expenditures on education, food, transport and durables were the main household expenditures in the Kadishi area. The mean total income in the Phokoane area was R5 567.23, which is significantly higher than that in Kadishi (R1 525.52). The main expenditure items in the Phokoane area were food, clothing, savings and durables.

Table 4.16 : Income and expenditure patterns in Phokoane and Kadishi, 1991

Income			Expenditure		
Item	Kadishi	Phokoane	Item	Kadishi	Phokoane
Crops	927.27	-	Education	723.24	536.19
Livestock	116.36	-	Food	1291.56	944.88
Informal trade	-	-	Clothes	522.48	615.36
Rental from land	-	-	Savings	152.76	1008.93
Hiring out equipment	-	-	Transport	774.48	216.34
Occasional work	3.63	-	Durables	829.08	906.81
Regular cash income	478.26	-	Other Household Exp.	894.08	306.18
Total income	1525.52	5567.23	Total expenditures	5187.68	4534.69

Note : LAC viewed questions on sources of income as too sensitive during the time of the survey and therefore these questions were omitted from the questionnaire used in the survey of Phokoane households.

Farming activities

The average size of land owned in Phokoane was 1.38 ha dryland cropland and 0.20 ha residential sites. Due to a high coefficient of variance, these averages should be qualified. A total of 84 percent of the respondents indicated that they have access to a piece of land, with some respondents indicating that they have plots even as large as 6 and 9 hectares. However, 80 percent of the respondents' plots varied between 0.8 and 1.2 hectare. The average size of rented land was 0.35 dryland cropland (with the rent being R14/ha). Only 15 percent of the respondents rented additional land, some as large as 8 hectares. The average size

of land owned in Kadishi was 1.45 ha dryland cropland, 2 ha grazing land and a 0.30 ha residential site.

The incidence of food cropping was high with evidence of cash crops (see income from crops). Maize was produced by the majority of households in the two study areas. The proportion of households producing sorghum, dry beans, pumpkins and cotton was much lower. Cash income from farming in Kadishi accounted for 68 percent of total income, but the figures for Phokoane were unobtainable. However, estimates of farm income are unreliable as respondents were generally not willing to give income or expenditure figures.

The yields for the 1990/91 season in the two areas are indicated in Table 4.17 below. The crop and yields for the 1991/92 production season were considerably lower due to the drought. The estimated yield for the 1992/93 crop season are 3.5 tons per hectare in the Phokoane region and 4.2 tons per hectare in Kadishi.

Table 4.17 : Maize yields in Phokoane and Kadishi.

	Phokoane	Kadishi
Target yields	3.0 t/ha	3.0 t/ha
Actual yields (1990/91)	2.8 t/ha	2.5 t/ha
Actual yields (1991/92)	0.8 t/ha	0 t/ha *

* No recorded yields due to drought

The mean values of the numbers of livestock kept in the Kadishi area were higher than the Phokoane areas where a lack of grazing land (27.3 percent according to the respondents) is experienced. On average, the Kadishi households owned 5.6 head of cattle, 5.6 goats and 4 chickens.

With respect to cultivated areas, the Kadishi households planted 1.28 ha (CV of 198%), mainly with maize and cotton. In Phokoane 93 percent of the households cultivated maize, with the majority cultivating approximately 1 hectare of maize (80% of respondents planted between 1 and 1.5 ha of maize). Only 3 percent of

the Phokoane households produced sorghum, 24 percent dry beans and 15 percent producing pumpkins (mainly intercropped with maize).

In the Kadishi area, 90 percent of the households keep cattle, while only 43 percent of the respondents in Phokoane own cattle. The majority (90.9%) of the Kadishi respondents found that there is enough grazing to support the number of cattle, while only 61.2 percent in the Phokoane region could say the same. The Kadishi respondents (72.7%) were in general satisfied with the current land tenure system while 63.6 percent were satisfied with the way land is being allocated (all of the respondents were registered plot holders). However, 90.8 percent of the Kadishi respondents indicated that they would prefer to have a title deed or some proof of ownership of the land they are farming on. Only 18.2 percent of the Kadishi farmers are prepared to rent out their land to another farmer and only 36.4 percent are prepared to rent extra land if available (18.2 percent of the respondents stated that there is enough land available).

When asked whether they would consider other employment opportunities in an urban area, only 18.2 percent of the Kadishi respondents indicated that they would leave the farming enterprise, while 18.2 percent would employ somebody to farm full-time for him/her. The majority of households (72.7%) indicated that they prefer to continue farming. These results could, however, be related to a lack of other job opportunities in the region or to the fact that migratory work is a less common practice due to the long distance from the PWV-region.

Similarly to the Venda farmers, the farmers in the two study areas in Lebowa also view the need for fencing as a major farming problem. The major farming problems as indicated by the respondents in the Kadishi and Phokoane areas are drought, poor tractor services and land shortage for cropping, soil erosion and inadequate credit (in Kadishi). It is also clear from the analysis that the availability of good quality drinking water seems to be a major concern for the majority of households in particularly the Phokoane area.

4.4.3.4 An evaluation of the implementation of the various FSP elements in Lebowa

The following services were provided to the Phokoane and Kadishi respondents under the Farmer Support Programme: Credit, inputs, mechanization services, marketing and extension. The percentage of Kadishi respondents who rated the provision of these services as satisfactory is: credit (0%), inputs (27.3%), mechanisation (9.1%), marketing (9.1%), and extension (45.5%). The main reason given by the Kadishi respondents (90.9%) for not joining the FSP was the insufficient credit offered by the FSP credit scheme. It should however, be mentioned that the credit facilities provided by the Kadishi co-operative is not linked to the FSP programme.

The Phokoane farmers rated the adequacy of these services supplied by the FSP as follows: credit (81.3%), inputs (95.6%), mechanisation (73.6%), marketing (54.9%), and extension (87.9%).

4.4.3.4.1 Mechanisation

The co-operatives at Phokoane and Kadishi do not directly provide mechanisation services, but play an important role in coordinating and facilitating the mechanisation service from private contractors. The Phokoane co-operative offers the following mechanisation services:-

- the co-operative's own tractors and implements are available to farmers;
- private tractor owners contracted by the co-operative.

The project description provides for the transfer to the Phokoane co-operative of the maize project's mechanisation package at outstanding loan value plus capitalised interest. As provided in the project description, the co-operative could sell tractors and equipment to interested private parties. The Phokoane co-operative sold most of its tractors on a five year loan basis to 15 individuals with the proviso that these new tractor owners should serve the "wishes" of the co-

operative and the local farming community as to where, when and how to plough. Due to the continued growth of the programme the co-operative increasingly has to rely on additional private tractor owners to provide the ever expanding mechanisation service. During the 1992/93 season the co-operative arranged for an additional 18 contractors to assist in providing ploughing services to the Phokoane farmers.

The co-operative coordinates the mechanisation services provided by the private contractors. The co-operative once a year arranges a coordinating meeting between the management committee and the private contractors and compiles a list of tractor owners in the Phokoane area who are prepared to provide ploughing services to the farmers. Each farmer group will select a number of contractors to plough their fields and each farmer has to approach the co-operative to arrange a specific day and time for his fields to be ploughed. From this the co-operative draws up a time schedule for each of the contractors, which ensures an efficient and fair utilisation of the limited tractor capacity.

The use of private contractors requires a control system to ensure an acceptable standard of cultivation. The system that was devised made farmers themselves responsible for the quality of ploughing and planting of their fields. Upon concluding their credit arrangement with the co-operative every farmer receives a duplicate set of tickets for ploughing and planting. The farmer will hand his ticket to the contractor only when he/she is satisfied with the contractor's work. The contractor uses the ticket to claim his money from the co-operative. This control system is very effective and for the contractors it gives the added guarantee that they will receive their payment via the co-operative.

The Phokoane co-operative has 2 tractors with implements mainly used for the co-operative's own purpose. The following implements owned by the co-operative are hired out to contractors or farmers at a daily rate of R75:-

- 15 maize planters
- 4 cultivators
- 8 rolling cultivators
- 5 vibrofax soil preparation implements.

In general members of the Phokoane co-operative are satisfied with the mechanisation service provided via the co-operative.

In Kadishi a similar mechanisation situation prevails. Between seven and nine private contractors operate in this area. However, the Kadishi farmers are not satisfied with the ploughing services provided by the contractors. The contractors are apparently not willing to plough to the depth the farmers were taught in the training courses. The problem is compounded by the fact that the contractors do not provide planting services or mechanical application of fertiliser. This is partly due to the rocky soils of Kadishi which damage implements and prevent contractors from applying the correct ploughing depth. This is also a reason why they do not provide planting services. At present most farmers in Kadishi plant and fertilise in the traditional way by hand.

Table 4.18 : Mechanisation and input costs per hectare - Phokoane (R)

Season	Tractor services			Fertiliser		Seed Sensako 2147	Total cost per hectare
	Plough	Disc	Plant	3.2.0	L.A.N		
1989/90	80.00	40.00	50.00	96.00	44.00	30.00	340.00
1990/91	80.00	40.00	50.00	96.00	44.00	30.00	340.00
1991/92	104.50	66.00	66.00	144.00	66.00	40.00	486.50

4.4.3.4.2 Inputs

In Kadishi 81.8 percent of the respondents make use of chemical fertiliser, while in Phokoane 97 percent indicated that they use chemical fertiliser. In Kadishi 36 percent of the respondents indicated that they use pesticides while only 9 percent of the respondents use herbicides. It therefore seems that manual weeding is still the major practice in Kadishi. The situation in Phokoane is more or less similar with 50 percent of the respondents using pesticides and only 7 percent herbicides.

All the respondents in Kadishi indicated that they had access to fertiliser and seed but only 54 percent of the respondents had access to pesticides and 36 percent to dips and sprays. Accessibility to the various inputs supplied through the FSP in Kadishi was as follows: Fertilizer (63.6%), seed (63.6%), chemicals (36.4%) and

dips & sprays (27.3%). The Kadishi farmers were in general dissatisfied with the FSP, with only 27.3 percent of the respondents approving the availability, quality and quantity of farming inputs.

Virtually all (97%) the Phokoane farmers had access to fertiliser and seed, while 84 percent of the respondents indicated that they could obtain pesticides and 51 percent had access to dips and sprays. The majority (95%) of the Phokoane farmers were satisfied with the operation of the support programme.

Table 4.19 provides an overview of the quantities of farm inputs used by Lebowa farmers. The mean values provided in the table are misleading due to the high coefficient of variation. The skewness of the data gathered in the sample survey is further indicated by the fact that some Kadishi respondents used as much as 150 kg of chemical fertilizer and some Phokoane respondents as much as 450 kg.

Table 4.19 : Farm input purchases by rural households in Phokoane and Kadishi, 1991 (Mean values per household).

Input	Kadishi (N = 33)		Phokoane (N = 92)	
	Average	CV	Average	CV
Seed (Kg)	17.60	79 %	20.75	107 %
Chemical fertilizers (Kg)	65.00	96 %	210.73	126 %
Organic fertilizer (Kg)	50.00	316 %	104.40	162 %

Soil surveys and analyses were carried out in order to determine the specific type of fertiliser required for the FSP areas as well as the correct application rates. The recommendations following from these analyses are conveyed to the farmers through the training courses. It forms a major part of the phase 1 course. Through the years the farmers applied only available fertilisers (often the wrong type) or that which they could afford. The recommended application rates of fertiliser in the Kadishi and Phokoane areas are similar, i.e. :-

- 3 bags (150 kg) of 3:2:0 per hectare, plus
- 2 bags (100 kg) of LAN per hectare

It was also recommended to the farmers to use 10kg of Sensako 2147 (a hybrid cultivar) per hectare as the maize cultivar to be planted.

4.4.3.4.3 Credit

Revolving credit for fertilizer, ploughing, discing, seed, etc. is advanced to those members who have access to arable land. Credit is provided according to the area of land and is calculated on a per hectare basis. Credit provided to members for the 1991/92 season amounted to R486.50 per hectare at Phokoane and R463.55 per hectare at Kadishi (non-FSP credit provided by the Kadishi co-operative independent from the FSP). The composition of the credit amount for farmers in the Phokoane area is shown in Table 4.18. The rates in Kadishi consisted of R128.55 for 3:2:0, R70.00 for LAN, R35.00 for seed, R100.00 for ploughing, R60.00 for discing and R70.00 for planting: A total credit of R463.55 per hectare.

Phokoane farmers usually qualify for credit after attending one of the training courses. A deposit of 50 percent is required for any credit arrangement but when a member has had training this requirement is reduced to 40 percent. In Kadishi credit is not linked to the training programme. Membership of the Kadishi co-operative qualifies farmers for credit, and this is only available for inputs and not for mechanisation. To qualify for credit, farmers will have to clear the previous year's production loan plus interest. FSP credit was introduced in Kadishi during the 1991/92 production season and a total loan of R8 000 was extended to 39 farmers. The interest rate at both co-operatives was 18% per annum (or 1.5% per month) and the farmers were given 9 months to repay their loan.

The training manager at LAC, the managers of the co-operatives, the farmer group leaders and co-operative directors are of the opinion that most of the farmers know that they have to repay their loans, they know the terms involved, understand the concept of interest and are aware of the consequences if they do not repay. Crop failure and drought are the main reasons why some are unable to repay their loans. The default rates for the 1990/91 season were 37 percent at Kadishi and 34 percent at Phokoane. The co-operatives can take various actions to ensure that the farmers repay their loans. When a member does not repay his/her loan after 9

months, the management committee of the co-operative will meet with such a member to urge repayment of the debt. If this is without success the member will be referred to the local council where the chief will do his best to ensure that the member repays his/her debt. The last option will of course be court action.

Most of the Phokoane farmers use the credit facility at the co-operative. Some farmers prefer, however, not to take up the credit and pay cash for services and inputs. Farmers are generally advised to pay cash for inputs should they have funds available.

The sources of credit used by the farmers in the study areas were determined from the household surveys. According to the results the Kadishi households borrowed from family/friends (45.5%), traders (9.1%) and money lenders (9.1%), while farm credit was borrowed from the co-operative (18.2%). The Kadishi respondents were in general not satisfied with the ease of borrowing from the above mentioned institutions. The Kadishi respondents viewed FSP related credit as generally unavailable. The households in Phokoane borrowed credit from the co-operative (51.1%), family/friends (14.3%) and traders (2.2%). In general, they were satisfied with the ease of borrowing. While credit was rated as unavailable to the Kadishi respondents, it was viewed as generally available by the Phokoane households.

4.4.3.4.4 Extension

Extension and training are provided to the farmers in the Phokoane and Kadishi areas by the LAC training section consisting of two senior training officers and two extension officers seconded from the Lebowa Department of Agriculture (LDA). Since the implementation of the programme these four men have reached almost 3 000 households. Many of the farmers became members of the respective co-operatives only after completion of the training schedule. The training schedules are coordinated through the co-operatives and the extension officers use the co-operatives as their "base". Training is, however, given in the specific village or area of each farmer group.

The success of the training programme is evident from the increased yields experienced by the majority of farmers who completed the training programme. The success of these farmers resulted in an increased demand for training. The expectation thus far created could become a threat to the FSP in Lebowa as only limited manpower is available to provide the extension and training. This threat forced LAC to embark on a new initiative to train more officers for specific application in the FSP areas. This is also a pro-active measure in view of the intended implementation of the FSP in other areas of Lebowa which will put further strain on an already full training schedule. The number of farmers attending training courses in each of the two areas is indicated in Table 4.20.

Table 4.20 : Number of farmers who have completed training courses at Phokoane and Kadishi

Season	Phokoane		Kadishi	
	Phase 1	Phase 2	Phase 1	Phase 2
1989/90	48			
1990/91	814		146	
1991/92	460	640	0 *	31
1992/93	492	386	**	**

* Training was suspended due to political unrest in the Kadishi area

** Due to the drought, farmers were involved in non-agricultural activities

Phase 1 consists of basic training, explaining the very basic principles of maize production, while Phase 2 consists of more advanced lectures, touching on elements of soil conservation, plant protection, finance, etc. The drop-out rate from Phase 1 to Phase 2 is 33 percent in Phokoane and 38 percent in Kadishi.

By the end of 1992, 1 960 certificates were issued to farmers who had successfully completed the Phase 1 training course. At that same point in time 1 057 farmers had completed the Phase 2 training course in Phokoane and Kadishi. It is estimated that 3 200 Phokoane farmers and 146 Kadishi farmers are at present involved with the FSP in Lebowa.

The direct involvement of extension officers in the decision making process in the farming enterprise is much lower than in Venda. Although the direct involvement is low, most farmers gained their knowledge from the training courses. These proved to be invaluable in the decision-making process.

According to the general feeling of the respondents, it may be concluded that the extension effort in Kadishi is inefficient. With 73 percent of households wanting to see the extension officer more often, it can be concluded that the demand for information in Kadishi is high. However, despite the problem of inadequate extension, 72.7 percent of the respondents in Kadishi viewed extension services as unnecessary. This explains to some extent the low attendance at training courses, i.e. crop production (54.5%), soil conservation (9.1%), crop storage (18.2%), farm budgeting (0%) and livestock improvement (18.2%) (see Table 4.21).

Table 4.21 : Extension and training courses attended by Lebowa respondents

Population estimate		Kadishi	Phokoane
Extension and training :			
Households that know extension officer's name	(%)	100.0	89.2
Attended crop production course	(%)	54.5	97.5
Attended soil conservation course	(%)	9.1	97.5
Attended crop storage course	(%)	18.2	96.9
Attend livestock improvement course	(%)	18.2	88.2

Given that 89.2 percent of households at Phokoane want to see the extension officer more often, it can be concluded that the demand for information is still high. Only 16.2 percent of the respondents regarded extension services as unnecessary, which is supported by the high attendance in training courses, i.e. crop production (97.5%), soil conservation (97.5%), crop storage (96.1%), farm budgeting (95%) and livestock improvement (88.2%) (see Table 4.21). It was also determined that 87 percent of the farmers in Phokoane regarded the quality of extension services as good to excellent. Many attributed their perceived success to the extension and training effort.

In comparing the FSP and non-FSP farmers' perception of the extension element of the FSP, it was determined that virtually all the FSP farmers in Kadishi knew the local extension officer's name. The number of visits by farmers to the local extension officer was significantly higher for FSP members than non-FSP farmers in Kadishi. The extension officer visited the FSP members on average 41 times per year, while he paid 42 visits per year on average to the non-FSP members. Despite the high number of contacts, most of the respondents indicated that they would like to see the extension officers more often.

Virtually all the FSP farmers in Phokoane knew the local extension officer's name (FSP 91.7% and Non-FSP 72.7%). The local extension officer visited FSP farmers on average 32 times per year, while the mean number of contacts with non-FSP members were 23 per year. Despite the high number of contacts, most of the respondents in the Phokoane region indicated that they would like to see the extension officers more often (36.1% FSP and 18.2% non-FSP).

About 75 percent of the Kadishi respondents believe that training will improve their farming skills. The awareness and attendance of the various training courses by the two groups of farmers are shown in Table 4.22. It is interesting to note that more of the non-FSP farmers in Kadishi attended the crop and livestock courses.

Phokoane FSP members indicated that they could get access to information on ploughing, planting, fertilizing, weeding, pest control (all varying between 91.4 and 100%), animal production (28.6%) and dipping of animals (25.7%). However, the non-FSP members responded differently, indicating that access to information was more difficult than experienced by the FSP members.

Table 4.22 : Access to extension and training services amongst FSP and non-FSP farmers in Lebowa, 1991

Items	FSP farmers		Non-FSP farmers	
	Kadishi	Phokoane	Kadishi	Phokoane
Households sampled	16	80	17	12
Total contacts per household	46.5	32.5	42.3	23
Households that knew the Extension officer's name (%)	100	91.7	98	72.7
Households aware of:				
- a crop course (%)	40	95	100	27.3
- a livestock course (%)	20	18.8	50	18.2
- a management course (%)	-	46.3	-	18.2
- a crop storage course (%)	20	80	33.3	18.2
- a soil conservation course (%)	-	82.5	-	18.2
Households that attended:				
- a crop course (%)	20	98.7	83.3	66.7
- a livestock course (%)	0	93.3	33.3	50
- a management course (%)	-	97.4	-	50
- a crop storage course (%)	20	98.5	16.7	50
- a soil conservation course (%)	-	98.5	-	50

4.4.3.4.5 Marketing

The Phokoane and Kadishi co-operatives provide limited marketing facilities to their members. Storage facilities and means whereby coarse maize can be exchanged for maize meal are also provided to co-operative members. FSP members in the Phokoane area have the option of delivering their maize for the above mentioned purposes to either the Phokoane co-operative or the OTK's Sekhukhune mill situated adjacent to the Phokoane co-operative. A large group of the FSP members deliver their maize at the OTK mill because the milling fee is somewhat lower than the fee charged by the co-operative. In addition, members also indicated that the maize meal originating from this mill tastes better. The difference in exchange fees is attributed to the fact that the co-operative does not own its own mill. The co-operative only serves as a depot from where the maize is transported by road to the nearest mill. The exchange/milling fees charged by the co-operatives are as follows:-

Table 4.23 : Exchange/milling fees charged by co-operatives in the Phokoane area, 1992.

Weight of bag	Phokoane Co-operative	OTK mill
80kg bag (meal)	R 8.25	R 7.00
50kg bag (meal)	R 7.15	R 6.50

Note : 80kg maize meal are produced off 96 kg of coarse maize
 50kg maize meal are produced off 60 kg of coarse maize.

The Phokoane co-operative delivers its maize receipts to a mill which falls under the jurisdiction of the Maize Board. The mill therefore has to comply with the regulations and policy of the Maize Board. This arrangement could in some instances work to the detriment of the FSP farmers. Because of the shortage of white maize due to the drought in 1992, all millers were compelled to mix white and yellow maize meal. As a result FSP members who battled to produce their few bags of white maize received a mixture of yellow and white maize meal in return. Since the people prefer white maize this creates all sorts of frustrations and suspicion amongst the farmers. It is for this very reason the co-operative at one stage thought of investing in its own mill.

An indication of the maize deliveries received by the Phokoane co-operative is provided in Table 4.24. This is also compared with the receipts of the OTK mill in specific years. In 1990/91 season Phokoane farmers delivered 2 145 tons of maize to the Phokoane co-operative and 3 300 tons of maize to the OTK mill. If an estimation is made of maize sold to local traders and of maize used for household purposes, the total production of maize in that year in the total Phokoane area (FSP and non-FSP) could be in the order of 9 000 tons. From the above, it can be concluded that the area under maize cultivation during the 1990/91 season exceeded 3 500 ha. According to the latest estimates total maize production in the Phokoane region during the 1991/92 season was only 2 500 tons, mainly due to the drought.

Table 4.24 : Maize deliveries at Phokoane Co-operative

Year	Phokoane Co-operative			OTK mill
	Total Receipts	Storage	Sales	Total Receipts
1989/90	1 828 t	1 620 t	208 t	-
1990/91	2 145 t	1 416 t	729 t	3 300 t
1991/92	820 t	686 t	134 t	1 400 t

Notable from the table above is the increase in the sales of maize relative to storage in normal production years. In 1989/90 farmers sold on average 11.4 percent of their crop. This increased in the following years to 34 and 20 percent respectively. This provides some indication that the households are more food secure and therefore had surplus maize to sell. On the other hand it could be argued that farmers were forced to sell more of their crop to settle outstanding debts and therefore it could imply that food security did not improve but merely stabilised. The drought in the 1991/92 season resulted in reduced deliveries with a larger portion of the total crop stored for later consumption.

The marketing situation at the Kadishi co-operative is similar. Maize deliveries increased from 122 tons in 1989/90 to 220 tons in 1990/91. The share of the maize crop delivered to the co-operative increased from 43 percent to 60 percent over the same period. The 1991/92 maize crop was virtually zero. Fortunately, the community is food secure due to previous good yields and households having enough maize in storage to provide for as much as three years, in some cases.

4.4.3.5. An analysis of the contribution of the FSP in Lebowa

4.4.3.5.1 The contribution of the FSP to increased agricultural output

The contribution of the FSP to increased agricultural output is clear from the discussion in Section 4.4.3.4.5 on the total production of maize in the FSP areas and from the figures in Table 4.24 above. The disastrous effect of unfavourable weather conditions is also evident from the table and for the purpose of this discussion it is necessary to ignore the results of the 1991/92 crop year for a moment.

From the figures for total maize production in the Phokoane region for the 1989/90 and 1990/91 seasons presented in Table 4.24, it can be concluded that the FSP resulted in an increase in total production (deliveries) and to an increase in sales of maize. However, when comparing the yield figures of non-FSP and FSP farmers (Table 4.25) for the 1990/91 season the effect of the FSP is not as clear as Table 4.24 leads us to believe. From Table 4.25 it follows that the FSP farmers at Phokoane yielded 1.63 tonnes per hectare in the 1990/91 crop season, while the non-FSP farmers recorded a slightly lower yield of 1.02 t/ha ($p = 0.0366$). The reversed situation occurred in the Kadishi region where the non-FSP farmers produced more per hectare on average than the FSP farmers (0.9 t/ha vs. 0.49 t/ha).

Table 4.25: A Comparison of the farming enterprises of FSP and non-FSP farmers, 1991

	Kadishi			Phokoane		
	FSP	Non-FSP	Significance	FSP	Non-FSP	Significance
Households sampled	16	17		80	12	
Land ploughed (%)	100	83		78.8	81.8	
Land planted (%)	98	81		60.1	70.2	
Production of maize (ton)	1.62	1.833	***	2.71	2.53	***
Maize yield per hectare (t)	0.49	0.90	***	1.63	1.02	**
Consumption of maize (ton)	0.531	0.565		1.25	0.83	**
Maize sold (ton)	0.669	0.918		0.69	0.36	*

- *** = Differences between FSP and non-FSP farmers are significant at the 1% level.
 ** = Differences between FSP and non-FSP farmers are significant at the 5% level.
 * = Differences between FSP and non-FSP farmers are significant at the 10% level.

The yield difference between the FSP and non-FSP farmers at Phokoane (although significant) is, however, not on its own sufficient to conclude that the FSP contributed to increased production. It was therefore necessary to do a further analysis to determine if the FSP elements do in fact contribute to increased or surplus production. Using the survey data of the Phokoane region a discriminant analysis was undertaken to determine which factors were associated with surplus production. It was argued that households producing more than subsistence needs (12 - 14 bags) and earning an income from maize production, were classified as

surplus producers or emerging farmers. Results obtained from the discriminant analysis are presented in Table 4.26. The entries in the first column indicate the relative contribution of each variable to the discriminant function.

Table 4.26: Variables discriminating between deficit and surplus producers in Phokoane

Discriminant variable	Standard discriminant function				Group means		
	Coefficient		Partial R ²	Significance (P < F)	Deficit farmer	Surplus farmer	Significance (P < t)
	Deficit	Surplus					
Own cattle	8.683	6.533	0.1790	0.0001	1.85 *	1.42 *	0.0073
Area intercrop	1.901	1.387	0.0633	0.0194	2.00	1.29	0.0000
Extension and Training	7.381	5.266	0.0610	0.0227	1.25 *	1.06 *	0.0000
Level of training	0.373	1.322	0.0673	0.0172	1.65 #	1.83 #	0.0005
Mechanical Planting	7.775	5.353	0.0327	0.1040	1.22 *	1.06 *	0.0000

* = Indicates dummy variable with 1 = yes ; 2 = no.

= Phase 1 training course = 1 ; Phase 2 training course = 2 ; non-participant = 0.

The purpose of the discriminant analysis was not to classify new data. Attention is focused on the contribution of each variable to the group centroid's separation as measured by the F-statistic. A highly significant factor discriminating between surplus and deficit producers was ownership of cattle by surplus producing farmers ($p = 0.0001$). The group means in Table 4.26 also indicate that deficit producers are more likely not to keep cattle ($p = 0.0073$). This variable gives an indication of wealth, implying that the surplus producers are relatively more wealthy and food secure, and do not depend solely on maize production for household food needs. This confirms to some degree the concern of analysts that only the more wealthy and the so-called rural elite participate in the FSP. The ownership of cattle furthermore implies that these households have liquid assets which could readily be sold in case of cash needs.

The analysis also showed that extension and training are associated with surplus production ($p = 0.0227$). There is also a significant difference between surplus and deficit producers with regard to this variable, with surplus producers having a larger tendency to attend training courses. It could therefore be argued that the extension and training element of the FSP in Phokoane contributes to increased production (at least partially).

The variable "level of training" refers to the different training courses offered through the FSP. The phase 1 training course was coded as 1, the phase 2 course as 2 and non participants was coded as 0. From the group means in Table 4.26 it follows that surplus producers tended to have completed the phase 2 training course. In a further analysis it was found that the average yield of respondents with phase 1 training is 1.54 tons/ha and that of the respondents who have completed or currently taking part in phase 2 training is 3.56 tons per hectare ($p = 0.0011$). This provides further evidence that the FSP partly contributes to increased output. However, this could also be attributed thereto that the first farmers to join the FSP and the first to finish the second phase of training are all farming in the core region of Phokoane, which is known to have a high agriculture potential.

Other important factors were that surplus producing households make use of mechanical planting and intercrop a smaller area. Differences in group means between surplus and deficit producers were significant in both cases. These variables through the link with the mechanization and training elements of the FSP, provide further evidence that the FSP elements contributed to increased agricultural output. A similar analysis for Kadishi was done but provided insignificant results. Too few observations contributed to this result.

The impact of the FSP on agricultural output is further highlighted in a study of the yields of 1 200 Phokoane farmers by Adendorf (1992). The results of this study is summarised in Table 4.27.

Table 4.27: Increase in maize production at Phokoane as result of FSP training

Item	Before FSP (1990)	After FSP (1991) *
Average size of land	1.3 ha	1.3 ha
Average yield (70kg bags)	6.1 (0.4t/ha)	41.6 (2.9t/ha)
Annual home consumption(70kg bags)	14.5	14.5
Average shortfall/surplus	(9.6)	24.0

* After completion of the FSP Phase I training course.

Note : The climatic conditions of the two crop seasons did not differ dramatically. Thus the yield increase could be attributed to other factors.

Furthermore, Adendorf (1992) indicated the effect of training on the maize yield of one individual Phokoane farmer, confirming the results discussed above.

Before training : 1986 : 20 bags/ha
 1987 : 32 bags/ha
 1988 : 31 bags/ha

After training : 1989 : 36 bags/ha
 1990 : 51 bags/ha
 1991 : 60 bags/ha

The additional analysis and discussion above make it possible to state that the FSP in Lebowa (Phokoane), mainly through the provision of training and extension, has probably contributed to an increase in agricultural output. It should, however, be stressed that climatic conditions play a crucial role in the extent of the response to training. But in these cases, 1988 to 1991 were all average to dry years and the response could therefore to a large extent be attributed to the FSP training programme.

4.4.3.5.2 The contribution of the FSP to increased input use

Increased input use is most likely due to increased area cultivated. It is also expected that the increased availability of inputs and access to finance (co-

operative credit) could also contribute to the increased usage of especially fertiliser and hybrid seed. The increased usage could be linked to the FSP training programme since recommendations on the fertiliser type and seed type to be used, as well as the application rates, are all included as part of the training courses.

The results from the household survey showed very little difference in the use of chemical fertiliser and seed between FSP and non-FSP farmers. It was only in the use of pesticides and herbicides that the FSP farmers exceeded the non-FSP farmers. The fact that approximately the same proportion of non-FSP farmers as FSP farmers are using fertiliser and hybrid seed, could partly be related to the so-called demonstration effect and to farmers informing other farmers of the "new" cultivation practices.

To support this notion the Phokoane co-operative provided some interesting statistics regarding the co-operatives' total sales of fertiliser and maize seed over the past four seasons. The sales statistics were also provided in terms of hectares, calculated according to the recommended application rates. From Table 4.28 it is evident that enough fertiliser was sold during the 1991/92 crop season to fertilise at least 3 380 hectares at the recommended application rate. This should be compared with the total area cultivated with maize by FSP members, namely 1 900 hectares. The same trend was apparent in the sales of seed. Seed for at least 4 057 hectares were sold during the 1991/92 season. These statistics clearly give the impression that the FSP has some spill-over effects with non-member farmers practising the production techniques as taught to the FSP farmers. It is clear that the successful yields of FSP members resulted in a demonstration effect to other households in the area.

From the household surveys it was determined that the FSP farmers in Phokoane used 97.5 percent hybrid seed and 2.5 percent of the traditional variety, while the non-FSP members used more of the traditional variety (hybrid 54.5% and traditional 45.5%).

Table 4.28: Sales of inputs at Phokoane Co-operative.

Year	Fertiliser		Seed		Area cultivated by FSP members
	50kg bags	Calculated in hectares	10kg bags	Calculated in hectares	
1988/90	430	143 ha	210	210 ha	300 ha
1989/90	3516	1172 ha	669	669 ha	1036 ha
1990/91	5714	1904 ha	2297	2297 ha	1300 ha
1991/92	10140	3380 ha	4057	4057 ha	1900 ha

An econometric model discriminating between Phokoane households that use large quantities of purchased fertilizers (> 150 kg) and those that use less (< 100 kg) was also estimated to determine if the FSP elements can be associated with increased usage of fertiliser. Apart from this, all the explanatory variables tested in the model were considered. However, due to similarities in fertiliser usage no significant discriminant function could be obtained.

In a further analysis, a model discriminating between Phokoane households using large quantities of purchased seed (> 20 kg) and those using small amounts (< 20 kg) was also estimated. Apart from seed, all the other explanatory variables tested in the model were considered. This model was considered because it analyses the household's intension to produce a larger output and supports the second model (correlation between seed and fertilizer). Again no significant result could be obtained.

The insignificant fittings of the two functions described above can be related to similarities in application rates of seed and fertiliser. This is partly a result of the training programme and also due to the spill-over effect, as discussed above. It can, however, be concluded that the training programme has succeeded in teaching farmers not to apply too much fertiliser and seed, but rather the correct quantity. The efficient use of inputs is a matter to be addressed at a later stage.

4.4.3.5.3 The contribution of the FSP to improved household food security

From the discussion in Section 4.4.3.5.1 and the data presented in Table 4.24, and specifically Table 4.27, it can be concluded that the FSP (at Phokoane) has resulted in improved household food security. The increase in maize sales is a major indicator of this, as well as the increase in household staple food production from an average annual shortfall of 9.6 bags of maize below household needs of 14.5 bags annually to an average surplus of 24 bags (See Table 4.27). This is already more than enough evidence that the FSP resulted in households alleviating hunger and food insecurity which was their major concern.

From Table 4.29, listing the main expenditure items of FSP and non-FSP households, it is further evident that FSP households (in Phokoane) spend less (R154.16) on maize meal than the non-FSP farmers (R402.18). The expenditure on maize meal constitutes only 3 percent of total household expenditure of the FSP households, while in the case of the non-FSP this portion of their expenditure is somewhat larger at 8.6 percent. The relatively low expenditure on maize meal supports the fact that the FSP households produce comparatively more maize than the non-FSP group. The considerably higher expenditure on maize meal of the major staple by the non-FSP group reflects the relatively more food insecure position of these households (see also Dankwa *et al*, 1992).

The lower expenditure on maize meal put the FSP households in a position to spend more on other food (as is clearly indicated in Table 4.29). The FSP households spend about twice as much on other food than the non-FSP households. This indicates that the FSP resulted in a food expenditure shift away from maize meal to other food. It could therefore lead to improved dietary composition and improved nutritional intake of household members.

4.4.3.5.4 The contribution of the FSP to increased household income and improved standard of living

An analysis of the difference between income and expenditure patterns of the FSP farmers and the non-FSP farmers is presented in Table 4.29. The table shows that

the FSP farmers in Kadishi had bigger savings accounts, but smaller burial/funeral policies than the non-FSP farmers. The non-FSP farmers earned significantly higher amounts from the sale of crops and livestock. The non-FSP farmers had higher expenditures with respect to transport and instalments. The non-FSP farmers also had higher expenditures on the motivators like durables, personal expenditures and medical expenditures. These results seem to be contrasting but it must be kept in mind that Kadishi is a special case where other factors, eg. political and other groupings, play an important role.

Table 4.29: Income and expenditure differences between FSP and non-FSP members in Lebowa, 1991

Items	Kadishi			Phokoane		
	FSP farmers	Non-FSP	Significance	FSP farmers	Non-FSP	Significance
Savings account	360.00	16.66	**	-	-	
Crops sold last year	30.00	1675.00	**	-	-	
Livestock sales	33.60	213.33		-	-	
Total income	-	-		5678.47	4758.18	
Funeral policy	340.00	1536.00	**	-	-	
Education expenditure	596.00	990.50	**	345.38	1923.82	**
Other food	408.80	1038.50		801.57	463.72	**
Maize meal	-	-		154.16	402.18	
Clothes	944.00	609.83	*	639.96	436.45	
Transport	168.00	1280.67	**	230.71	111.81	**
Durables	382.00	1100.00	**	959.67	522.36	**
Personal expenditures	199.60	251.00		-	-	
Medical	98.00	183.36		-	-	
Instalments	144.00	840.00	**	-	-	
Household expenditures				332.26	116.45	**
Farm expenditures				640.05	691.00	

* Difference between FSP and non-FSP households is significant at the 5 % level.

** Difference between FSP and non-FSP households is significant at the 1 % level.

The FSP farmers in Phokoane had a bigger total income, higher expenditures on food, clothes, durables, household expenditures and farm expenditures. The expenditure on education by the non-FSP households was, however, higher than that of the FSP members. The results presented in Table 4.29 give the impression that the FSP households do have a higher income and their expenditure patterns indicate a higher standard of living.

4.4.3.6. Institutional aspects

4.4.3.6.1 Introduction

The purpose of this section is to discuss the institutional structure of the FSP in Lebowa as currently in operation. The intention of this discussion is to illuminate the deviation from the proposed institutional structure as outlined in the project description and also to show how the institutional structure is promoting the objectives of the FSP in Lebowa.

4.4.3.6.2 Farmer Committees

It seems as if the FSP is promoted by officers involved with the training programme with the Manager: Training of LAC as the driving force.

4.4.3.6.3 The Co-operatives at Phokoane and Kadishi

Two of the secondary co-operatives in Lebowa, i.e. Phokoane and Kadishi play an important role in the implementation of the FSP in Lebowa. The Phokoane co-operative is situated at Phokoane in the Nebo area, approximately 50 kilometres east of Groblersdal. The co-operative has at present (April 1993) 2 703 members, all of whom paid their R20 membership fee.

The Kadishi co-operative situated 34 kilometres west of Graskop, is the smaller co-operative of the two with 146 members at present, paying the full membership fee of R100 over a period of five years. A comparison of the operation of the two co-operatives is provided in Table 4.30.

Inputs, credit, ploughing services and advice are provided to the farmers by these two co-operatives. The Phokoane co-operative, supported by FSP and non-FSP members is currently one of the few co-operatives in southern Africa yielding profits. It is estimated that more than 4 000 households do their business here. If the average household size is taken into account, the estimated number of people served by the co-operative could be in the range of 28 500. This co-operative does

not only supply inputs and some logistical support on mechanisation and credit, but also arranges marketing opportunities, coordinate mechanisation services, and acts as development coordinator. The manager of the co-operative, appointed and remunerated by LAC, is responsible for all the managerial decisions tasks. His accountant is also a LAC employee. This, to our mind, is counterproductive to the intended principle of "learning by doing". The question therefore arises what will happen to the co-operative when this expertise is not available any more and members having to manage the co-operative themselves.

Table 4.30: A comparison of the Phokoane and Kadishi FSP co-operatives

Season	Phokoane					Kadishi				
	Members	Area Planted	Credit per ha	Total Loan	Re-payment (%)	Members	Area Planted	Credit per ha	Total Loan	Re-payment (%)
1988/89	239	200ha								
1989/90	830	1 036ha	340-00	R 90 000	77.7					
1990/91	1 637	1 300ha	340-00	R180 000	76.6	126	800 ha	453-55		
1991/92	2 248	1 900ha	486-50	R240 000	66.0	146	23 ha*	463-55	R 8 000	57.3
1992/93	2 703	**	**	**	**	146	**	**	**	**

* Due to drought

** Unavailable at time of analysis

The Kadishi co-operative is situated in a remote and isolated area of Lebowa. The FSP was implemented in Kadishi during 1991 and it is only since this date that credit was provided to the members of the Kadishi co-operative. Some of the group leaders in Kadishi admitted that credit was the major constraint in agricultural production in that area. The provision of credit and training services resulted in a drastic increase in turnover, despite the severe drought. Similar to the situation at the Phokoane co-operative, the manager and the accountant are LAC employees.

4.4.3.6.4 The Lebowa Government

It seems that the Lebowa Department of Agriculture is not interested in and committed to the FSP, as observed by some of the extension officers previously working for the Department. Some of the regional directors showed some interest in the programme but generally the regional directors envy the success of the FSP and view the FSP as a threat to the Department of Agriculture and to their position.

It has been said that this could be one of the reasons why the regional directors of the Lebowa Department of Agriculture do not provide any support to the FSP.

At present more than 500 extension officers are employed by the Department of Agriculture. Apart from the two extension officers seconded to LAC for the FSP, none of the other 500 are involved in the FSP extension and training programme as they view the programme as "too much work". From our observation it would appear that the 4 training officers working on the FSP, are effectively reaching more farmers than the entire Department of Agriculture in Lebowa.

4.4.3.6.5 Lebowa Agricultural Corporation

The Lebowa Agricultural Corporation (LAC) was instrumental in implementing the FSP in Lebowa. As stipulated in the project description the LAC was responsible for the privatisation of the Phokoane Dryland Maize Project. LAC transferred all moveable assets of the maize project to the co-operatives at outstanding loan value plus capitalized interest.

LAC's approach to the development problem is people oriented and demand-driven and the approach basically is a bottom-up one. The FSP in Lebowa was designed and implemented by the manager of the Phokoane co-operative and employee of LAC and the programme became a personal mission, pursued with zealous commitment. One crucial aspect to the development of the programme was the freedom he was allowed from LAC. The LAC official responsible for the FSP did not manage or prescribe to him and instead worked with him, listening to and meeting the farmers, etc.

LAC does however, fulfil a supportive role to the co-operatives through the provision of management expertise, etc. The provision and scheduling of extension and training is also a further responsibility of the LAC officials and the two extension officers seconded from the LDA.

4.4.3.6.6 Farmers

By interviewing farmers who are members of the FSPs in Phokoane and Kadishi it was evident that in general they were very pleased with their improved situation after joining the FSP. They ascribe this mainly to training, because they view the lack of knowledge as the main factor inhibiting agricultural production. Inputs were always available but they did not know how to apply it.

The programme in Lebowa is based on voluntary participation. No farmer is forced into the programme, forced to join or form a farmer group. Groups are activated spontaneously through the success of the programme. Although the farmer groups are essential to the working of the programme in terms of implementation, divisions and group failure do occur.

The programme does not dictate to farmers on input use. It provides direction to the farmers and increases their farming options. Farmers are still in control and practical farming decisions are taken by the farmers themselves. Farmers only qualify for credit after they have completed the first phase of the training course.

The role of the tribal chiefs in the successful implementation of the FSPs appears to be small, which to a certain extent indicate lack of support from them. However, as some group leaders mentioned, initially the chiefs were against this "new" FSP approach but changed their attitude towards the programme because their people were satisfied and had enough to eat, even despite the severe drought.

4.4.3.7 Summary

From the discussion above it appears that the success of the FSP in Phokoane is based on access to one of the FSP elements, namely extension and training. All other elements are in one or another way attached to this service. At present, it seems as if the FSP (especially at Phokoane) is successful, but it must be stressed that this is to a great extent based on the positive influence and commitment by the LAC officials involved in the FSP.

In general, it can be concluded that the implementing agents in Lebowa are determined to contribute to the upliftment of the rural population. Institutional record keeping is improving and the impression is gained that the FSP in Lebowa is successful. However, there is a lack of own decision-making by the participants and co-operatives, which indicates that the FSP, to some extent does not meet the objective of "learning-by-doing".

The FSP in Lebowa has the support of the people since it helped them to overcome their major daily problem - hunger. The FSP banished hunger by improving the food security situation in these areas and contributing to a better livelihood for thousands of households in rural Lebowa.

The institutional structure of the FSP in Lebowa is much slimmer than in Venda and there seems to be no major coordination problems as the programme is the sole responsibility of LAC. A lack of training personnel appears to be a major inhibiting factor. The dedication and commitment of the LAC officials and their two extension officers are the major factor contributing to the successful implementation of the FSP in Lebowa. The officials from LAC succeeded in bridging the cultural and communication gap between the implementing agent and the people. Although the approach is somewhat patronizing it is done in such a manner that nobody is offended.

The successful implementation of the FSP in Phokoane contradicts the difficulties experienced with the implementing of the programme in Kadishi. The success of the FSP in Phokoane can be attributed to the personal interest of the LAC extension officers in the Phokoane area. It could also be argued that their approach was specifically designed for the circumstances in the Phokoane area and was successful due to the fact that they were always present in the area and that they viewed the programme as a personal challenge. The difficulties in Kadishi are to some extent attributed to the political division in the community and because the region is so isolated from the rest of Lebowa.

The FSP in Lebowa has improved food security in rural Lebowa. The question now remains: will the programme as currently implemented also help these households

to become emerging or small commercial farmers?

4.4.4 The Farmer Support Programme in KaNgwane

The Kangwane FSP was introduced in four phases. The first three phases addressed the provision of sheds, agricultural inputs and small scale water supply systems, respectively. The Livestock Farmer Support Programme is the fourth FSP to be implemented in KaNgwane, but the first specifically addressing support for livestock production. A fifth phase was recently introduced but is specifically directed at the small-scale sugar producers. This analysis and discussion are particularly concerned with the first three phases(KaNgwane FSP I, FSP II and FSP III) as they follow on each other and are in actual fact interrelated.

The first phase of the FSP in KaNgwane consisted of the construction of 13 service centres in addition to 6 existing structures. There will thus be a total of 19 service centres from where services could be provided to an estimated 4 700 farmers. The services centres were constructed by the implementing agent, Agriwane, with assistance from a building contractor in the local community. The various communities also contributed in the form of labour. According to the project description Agriwane will also be responsible for the selection of 30 contractors who will provide mechanisation services to the farmers. Only 26 contractors were eventually selected and each received a loan to purchase a mechanisation package which consisted of a tractor of between 35 and 45 kilowatt, a plough and a trailer. The programme also provides for the provision of production credit to farmers. Agriwane established a revolving credit fund for the provision of production credit. Preference was given to the provision of credit on group basis as opposed to individual credit. A principal that was initially applied is that no more than half the cost of the production inputs necessary for optimum yields will be provided on credit. This policy was later changed with production credit provided for 100 percent of inputs purchased, up to a maximum of 50 percent of expected crop income. Agriwane co-ordinates the marketing of surplus production through the depots in conjunction with a private firm in the case of cotton and the contractors in the case of maize.

The second phase of the KaNgwane FSP is partly an extension of the first phase to provide more comprehensively for mechanisation services as well as an expansion of all FSP elements into new areas. Furthermore, it entails the provision of further comprehensive farmer support services to approximately 2 700 additional small-scale farmers on approximately 10 000 ha in eight additional localities in all three main regions of KaNgwane.

The FSP I and II consist of the supply of comprehensive agricultural support services with the following elements:

Service centres

The provision of 27 service centres to farmer groups, to facilitate the furnishing of the following farmer support services in localities within the three main regions of Kangwane:

- Production inputs and capital requirements;
- credit;
- marketing;
- training; and
- extension, demonstration and research.

Mechanisation services

The second phase of the implementation of the FSP would involve the provision of credit to approximately 30 additional contractors for the repair of their existing tractors, or the purchase of second-hand reconditioned tractors. It would also finance the purchase of equipment for both the 26 existing contractors established during KaNgwane FSP I and the 30 additional contractors to enable them to provide comprehensive services to the farmers and the local community, as required.

Irrigation equipment for small-scale farmers

The FSP II will also include the financing of approximately 26 individual farmers or farmer groups to purchase irrigation equipment and engines for their existing small irrigation farms on which they have *de facto* land rights.

Production loans to farmers

The provision of production loans to dryland farmers, as well as to new small-scale irrigation farmers, for the partial financing of short-term production inputs.

Training and extension

The comprehensive support services would assist farmers and contractors to utilise existing skills in raising the productivity of land, labour and capital, as well as upgrading the farmers and contractors' skills through extension and training.

The third phase of the KaNgwane FSP entails an extension of some of the services provided under FSP I and II. This phase involved the financing of irrigation water supply systems and facilities and the purchase of small dam construction equipment. However, none of the loans under FSP III were taken up thus far.

4.4.4.1 An overview of the implementation and extent of the FSP in KaNgwane

FSPs have been implemented in KaNgwane since 1987. By mid-1989 there were twenty seven farmers' associations managing the affairs of farmers, such as applications for loans. At present 87 farmers' associations are assisted through the FSP in KaNgwane. The farmers' associations are co-ordinated by the KaNgwane Agricultural Union. Thirteen new service centres serving as distribution outlets had been constructed by mid-1989. The service centres constructed by implementing agents will eventually be bought by the farmer associations.

Individuals farm in areas where arable land size per farmer ranges from one to ten hectares, while crops grown are mainly dryland maize and cotton. Farmers in KaNgwane expressed a desire to have their farms irrigated, and DBSA has approved loans for support to emergent irrigation farmers.

Mechanisation packages, consisting of a tractor, plough and trailer, are also made available to individual contractors on a loan basis. The contractors offer services to the FSP farmers. The provision of agricultural extension, research and demonstration is the responsibility of the KaNgwane Department of Agriculture and Forestry. Agriwane also provides extension related to specific issues.

4.4.4.2 Sample survey of rural households in KaNgwane

Three regions of KaNgwane, i.e. Mswati, Mlondozi and Nkomazi were selected for this survey. Household surveys were conducted between December 1991 and March 1992 and again in December 1992/January 1993. For the purpose of this discussion only the results of the first survey are used.

4.4.4.2.1 Area description

Mswati

The Mswati region of KaNgwane is situated on the Highveld at an altitude of between 1050 and 1700 metres above sea level. The region is mountainous with hills and streams. The Barberton Highland forms the northern border of the region. The vegetation is typical of the Piet Retief "suurveld". Rainfall averages between 800 and 1000 mm per annum.

The Mswati region consists of a number of sub-regions. For the purpose of this study, three of the sub-regions were identified and surveyed, i.e. Bettysgoed, Swallowsnest and Hartebeeskop.

Three farmers' associations operate in the Bettysgoed sub-region. They are the Zamani Association (Agriwane clients), the Mashibambisane Association and the

Zamakuzaka Association. The latter comprises mainly females cultivating garden plots with no access to credit supplied by Agriwane. Farmer households belonging to the Vukani Nakhosikazi Association were surveyed to represent farmer households in the Swallowsnest region. The third subregion, Hartebeeskop, was represented by a survey of farmer households from the Litjelebube Association.

Mlondozi

The topography of the Mlondozi region is similar to the Mswati region with the one exception, namely, the Amsterdam Undulating Hills in the south of the region. Drainage occurs in an easterly direction. The annual mean rainfall is between 800 and 1000 mm.

The valleys in the region were traditionally used by the White commercial farmers as winter grazing for their livestock.

The Mlondozi region consists of the Steynsdorp and Eerstehoek sub-regions. Farmer households of the Juluka, Mashihambisane and Ingogo farmers' associations were surveyed in the Steynsdorp region. Unfortunately, the results from the Juluka farmers turned out to be unreliable as the field worker was unreliable. These were omitted from the analysis. Farmers of the Eerstehoek subregion are renting a farm outside KaNgwane from a White farmer. These farmers have no access to credit provided by Agriwane because Agriwane is prohibited by law from operating outside the KaNgwane borders.

Nkomazi

The Nkomazi region is situated in the Lowveld at between 450 and 600 metres above sea level. The area is characterized by slopes on the Eastern and Western sides of the Lomati River. Drainage is in a north-easterly direction with annual rainfall of above 1000 mm.

Three sub-regions in the Nkomazi region were surveyed, i.e. Schoemansdal, Schulzendal and Driekoppies. The farmer households in the Schoemansdal region

are members of the Isizamoyethu farmers' association and farm on garden plots. They have no access to Agriwane or FSP credit. The farmers in this ward are competing for the limited water supply with a major coffee project in the same area. Farmers of the Nhlanhla and Thuthukani farmers' associations (mainly females on community gardens) were surveyed in the Schulzental subregion.

Four farmer groups in the Driekoppies region were identified for the survey. Three of these groups have access to irrigation water from a canal out of the Lomati River. The three groups are Ngogolo (sugar cane), Likusasa Lethu (leather ferns) and Cedzindlala (females on garden plots).

Nsikazi

During the period October 1991 to February 1992 political violence and unrest occurred in the Nsikazi region. The field workers were requested by the tribal authorities not to commence with surveying and questioning the farmer households. The Nsikazi region was therefore excluded from the evaluation programme of the FSP in KaNgwane.

4.4.4.2.2 Data Collection

Data used in this study were collected by a team of 10 field workers by means of a questionnaire survey conducted between December 1991 and March 1992. The sample included 205 rural households in KaNgwane: 80 in Mswati, 45 in Mlondozi and 80 in Nkomazi. The distribution between the different sub-regions is indicated in Table 4.31. Only 176 questionnaires were usable. The selection of respondents according to certain farmers' associations, resulted in a skew distribution of FSP participants. The respondents in one region or sub-region were either from an association being members of the FSP or non- participants. Only a few cases were found where FSP and non-FSP members belonged to one farmers' association or resided within one sub-region with the same natural resource base. It was therefore difficult to make meaningful comparisons between farmers and farmers' associations. The results should be interpreted against this background.

Table 4.31 : Sample distribution of households and useable questionnaires in KaNgwane, 1991 (n = 176)

Region and farmers' association	Sample size	Usable Questionnaires
MSWATI		
1. Bettysgoed:-		
(a) Zamani	15	15
(b) Mashibambisane	10	10
(c) Zamakuzaka	15	10
2. Swallowsnest:-		
(a) Vukani Nakhosikazi	20	20
3. Hartebeeskop:-		
(a) Litjelebube	20	19
TOTAL: MSWATI	80	79
MLONDOZI		
1. Steynsdorp:-		
(a) Juluka	15	0
(b) Mashihambisane	5	5
(c) Ingogo	15	13
2. Eerstehoek:-	10	10
TOTAL: MLONDOZI	45	28
NKOMAZI		
1. Schoemansdal		
(a) Isizamoyethu	10	10
2. Schulzendal		
(a) Nhlanhla	15	15
(b) Thuthukani	5	5
3. Driekoppies		
(a) Ngogolo	20	16
(b) Likusasa Lethu	5	5
(c) Cedzindlala	25	18
TOTAL: NKOMAZI	80	69
TOTAL	205	176

4.4.4.2.3 Survey results

Household demographics

The average size of each household in KaNgwane has been calculated as 8.5 persons. It was further determined that the economically active population in KaNgwane is 69.4 percent. It is also interesting to note that 80 percent of the economically active population is females. This is clearly illustrated by the total

absence of males in the age group 26 to 35 years in the households surveyed.

A large number of households interviewed indicated that they had lived on White commercial farms before being relocated to KaNgwane. However, the majority of the households (52.8%) have been living in KaNgwane for a period of more than 20 years.

Household income

The average income and expenditure patterns of households in the study area appears in Table 4.32.

Income from the farming enterprise contributed on average nearly 50 percent to the total income of the household. This provides a clear indication of the importance of farming and agriculture in general in the welfare of the rural community in KaNgwane. The success of the farming enterprise has therefore a direct impact on the standard of living of the household.

The relatively large amounts spend on motivators like education, clothing and general household expenditure, give an indication of the relatively high standard of living if compared to the study areas in Venda and Lebowa.

While farming earned nearly half of the household's income, farm expenses only made up a quarter of total expenditure. Some farmers (20.5 percent of the respondents) also earn an income by ploughing other farmers' fields, while others (15.9 percent of the respondents) provide an off-farm service, e.g. transport. These serve as additional income sources to some of the households in the study areas.

Table 4.32: Average income and expenditure patterns of households surveyed in KaNgwane, 1991/92

INCOME			EXPENDITURE		
Item	Average (R)	CV (%)	Item	Average (R)	CV (%)
Crops	4389.53	(249.57)	Maize meal	1126.37	(312.46)
Livestock	723.51	(275.97)	Other goods	1289.15	(112.58)
Informal trading	505.69	(509.68)	Household expenditure	1256.55	(129.38)
Income from land rented out	57.84	(972.35)	Transport	861.32	(165.24)
Hiring out equipment	110.62	(361.20)	Clothing	1129.62	(134.73)
Occasional work	854.51	(248.03)	Savings	999.71	(241.50)
Cash remittance from family in cities	2655.88	(153.59)	Durables	419.59	(172.03)
Other	1863.40	(339.09)	Farm expenditure	2990.10	(216.73)
			Education	1164.92	(272.56)
TOTAL	11161.10		TOTAL	11237.33	

Farming activities

Water plays an important role in the every day life of rural communities in KaNgwane. It was determined that households were, on average, 1.6 kilometre away from the nearest water point. Livestock were kept about 2 km from the nearest water point, while croplands were on average 1.2 km from the water source.

Table 4.33 below gives an indication of the land use patterns in KaNgwane, stating the average size owned in each of the different land categories. The table also shows that dryland cropland is most commonly rented or share-cropped. The average size of land rented is, however, relatively small (less than half a hectare in size). The average rent paid for dryland is R23.88 per year (CV = 35.57). This amounts to roughly R55.00 per hectare per annum.

Table 4.33: Average land use patterns per household surveyed in KaNgwane, 1991

Land Type	Owned		Rented/share-cropped	
	ha	CV (%)	ha	CV (%)
Irrigated cropland owned	1.01	(316.15)	-	-
Dryland cropland	2.47	(131.37)	0.37	(439.45)
Fallow land	0.15	(190.50)	-	-
Grazing land	3.35	(313.09)	0.31	(904.67)
Garden plot	0.04	(693.27)	-	-
Residential site	0.33	(284.46)	0.02	(1326.65)
Community garden plot	0.11	(379.24)	-	-

It was also determined that 23.9 percent of all owned land was individually fenced while 76 percent of the land was collectively fenced as a group of plots or farms.

The different crops and the average area cultivated under each crop in KaNgwane are shown in Table 4.34. From the information provided in Table 4.34 the average yield of all the crops produced can be calculated. Looking at the two major crops, i.e. maize and sugar cane, it has been calculated that the average yield by the maize farmers in KaNgwane is 1.90 t/ha while the sugar farmers obtained an average yield of 111 t/ha. This compares favourably with the average yield of commercial farmers in certain parts of South Africa.

The table also indicates the percentage of households consuming the total harvest of each crop. In this regard it is interesting to note that in 34.1 percent of the cases the total maize harvest was consumed by the household. However, on average the households surveyed used roughly half of the annual harvest for home consumption. In the case of sorghum 96 percent of the households consumed their total harvest.

Table 4.34: Crops and average area cultivated in KaNgwane by various households cultivating the different crops, 1991/2

Crop	Area planted last season		Production		% of Households consuming heir total harvest
	ha	CV (%)	kg	CV (%)	
Maize	1.95	(107.98)	3897.55	(198.24)	34.1 %
Sorghum	0.37	(145.76)	322.00	(47.68)	96.0 %
Dry beans	1.93	(193.33)	21.42	(162.05)	61.9 %
Pumpkins	0.99	(187.94)	484.48	(125.05)	67.9 %
Potatoes	0.19	(255.07)	391.63	(225.82)	67.6 %
Cabbage	0.25	(167.08)	443.77	(256.01)	60.2 %
Spinach	0.02	(304.42)	392.92	(403.81)	60.2 %
Onions	0.03	(248.08)	255.36	(218.84)	61.4 %
Beetroot	0.10	(263.51)	495.62	(401.76)	58.5 %
Tomatoes	0.30	(171.63)	351.62	(190.77)	65.3 %
Sugar Cane	5.93	(38.66)	659833.00	(27.78)	0.0 %
Leather Ferns	1.00	(0.0)	3136.44	(118.77)	0.0 %

A total of 85.2 percent of the households surveyed have access to grazing. Only 22.7 percent of the respondents rated the condition of the veld as poor, while 50.6 percent of the respondents were of the opinion that the veld is deteriorating.

It was determined that 52.3 percent of the households own cattle, while 36.4 percent own other livestock, e.g. goats and chickens. Most of the farmers learned about farming from their experience on White farms or by visiting other farmers. The knowledge about farming methods obtained in this manner contributed to the fact that 69 percent of the farmers in the study areas decide themselves when to plough. Furthermore, 82.4 percent of the farmers made their own decisions regarding planting times, 88.1 percent when to weed and 82.4 percent when to harvest.

The respondents in the three study areas of KaNgwane listed the major problems hampering their farming progress as follows (in decreasing order):

- Inadequate credit 82.4 %
- Drought 79.0 %
- Lack of fencing 72.7 %
- Land shortage for cropping 72.7 %

- Low fertility of land	69.9 %
- Access to markets	64.8 %
- Erosion of land	56.3 %
- Poor service from ploughing contractors	53.4 %
- Lack of crop storage facility	50.0 %
- Poor access to daily water	50.0 %
- Shortage of wood/energy	50.0 %
- Poor tractor service from government	49.4 %
- Quality of veld	48.3 %
- Poor quality drinking water	47.2 %
- Inadequate extension	44.9 %
- Poor access to input delivery points	44.3 %
- Land shortage for grazing	40.3 %
- Lack of labour	31.8 %
- Pollution of soil	22.7 %

It is evident from this that inadequate provision of credit is considered to be the major problem facing farmers in KaNgwane. Notable is the lack of fencing again appearing on the list as one of three major problems, like in Venda and Lebowa. When the respondents were asked which single restriction or constraint limited success in farming, 36.4 percent indicated credit. This again emphasises the important role the provision of credit services could and should play in agricultural development in these areas. The shortage of land for cultivation was also raised as a major problem, an aspect which will have to be addressed in the future implementation of FSPs.

A comparison of different farming groups

Due to the wide diversity of farming activities in KaNgwane and due to regional differences between households, the averages calculated above are to some extent meaningless. The high coefficients of variation in Tables 4.33 and 4.34 give a clear indication of the high variation in the survey data. To add a different perspective to the survey data it was necessary to do a qualitative analysis of the characteristics and farming potential of four identified farming groups. The

questionnaires were therefore classified into the following groups according to the type of farming support they receive from Agriwane:

- Those households interviewed and currently farming on Agriwane's "projects". (Group A).
- Households participating in Agriwane's FS & DS (FSP) programme. (Group B).
- Households cultivating mainly community garden plots and that do not receive any assistance from Agriwane. (Group C).
- Households farming at Eerstehoek on farms rented from white farmers, receiving no assistance from Agriwane. (Group D).

The respondents from the different farmers' associations were classified in each of the groups as follows:

Group A : Ngogolo (Sugar cane farmers)
Likusasa Lethu (Ferns)

Total of 21 respondents

Group B : Zamani
Vukani (Swallowsnest)
Litjelebube
Juluka
Mashibambisane
Ingogo
Nhlanhla

Total of 97 respondents

Group C : Zamakuzaka
Isizamoyethu
Cedzindlala
Driekoppies

Litjelembube (individual farmers)

Masihambisane (women producing on garden plots)

Thuthukani (women producing on garden plots)

Total of 58 respondents

Group D : Eerstehoek

Total of 10 respondents

The results from the analysis of the farmers' associations in the various groups are herewith compared in order to determine the difference between the FSP farmers (Group B) and the others. The results of this analysis are summarised in Table 4.35.

In classifying the farmers in KaNgwane in this manner and comparing the most important variables listed in Table 4.35, it is now possible to identify commercial or emerging farmers from subsistence farmers. It is clear from the information provided in the table that the Eerstehoek farmers (Group D) and the farmers on Agriwane's sugar projects (Group A) are much more commercially oriented than farmers in groups B and C. This emerges from the fact that these households earn by far the major share of their income from farming. The Eerstehoek farmers are renting land from white farmers and are farming independently from any support or credit provision from Agriwane. The commercial nature of their farming ventures is also evident from the fact that they sell 90 percent of the maize produced, 70 percent of dry bean production, 80 percent of groundnut production and the total production of potatoes, cabbage and green mealies.

The farmers on the Agriwane sugar cane projects produce only sugar cane under the indirect control of Agriwane which also provides extensive support. They earn a substantial income from sugar cane production, which is more than sufficient to purchase maize meal and other food for household consumption.

Table 4.35: A comparison of different groups of farmers in KaNgwane

Item	Group A	Group B	Group C	Group D
Access to land :				
- dryland	-	5 ha	1-5 ha	1-15 ha
- community garden plot	-	0.25 ha	1 ha	-
- irrigated crop land	1-7 ha	-	-	4-20 ha
Area cultivated :				
- maize	-	5 ha	3 ha	4 ha
- dry beans	-	2 ha	6.8 ha	0.8 ha
- vegetables	-	1.03 ha	1 ha	3.75 ha
- groundnuts	-	-	-	1 ha
- sugar cane	1-7 ha	-	-	-
Yield per hectare :				
- maize		1.8 t/ha	0.75 t/ha	2.5 t/ha
- dry beans		1 t/ha	0.23 t/ha	0.4 t/ha
- sugar cane	120 t/ha	-	-	-
Income :				
- crop income	R30 000 (86%)	R 3 500 (42%)	R 1 188 (12%)	R10 761 (66%)
- livestock receipts	-	R 1 000 (12%)	R 720 (7%)	R 1 396 (9%)
- land rented out	-	-	R 20 (1%)	R 895 (5%)
- hiring out of equipment	-	-	R 593 (6%)	R 320 (2%)
- informal trading	R 500 (2%)	R 300 (4%)	R 650 (7%)	R 2 200 (13%)
- occasional work	-	R 1 000 (8%)	R 1 750 (18%)	-
- cash remittances	R 4 000 (11%)	R 2 500 (30%)	R 4 000 (41%)	R 700 (4%)
- other income	-	-	R 781 (8%)	-
Expenditure : *				
Farm expenses	R12 000 (38%)	R 1 500 (12%)	R 853 (8%)	R10 211 (42%)
Maize meal expenditure	R 4 500 (14%)	R 3 800 (30%)	R 878 (9%)	R 934 (4%)
Other food	R 4 000 (13%)	R 1 500 (12%)	R 971 (8%)	R 2 330 (10%)
Durables	R 1 200 (4%)	R 1 000 (8%)	R 890 (9%)	R 25 (0%)
Education	R 1 000 (3%)	R 1 000 (8%)	R 1 093 (11%)	R 600 (2%)

* Only selected items were presented here

In view of the above, it will serve no purpose to discuss and compare the different groups (A, C and D) of farmers with the FSP farmers (Group B), as they operate under completely different circumstances. Due to the nature of the data any comparison is dangerous and would almost certainly be misleading.

4.4.4.3. An evaluation of the implementation of the various FSP elements in KaNgwane

It was determined that 86.4 percent of the households are members of farmers' associations. The accessibility of the various support services provided by the Agricultural Development Corporation of KaNgwane (Agriwane) was calculated as follows: 47 percent of the households surveyed had access to credit, 86 percent

to fertiliser, 80 percent to seed, 31.2 percent to mechanization services, 26.7 percent to marketing services and 44 percent to training.

The implementation of the various elements is subsequently discussed.

4.4.4.3.1 Inputs

Agricultural inputs are provided to farmers through 22 agricultural service centres commonly known as "sheds":

Highveld region	-	5 sheds (One owned by Mashibambisane FA)
Nsikazi region	-	6 sheds (One privately owned by a FA in Hazyview district)
Nkomazi west	-	6 sheds
Nkomazi east	-	5 sheds

It should be emphasised that these service centres do not perform functions typical of an agricultural co-operative. The service centres are not linked to the provision of mechanisation services and do not play a role in the marketing of surplus produce as was intended in the project description.

In each of the areas the tribal authority allocated the site where these service centres were eventually erected. Many of these sites have a problem regarding accessibility and availability of water. Although there was sound cooperation between the tribal authorities and Agriwane, the criteria for selecting the localities for the construction of some of the service centres were not met. This is a deviation from the project description and is in most of the cases caused by the self-interest of the tribal chief.

According to Agriwane's five year programme to strengthen the farmer organizations, Agriwane will assist farmers' associations in taking over the service centres. Agriwane is therefore currently in the process of selling off all the sheds. The Mashibambisane farmers' association was the first to take over a shed when they acquired the Bettysgoed shed from Agriwane in 1989 along the lines suggested in the five year programme. Fischer, *et al* (1992) indicated how this

take-over resulted in the "shed" being the major problem for the Mashibambisane farmers' association. They realised that they could not run the shed on their own and debt incurred with Agriwane due to the take-over was a major problem. The main reason behind the problem apparently was that the shed was bought lock, stock and barrel. The farmers' association was however, unable to meet the repayments of the loan which eventually led to Agriwane not supplying any credit or stock to the Mashibambisane farmers' association. The association was therefore unable to obtain credit in order to finance purchases of new supplies for the shed. With the initial stock sold out, nothing was available to supply farmers with inputs required. Other farmers' associations were as a result complaining about the take over due to the unavailability of certain inputs from the Bettysgoed shed. The question could, however, be asked whether the new managers of the sheds were well trained to ensure a successful take-over.

Agriwane purchases inputs (eg. seed and fertiliser) in bulk at a discounted price from input suppliers and subsequently supply the various "sheds" according to their particular needs. The production inputs are sold to the farmers through the "sheds" at a predetermined price which include a mark-up above the purchase price. The mark-up on the price of the production inputs is done according to the project description. Money raised in this way is used to finance Agriwane's operations, as well as the storage costs of the various inputs. The farmers are able to purchase inputs (on credit or cash basis) in smaller units according to their needs at the service centres. The bulk purchases are thus repacked to suit the needs of the small-scale farmers. The value and tonnage of the annual fertiliser contract negotiated by Agriwane has increased since the introduction of the FS & DS programme, from 2 800 tonnes (R1,3 million) to 3 950 tonnes (R2,0 million). Although fertiliser consumption increased to a certain extent on Agriwane's projects, most of the increases can with some certainty be assigned to the FSPs.

In interviewing farmers it was determined that they sometimes (12% of farmers) buy their inputs from the nearest town since it is often cheaper than the "shed". This trend is furthermore caused by the limited stocks of agricultural inputs at these service centres. However, in the majority of cases inadequate transport and infrastructure force farmers to purchase inputs only from the "sheds".

Agriwane employs a service clerk at each of the "sheds" to manage the centre and to control the stock and sales of inputs. Each clerk keeps a record of sales and stocks. The documentation (records) from each centre is collected at the four regional offices whence it is forwarded to the Agriwane head office. The process is not computerised and it is therefore somewhat difficult to obtain data on input sales, etc. from this documentation. In addition, high employee turnover resulted in the disappearance of data/information on sales, etc at many sheds. It is therefore not possible to determine whether the implementation of the FSP in KaNgwane resulted in the greater availability of inputs or whether there were more sales and increased application inputs. Agriwane is in the process of computerising this process.

Agriwane is one of the major input suppliers in the region, but only 65.9 percent of the households in the region had access to inputs provided by Agriwane. None of the households in the survey was satisfied with and approved of Agriwane's input supply service. The majority of the farmers in group B (the FSP farmers) were satisfied with the accessibility and availability of inputs. In group C only approximately 50 percent of the respondents had access to inputs.

Virtually all (98.9%) the KaNgwane farmers made use of chemical fertiliser, while 50.6 percent of the households also used organic fertilizer or dung as additional fertiliser. Mechanical fertiliser application was used by 56 percent of the households and 55 percent used mechanical planting methods, while only 11 percent of the respondents used mechanical harvesting. The majority of the respondents (94 %) used hybrid seed, while 20 percent also used seed of traditional maize varieties. Chemical inputs like insecticides, herbicides and pesticides were used by 40 percent, 20 percent and 38 percent of the respondents, respectively.

4.4.4.3.2 Credit

The mission of Agriwane is generally viewed as "financing the development of agriculture in KaNgwane". The major goal of Agriwane is the provision of credit to farmers and farmers' associations, while simultaneously ensuring the repayment of

these loans. Agriwane therefore emphasises their role as a financial intermediary and pays particular attention to financial management to ensure the lending of funds at minimum risk.

Agriwane provides credit on a group or association basis. This implies that a loan is provided to a farmers' association rather than an individual, and that the association is responsible for the repayment of the total loan. Agriwane requires farmers to form a farmers' association before they can obtain any credit. However, an exception to this rule is sometimes made when short and medium term loans are provided to a few individual farmers farming on irrigated land or larger dryland acreages. Agriwane is reluctant to supply credit to individual farmers due to their inability to provide collateral (as security) and due to the risk of individuals disappearing. Agriwane therefore relies heavily on the pressure from the individual group members to ensure that loans are repaid.

With regard to maize production, 40 percent of the respondents indicated that they purchased maize seed and fertiliser on a cash basis. In the case of the production of vegetables, households made less use of credit, with 60 percent of the respondents paying cash for inputs. These households, however, often do not have access to Agriwane/FSP credit.

At the beginning of the production season each farmers' association applies for a production loan. This process requires the farmers' association to submit a budget specifying input needs for the coming season. After approving the loan, Agriwane provides a letter of credit to the association stating the physical quantities of the various inputs which members of the association could purchase on credit from the service centres. The management of the farmers' association allocates the approved credit facility amongst the members of the association. Each member is provided with his/her own letter of credit specifying the amounts of the various items they could purchase on credit from the service centres. This procedure ensures that the credit facility or loan is only used for productive ventures, and then only for the purchase of agricultural inputs. The on-lending procedure is therefore just a matter of book entries with no physical transfers of funds involved.

Agriwane recently decided not to provide loans to any association should less than 75 percent of the loan for the previous production year be repaid. A new loan will thus only be provided if the outstanding amount is less than 25 percent of the original borrowed amount. Agriwane provides some financial training to the farmers' associations to facilitate sound administration of these loans. Loans are provided to farmers' associations at a fixed interest rate of 6 percent, while individual loans to the members of the farmers' association are on-lended at an interest rate of 8 percent. The 2 percent "mark-up" is supposed to be used by the associations to finance the take-over of the various sheds. Agriwane also considers individual loan applications from irrigation farmers and larger dryland farmers. The interest rate charged on these loans amounts to 8 percent per annum. The difference is related to the cost of obtaining life insurance for the individual applicant. The irrigation farmers produce crops, for example sugar and cotton, which have fixed marketing channels. For them it is easier to ensure repayment of the individual loans.

Although the credit policy of Agriwane is strict, rigid and to some extent unfair to the individual farmer in the group who has repaid his loan punctually, Agriwane views the policy as effective and having a low default rate. Agriwane officials recently indicated that they are currently considering a change in their credit policy. This change in policy would make it possible to accommodate farmers who owe outstanding amounts on an individual basis. These farmers would have to be identified by the extension officers in each region. The system of group credit, however, creates a problem in this regard. It is particularly difficult to determine the individual members responsible for the outstanding debt of the farmers' association since record keeping at the farmers' associations is not of a high standard.

According to Agriwane, the farmers favour the current credit policy. This could be true in isolated cases, but there certainly is a strong negative perception of the credit policy amongst the most of the farmers surveyed in KaNgwane. For example, in a recent survey amongst farmers in KaNgwane receiving group credit, it was determined that 22 percent of these farmers did not favour the policy of group credit. Furthermore, 47.7 percent of the respondents indicated that they do

not feel responsible for the repayment of the loan of the farmers' association. From the discussion of KaNgwane farmers' major farming problems earlier (Section 4.4.4.2.3) it became evident that inadequate provision of credit is considered to be the major problem facing farmers in KaNgwane. When the respondents were asked which single restriction or constraint limits success in farming, 36.4 percent indicated credit. This again emphasises the important role the provision of credit services could and should play in agricultural development in these areas.

Agriwane was able to provide useful information on loans provided and on the repayments of the loans by the farmers' associations (See Table 4.36). Only the information of selected farmers' associations, all of which receive support under the FSP programme, is listed in Table 4.36. From the table it follows that Agriwane did not strictly apply the "25 percent rule" and only when a farmers' association was left with an outstanding balance of more than 50 percent of the loan used, no new production loan was issued. The case of the Zamani farmers' association as shown in Table 4.36 is an example.

Of some concern is the high outstanding balances on the various loans. Using the data in the table, a calculation was made to determine the default rate or the total outstanding balance in each year, calculated as a percentage of the total loan to all the mentioned farmers' associations. The results were as follows:

1987/88	8.8 %
1988/89	39.3 %
1989/90	21.9 %
1990/91	51.9 %
1991/92	49.5 %

The default rates in the last two seasons are exceptionally high but could be related to the high outstanding balance (95%) on the 1990/91 loan to the Zamani farmers' association as well as the effect of the drought in the case of the 1991/92 crop season. The fact that these figures more or less represent the typical situation in KaNgwane, gives an opposing view to that held by Agriwane, namely that the default rates on loans to farmers' associations were low. It therefore questions the principle of group lending and its apparent successful implementation in KaNgwane.

Table 4.36 : Loans and repayments of selected farmers' associations in KaNgwane

Farmers' Association	Crop Year	No. of farmers	Total Loan granted	Credit/ha granted	Loan amount used	Repayment	Balance carried over
Zamani	1987/88	27	R31 000	R155.00	R27 784.88	R25 152.61	R 2 632.27
	1988/89	28	R37 406	R187.03	R31 460.04	R12 946.60	R18 513.44
	1989/90	-	No loan	-	-	-	-
	1990/91	18	R43 972	R399.75	R42 776.35	R 2 108.55	R40 667.80
	1991/92	-	No loan	-	-	-	-
	1992/93	-	No loan	-	-	-	-
Mashihambisane	1989/90	4	R 3 200	R160.00	R 4 381.47	R 2 394.58	R 1 986.89
	1990/91	7	R 7 360	R160.00	R 6 896.67	R 3 903.41	R 2 993.26
	1991/92	6	R 7 520	R160.00	R 6 711.18	R 6 733.96	R (22.78)
	1992/93	5	R 8 990	R290.00	*	*	*
Mashibambisane	1989/90	12	R 5 920	R160.00	R 4 610.63	R 3 525.40	R 1 085.23
	1990/91	12	R 5 920	R160.00	R 5 911.74	R 4 070.56	R 1 841.18
	1991/92	6	R 5 600	R160.00	R 5 494.62	R 5 111.10	R 383.52
	1992/93	15	R26 100	R290.00	*	*	*
Vukani (Swallowsnest)	1989/90	10	R13 500	R300.00	R11 373.30	R11 373.30	R 0.00
	1990/91	10	R25 050	R501.00	R21 249.40	R17 461.48	R 3 787.92
	1991/92	10	R30 000	R666.67	R22 436.83	R10 500.00	R11 936.83
	1992/93	10	R32 716	R727.04	*	*	*

Farmers' Association	Crop Year	No. of farmers	Total Loan granted	Credit/ha granted	Loan amount used	Repayment	Balance carried over
Thutukani	1987/88	5	R 18 788	R335.50	R15 879.14	R16 492.92	R (613.78)
	1988/89	7	R 28 990	R446.00	R17 307.79	R14 146.11	R 3 161.68
	1989/90	10	R 41 905	R470.84	R27 896.20	R26 027.50	R 1 868.70
	1990/91	19	R 78 740	R620.00	R48 037.52	R28 071.44	R19 966.08
	1991/92	24	R137 600	R860.00	@	@	
	1992/93	27	R154 475	R835.00	*	*	
Juluka	1987/88	11	R 5 280	R 160.00	R 4 647.52	R 3 037.84	R 1 609.68
	1988/89	11	R25 380	R 540.00	R23 858.84	R 9 293.43	R14 565.41
	1989/90	13	R16 140	R 538.00	R15 336.60	R21 963.88	R(6 627.28)
	1990/91	11	R20 472	R 682.00	R 8 441.76	R 8 653.92	R (194.16)
	1991/92	11	R36 400	R2600.00	R18 518.15	R 4 501.88	R14 016.27
	1992/93	11	R26 330	R 877.66	*	*	*
Ingogo	1988/89	23	R10	R235.80	R 8 573.76	R 7 920.59	R 653.17
	1989/90	#	139.40				
	1990/91	#					
	1991/92	#					
	1992/93	#					
Nhlanhla	1988/89	12	R13 888	R496.00	R12 562.81	R12 530.24	R 32.57
	1989/90	12	R18 504	R514.00	R14 593.96	R 2 400.00	R12 193.96
	1990/91	#					
	1991/92	#					

* = Current loan still in operation

= No loan application received

@ = Loan not used due to drought

No loan = No loan granted

Of particular importance is the paucity of proper records and the inability to determine individual farmer's debt. Controls are consequently slack or non-existent, and farmers do not receive regular notification of outstanding debts.

4.4.4.3.3 Mechanisation

Agriwane, as well as a number of tractor contractors, provide mechanisation services to farmers in KaNgwane. In each of the agricultural regions of KaNgwane tractor associations were formed to collectively determine the rates for the various mechanisation services. Agriwane financed contractors to obtain 26 new or second-hand tractors. Loans for this purpose were provided to contractors at an annual interest rate of 10 percent. The contractors were supposed to repay the loan to Agriwane on the basis of hours worked, but many of the contractors avoided repayment by all sorts of fraudulent activities, e.g. disconnecting the chronometer of the tractor. As a result many of the contractors came into arrears, with outstanding debt higher than the initial loan. Agriwane eventually had to repossess 13 tractors and a number of implements. Twelve of these were resold to new contractors on hire purchase. The lesson learnt with the loan repayment on an hourly basis resulted in Agriwane changing its credit policy in the case of contractors to financing on a hire-purchase basis. This proved to be more successful as all the contractors were still in operation, only a few being in arrears. Only one contractor was still repaying his loan on an hourly basis; the rest had all changed to hire-purchase contracts.

Agriwane owns 30 tractors, the majority stationed at the irrigation projects under Agriwane's control, serving the needs of the farmers on these projects. Agriwane also owns and rents out implements to contractors at a predetermined daily rate. Agriwane provides mechanisation services to the dryland FS & DS farmers only when the contractors are not available, or when the contractors are not able to meet the demand in peak periods. Agriwane generally prefers not to become involved in this market. The shortage of contractors and Agriwane's reluctance to compete in this market is a major concern to many KaNgwane farmers. Furthermore, the long waiting times and delays due to breakages are also a concern to farmers. Typically rates for mechanisation services charged by some of the

contractors during 1992 were as follows:-

Plough	-	R110 per hectare
Disc	-	R70 per hectare
Plant	-	R50 per hectare

Agriwane supplies farmers with cash to enable them to pay for these mechanisation services. Repairs are generally the responsibility of the contractors themselves, but Agriwane could provide financial or technical assistance in certain circumstances. The nearest mechanic is usually contracted for repairs. Agriwane also provided training to contractors through the FS programme. This has resulted in an increase in the performance of the contractors.

4.4.4.3.4 Marketing

Agriwane only acts as facilitator in the marketing of agricultural products and never handles or stores any produce. Crops like sugar, cotton and maize have fixed marketing channels and the role of Agriwane in this regard is small and limited to the arrangement of contracts, etc. Agriwane does not control the marketing of the farmers' crops. They regard the farmers as "responsible individuals who are responsible for their own marketing". Agriwane apparently only assists the farmers when requested to do so.

The role of facilitator played by Agriwane concerns mainly the provision of four market facilities for fresh produce. Agriwane makes the necessary arrangements to ensure the availability of the site (through negotiations with tribal or local authorities), but is not responsible for the administration and coordination of the activities at these markets. Agriwane only monitors the activities and keeps record of daily sales. The markets are situated at KaNyamazane (30km outside Nelspruit), Kamaqhekeza, Schoemansdal and Kabokweni in the Nsikazi region. Typical produce traded at these markets comprises cabbage, tomatoes, beetroot, spinach, beans, onions, avocados, bananas, eggs, broilers, other sub-tropical fruit and milk. To pay for the facility and all the administrative arrangements, the tribal or local authority collects a levy of R4 per pick-up and R6 to R8 per truck using the

marketing facility. Agriwane is at present negotiating a DBSA loan to finance the building of basic structures at the market locations.

Table 4.37: Average monthly sales volumes on selected markets in KaNgwane

MARKETS	1990	1991	1992
KaNyamazane	64 619 kg	86 062 kg	78 253 kg
Kamaqhekeza	55 974 kg	105 972 kg	144 662 kg
Kabokweni	-	-	78 013 kg
Schoemansdal	62 800 kg	91 044 kg	90 234 kg

The general increase in sales at these markets is clear from the analysis of annual sales at the four locations in Table 4.37. It should, however, be stressed that not all the products are produced in KaNgwane but may be imported from other regions.

4.4.4.3.5 Extension and training

The number of farmers reached by Agriwane through the training programme is provided in Table 4.38 below. In the 1991/92 season Agriwane presented a total of 194 courses which were attended by 2 644 farmers. The extension officers employed by Agriwane and the KaNgwane Department of Agriculture pay regular visits to the farmers and the various farmers' associations. Farmers are presented with refresher courses and training in various farming and cropping techniques. Agriwane has 2 mobile training units and 1 panel-van equipped with training equipment for use at various locations in the field. Furthermore, 4 training officers are employed to present training courses on a more advanced level and in a lecture and classroom format. Demonstration plots are also used in the extension effort under the FS & DS programme. These demonstrations are especially used to illustrate the yield effects of new bird resistant sorghum cultivars and "streepsiek" resistant maize cultivars. Agriwane furthermore combine efforts with the KaNgwane Department of Agriculture in organising farmer days where information is shared with the farmers. Gatherings of up to 400 farmers at these events are quite common.

Table 4.38: Training courses presented to KaNgwane farmers

Year	No. of courses presented	No. of farmers attending	No. of farmers expected	Percentage attendance
1987/88	80	1 573	3 546	44.4 %
1988/89	137	1 834	3 948	46.5 %
1989/90	154	2 162	4 424	48.9 %
1990/91	168	2 432	4 984	48.8 %
1991/92	194	2 644	4 775	55.4 %

While 42 percent of the respondents indicated that they had access to Agriwane's training and extension programmes, none indicated that they were satisfied with the service provided. In addition, a total of 67 percent of the respondents indicated that they wanted to see the extension officer more often.

4.4.4.4 An analysis of the contribution of the FSP in KaNgwane

4.4.4.4.1 Introduction

To determine the impact of the FSP in KaNgwane, it is necessary to compare the present situation with a baseline scenario. As the latter was not done, the best alternative was to compare the situation of the FSP farmers in KaNgwane (Group B) with that of farmers not receiving any form of support (Group C). Using this classification of KaNgwane farmers as described earlier, an analysis was done to determine the significant differences between the two groups, i.e. between FSP and non-FSP farmers. This analysis was done to assess the impact of the FSP on various aspects as discussed below. The results of this analysis are summarised in Table 4.39. As indicated earlier, direct comparisons should be avoided due to the specific selection and actual composition of groups.

Table 4.39 : Differences in the means of key variables between FSP and non-FSP farmers in KaNgwane, 1991

	Respondents		Significant differences between means (p-value)
	FSP (Group B) N = 97	Non-FSP (Group C) N = 58	
Access to credit	Yes	No	0.1336
Access to inputs	Yes	No	0.0045 **
Access to mechanisation services	Yes	No	0.0000 **
Access to training	Yes	No	0.0432 *
Area dryland	3.94 ha	1.45 ha	0.0000 **
Area under maize	3.76 ha	1.28 ha	0.0000 **
Total maize production	3.92 tons	1.96 tons	0.0000 **
Average maize yield per hectare	1.04 tons	0.96 tons	0.0000 **
Maize sold	2.62 tons	1.13 tons	0.0000 **
Household consumption of maize	1.38 tons	0.98 tons	0.0000 **
Tomato production	325.94 kg	368.75 kg	0.0000 **
Quantity of maize seed used	78.30 kg	33.56 kg	0.0000 **
Total quantity of chemical fertiliser	588.58 kg	253.70 kg	0.0000 **

* = differences between FSP and non-FSP farmers are significant at the 5% level

** = differences between FSP and non-FSP farmers are significant at the 1% level

Due to the wide diversity of agricultural activities in KaNgwane and the lack of consistency in the data, it was relatively difficult to determine the contribution of the FSP. It was only in terms of the contribution to agricultural output and household income where meaningful results could be obtained.

4.4.4.4.2 The contribution of the FSP to increased agricultural output

By analysing the data it was possible to determine all the variables which differ significantly between FSP and non-FSP farmers. In considering the data presented in Table 4.39, it appears that higher yields in maize and dry bean production were obtained by the FSP farmers than by non-FSP farmers. The FSP farmers obtained an average maize yield of 1.04 tons per hectare which was significantly higher than the 0.96 tons per hectare of the non-FSP farmers ($p = 0.0000$). This could be related to the fact the FSP has access to inputs, finance, mechanisation services and extension (all the FSP elements). However, this is not necessarily the case and

thus a discriminant analysis, to determine the factors associated with increased (maize) production was deemed appropriate.

Considering the fact that there are large variations in farming activities within each of the above mentioned areas, it was decided to do a discriminant analysis involving comparable FSP and non-FSP farmers. By using maize yield per hectare, farmers were classified into groups of high (yield > 1.5 t/ha) and low yield (yield < 1.5 t/ha). A discriminant analysis was undertaken to determine the factors associated with increased production. The estimated discriminant function correctly classify 73.64 percent of the farmers in the high yielding group and 65.43 percent in the low yielding group. The error count for the classifications was 30.46 percent.

The results provided in Table 4.40 confirm that the FSP is associated with surplus producers. Access to information on maize cultivation and access to credit both relate to the FSP programme. The important contribution of the variable "own cattle" to the function is also interesting. This again stresses the importance of access to finance, savings or the ownership of liquid assets (cattle), in surplus maize production in KaNgwane. It is also clear that the FSP elements, such as credit and training, make only a relatively small contribution to increased production - it is mainly factors outside of the FSP framework that contribute to increased agricultural output.

Table 4.40 : Estimated discriminant function for high and low maize yields of KaNgwane farmers.

Explanatory variable	Standardized coefficient		Partial R ²	Significance P < F	Group means		
	High Yield	Low Yield			High yield	Low yield	Significance
Own cattle	5.088	4.555	0.4615	0.0075	1.275 *	1.567 *	0.4755
Access to information	3.255	3.712	0.1443	0.0369	1.150 *	1.309 *	0.0800
Access to credit	2.851	2.765	0.1247	0.0247	1.400 *	1.633 *	0.8304

* = dummy variable with 1 = yes and 2 = no

4.4.4.4.3 Contribution of the FSP to increased household income and improved standard of living.

An analysis of the difference in income and expenditure patterns of the FSP farmers and the non-FSP farmers is presented in Table 4.41. The table shows that the FSP farmers (group B) spend a smaller share of total household income on food and maize meal than the non-FSP farmers. This differences could partly be attributed to the FSP, which serves as an indication that the FSP households produce enough food for home consumption. Surplus funds can thus be used for other expenditures, for durables, etc. Only the difference with regard to expenditures were significant - it is therefore meaningless to discuss the differences in incomes. It is only regarding cash remittances where the non-FSP households received significantly higher amounts than the FSP households. Much of these could be directly related to and accounted for by the composition of the different groups.

Table 4.41 : Income and expenditure differences between FSP and non-FSP members in KaNgwane, 1991

Selected items	Group B		Group C		Significance (p)
	(R)	(% of total)	(R)	(% of total)	
Expenditures:					
Maize meal	1 233.30	10.98	1 165.21	12.94	0.0000
Other food	1 150.00	10.24	1 290.52	14.34	0.0000
Household exp.	1 168.34	10.41	1 172.74	13.03	0.2687
Transport	612.77	5.46	858.42	9.54	0.0006
Clothing	807.03	7.19	1 233.85	13.71	0.0000
Education	753.64	6.71	1 259.64	13.98	0.0146
Income:					
Crops	694.40	6.31	782.21	8.42	0.9126
Livestock	865.51	7.86	710.65	7.65	0.2041
Informal trade	267.71	2.43	638.06	6.87	0.0000
Occasional work	1 280.81	11.64	833.06	8.96	0.1553
Cash remittance	2 498.66	23.71	4 031.77	43.39	0.0002

4.4.4.5 Institutional aspects

4.4.4.5.1 Introduction

The institutional structure in the implementation of the FSP in KaNgwane was decided upon after discussions between the borrower (Agriwane) and DBSA. The programme was structured according to the needs and conditions of Agriwane since they were familiar with the local circumstances. Thus, the programme was designed by Agriwane in close cooperation with DBSA, taking into account the realities of agriculture in KaNgwane.

According to the project description Agriwane will have the responsibility to implement the programme and to provide management support for the KaNgwane FSP. They should recover the costs for all elements for which they are responsible by way of a net annual budgetary allocation from the KaNgwane Government and mark-up on production inputs to farmers. Agriwane will also be responsible for the implementation of the following elements and facilities:

- service centres
- mechanisation services
- irrigation equipment for small-scale farmers
- marketing
- training

According to the project description the main function of the KaNgwane Department of Agriculture in the KaNgwane FSP was to provide extension services in the specific programme localities. In addition to these functions, the Department would, through its Engineering Branch, assist in the detailed planning of the small irrigation farms.

The manner in which the programme was implemented in KaNgwane differs to some degree from the other regions. To investigate this aspect as well as to compare the implemented programme with the project description, this section provides an overview of the functioning of the institutional framework of the

programme.

4.4.4.5.2 Agriwane and the KaNgwane Department of Agriculture

The Agricultural Development Corporation of KaNgwane (Agriwane) was responsible for the implementation of the very first FSP (Agriwane also calls the programme the "farmer support and development support programme" - FS and DS) in South Africa. Agriwane was thus the first organization to borrow money from DBSA for this purpose and is currently responsible for the implementation and management of this programme in KaNgwane. The management and the implementation of the FSP is the responsibility of the Assistant General Manager: Agriculture and his two agricultural managers (respectively responsible for the Highveld, Nsikazi and Nkomazi East and West). The Department of Agriculture in KaNgwane also plays a role in the programme by the provision of extension and training services. Agriwane employs 26 extension officers, while the Department has 104 extension officers in its service. The Department generally employs qualified extension officers with at least an agricultural diploma, whereas Agriwane employs specialists with grass roots experience who knows the agricultural practices in the particular regions.

Because Agriwane provided extension services to farmers, some tension was created between the junior officials of the two institutions. An arrangement between Agriwane and the Department makes provision for the KaNgwane Department of Agriculture to be solely responsible for training and for all extension officers to be transferred to the KaNgwane Department of Agriculture. However, at the beginning of December 1992, the 26 extension officers were still employed by Agriwane.

It was found that cooperation between the two institutions was good at senior and management level. The KaNgwane Department of Agriculture has a bi-weekly management meeting. To ensure further coordination in agricultural development efforts in KaNgwane, the Assistant General Manager : Agriculture is also represented on the management committee of the Department of Agriculture. The General Manager of Agriwane and the Secretary of Agriculture in KaNgwane also

meet regularly on an informal basis to ensure close cooperation between Agriwane and the Department. Regular informal project development meetings are also jointly held to discuss project proposals.

4.4.4.5.3 Liaison Committees

The regional liaison committees between the regional officials and Agriwane and the Department of Agriculture and officials of the local agricultural union meet formally on a monthly basis. The liaison committee meetings are reportedly working well in the Nsikazi region and fairly well in the Highveld region. In the Nkomazi region the liaison committee is not meeting often and liaison is taking place on an irregular basis.

4.4.4.5.4 Farmers' Associations

There are presently 126 farmers' associations in KaNgwane. Of these, 12 associations are situated on formal project schemes but are also serviced under the FSP programme. A total of 87 farmers' associations (69%) are receiving assistance through the FSP programmes.

4.4.4.6 Summary

The evaluation of the Farmer Support Programme in KaNgwane experienced a number of problems. Firstly, the wide diversity of farming activities and the differences between and within regions made analysis and interpretation of the survey data somewhat tricky. Secondly, difficulties in identifying farmers and farmers' associations under the FSP complicated matters further. Thirdly, institutional cooperation in the evaluation process was sometimes lacking. Furthermore, general record keeping on the extent of the FSP *per se* was lacking, both with the farmers' associations as well as with the implementing agent. A paucity of useful data at the institutional level made it difficult to put the survey results in the correct perspective. These aspects resulted in difficulties in obtaining meaningful results from the analysis. Contradicting results were often obtained and for that reason different approaches as well as different angles were considered.

In this section the survey results were initially discussed. Due to the problems described above, the results were discussed in three different ways to obtain a clear picture of farming in KaNgwane and to ensure a meaningful classification of farmers in order to determine the effect of the FSP.

Using the classification of farmers in the 4 different groups it was possible to select two of the groups, i.e. FSP farmers and non-FSP farmers to be used in further analysis. In analysing the differences between these two groups it was determined that the FSP farmers have access to all the FSP elements (extension, credit, inputs and mechanization services), while these services were generally not available to the other farmers. The FSP farmers produce more maize, obtain higher maize yields per hectare, sell more maize, use more fertiliser and seed and cultivate a larger area of maize than the non-FSP farmers.

It is relatively uncertain whether the FSP contributes to increased agricultural output and improved standard of living. The results from the discriminant analysis, which was based on a limited data base, indicate that access to credit and extension make only a relatively small contribution to increased maize output. It is mainly factors outside the FSP framework, for example cattle ownership, which can be associated with increased output. However, FSP participants do achieve substantially higher maize yields per hectare than non-FSP farmers.

4.5 THE PERFORMANCE OF FARMER SUPPORT PROGRAMMES IN A DROUGHT YEAR

4.5.1 Introduction

The purpose of this section is to verify and to compare the results discussed earlier in the chapter with additional results from a second round of surveys of rural households which was done in the same target areas in Venda, Lebowa and KaNgwane during the period December 1992 to January 1993. In Lebowa, however, only the Phokoane region was surveyed. A preliminary survey in the Kadishi area showed that no new information of this area could be obtained, mainly as a result of the drought. This resulted in the exclusion of this survey area. The sample size and the number of usable questionnaires are indicated in Table 4.42. Due to the fact that the surveys were done during a drought, this information could also serve to evaluate the performance of the programme under such harsh conditions.

Table 4.42 : Summary of the areas surveyed and sample sizes

Major region	Sub-region	Sample size	Usable questionnaires
Venda	Mashamba	40	30
	Khakhu	35	30
	Total Venda	75	60
Lebowa	Phokoane	110	84
	Total Lebowa	110	84
KaNgwane	Mswati: Bettiesgoed	40	20
	Swallowsnest	20	15
	Nkomazi West: Schulzental	15	11
	Bosfontein	15	10
	Nkomazi East: Mangweni	25	20
	Albertsnek	10	8
	Nsikasi: Pienaars Trust	15	12
	Mlondozi: Steynsdorp	20	15
Total KaNgwane	160	111	
TOTAL		355	255

4.5.2 Analysis of survey results

4.5.2.1 Household composition

The composition of the households surveyed is summarised in Table 4.43, indicating the average number of persons in each household.

Table 4.43 : Mean number of household members according to age group in Venda, Lebowa and KaNgwane

Age	Venda		Lebowa		KaNgwane	
	FSP	Non-FSP	FSP	Non-FSP	FSP	Non-FSP
Children (0-4 yrs)	0.89	1.00	1.27	0.92	1.05	1.11
Children (5-9 yrs)	1.07	0.40	1.22	1.21	1.51	1.77
Children (10-18 yrs)	1.71	1.80	1.81	1.35	2.04	2.89
Adult males (19-64 yrs)	2.07	1.40	1.82	0.64	2.58	1.66
Adult females (19-64 yrs)	2.11	2.80	1.77	1.28	2.34	2.00
Adults (> 65 yrs)	0.43	0.80	0.47	0.21	0.47	0.44
TOTAL	8.28	8.20	8.36	5.61	10.00	9.87

A notable trend from Table 4.43 above is the fact that there are generally more men in the FSP households. This implies a bigger absence of men from the non-FSP households which could be related to the fact that the incidence of migrant labour amongst these households is somewhat higher. There does not seem to be a big difference in the number of children per household and this suggests that in total households have similar family labour resources. It can also be concluded that there is no difference between the household size of FSP and non-FSP households, except in Lebowa, where the non-FSP households were smaller, mainly due to the higher absence from the homestead of men between 19 and 64 years of age.

Respondents were also asked whether anybody in the household had recently stopped migratory work in order to permanently reside with the household in the specific region. In KaNgwane 21.6 percent of the respondents recently returned

from migratory work due to a variety of reasons, with retrenchment or retirement being the major ones. Only 8.1 percent of the KaNgwane respondents indicated that they had quit their previous job due to successes in the farming activities of the household and that they saw a better future in farming. In Venda and Lebowa, respectively, only 5 and 9.5 percent of the respondents indicated that they had recently permanently returned to the household. Only 1.2 percent of the respondents indicated that previous success in the household's agricultural activities contributed to the specific household member leaving his previous job.

4.5.2.2 Household income and expenditure

An analysis of household income and expenditure in the three regions was done. The results and the mean values for annual expenditures and incomes for all the surveyed households are summarised in Table 4.44. These figures should be treated with great care and circumspection due to the high variation in the data as depicted by the high coefficients of variation, as well as the relatively small number of households providing information in this regard.

The importance of cash remittances and pensions is clearly shown in the table below. It is only in the case of KaNgwane, where income from crop production also contributes significantly to total household income (76 percent of KaNgwane households indicated that they have obtained an income from crop production). In Lebowa only 21 percent of the households earned an income from crop production, while in Venda it was only 1.6 percent. This trend is partly due to the drought and resultant crop failures in Venda and Lebowa. The drought in Venda was particularly severe and this is also reflected by the fact that only one respondent (1.6%) received an income from crop production. Some farmers in KaNgwane had access to irrigation water which made them less vulnerable to the dry conditions.

The figures in the table below give a good overview of general income and expenditure patterns of rural households. It should, however, be noted that in many of the items listed in the table, only a few respondents provided the information required.

Table 4.44 : Average household income and expenditure in Venda, Lebowa, Kangwane (1992)

Item	Venda N = 60		Lebowa N = 84		KaNgwane N = 111	
	Average *	CV (%)	Average *	CV (%)	Average *	CV (%)
Income (R) :						
Crops	1200	-	696	128.7	1392	162.2
Livestock	-	-	1120	90.5	2435	121.9
Informal trade	1400	40.4	1132	116.9	2195	129.5
Land rental	-	-	106	65.8	1147	179.5
Hiring equipment	650	54.4	2252	77.2	878	168.9
Occasional work	2400	130.2	1178	86.2	1625	161.9
Cash remittance	3842	64.4	4049	95.2	2600	136.1
Pension	2738	69.7	3547	45.2	3644	31.9
Other	1031	93.0	540	40.6	5387	130.6
Expenditure (R) :						
Maize meal	895	36.2	527	101.9	1250	138.1
Other food	1639	89.5	1815	64.6	1681	87.3
Household expen	1075	101.1	1334	100.9	965	124.7
Transport	764	97.6	1051	115.1	904	105.1
Clothing	1485	87.3	847	74.2	1746	116.2
Savings	1816	108.7	2161	108.5	1598	148.7
Durables	3385	130.5	1607	60.5	2145	80.5
Farm expenses	494	107.1	661	102.4	2306	118.2
Education	968	180.1	823	127.9	562	224.9

* Average amount per household participating in the particular activity. This implies that totals cannot be calculated from this table

4.5.2.3 Farming activities

The farming activities of the households surveyed are herewith summarised under various headings. In this discussion readers should keep in mind that the survey was done during one of the worst droughts experienced in southern Africa.

4.5.2.3.1 Access to land

Respondents' access to land are summarised in Table 4.45, indicating the average size of land occupied by households. In Venda 98 percent of respondents (all except one) indicated that they have access to crop land, while the corresponding

figures for Lebowa and KaNgwane were 94 percent and 96 percent, respectively. The FSP farmers in Phokoane had significantly larger plots of land. The FSP households also planted a larger area with maize in both the 1990/91 and 1991/92 crop seasons. In Venda and KaNgwane the difference between FSP and non-FSP farmers were not so clear.

In Venda, 58 percent of the respondents have backyard garden plots, while 10 percent also have access to community garden plots. The corresponding percentages in the other two survey regions are 23 percent and 1 percent in Lebowa and 12 percent and 18 percent in KaNgwane, respectively. The lack of irrigation possibilities in Lebowa is to a large extent responsible for the almost total absence of community gardens in Lebowa.

Table 4.45 : Households' access to land in Venda, Lebowa and KaNgwane, 1992
(mean values)

Item	Venda		Lebowa		KaNgwane	
	FSP	Non-FSP	FSP	Non-FSP	FSP	Non-FSP
Cropland	1.11 ha	1.12 ha	2.32 ha	1.62 ha	5.56 ha	10.25 ha
Fallow land	-	-	-	-	-	-
Backyard garden plot	0.52 ha	0.56 ha	0.37 ha	0.19 ha	0.45	0.42 ha
Community' garden plot	-	-	-	-	-	0.69 ha

Only 1.7 percent of households in Venda rented additional land, while no land was leased to other farmers. In Phokoane (Lebowa), 27.4 percent of the respondents indicated that they rent additional land. This can be compared with the figure of 15 percent from the previous survey in 1991/2. Almost 12 percent of farmers in the Phokoane region are leasing land to other farmers. This suggests that there exists some form of a land rental market in this region. In KaNgwane only 14.4 percent of respondents rent additional land while only 6.3 percent lease land to other farmers. This again confirms the existence of an infant land rental market. In all three regions almost 50 percent of the respondents indicated that they have the opportunity to rent land or participate in some form of share cropping. The respondents indicated that there are several aspects which prevent them from using this opportunity. The main reasons mentioned in this regard are lack of available and vacant land and a lack of finance.

The majority of respondents indicated that they would prefer to have more land (Venda = 58%; Lebowa = 80% ; KaNgwane = 90%). The additional size of land required by the respondents were 1.7 ha, 2.5 ha and 12.9 ha, respectively. The range of land sizes farmers would like to have additional to their existing land, varied from 0.5 ha to 5 ha in Venda, from 0.5 ha to 9 ha in Lebowa and from 1 ha to 100 ha in KaNgwane. The main reasons for requiring additional land were given as: "to produce surpluses" (40% in Lebowa, 63% in KaNgwane, 37% in Venda) and "maintaining the welfare of the household" (23% in Lebowa, 6% in KaNgwane, 12% in Venda). The respondents who indicated that they do not want more land furnished drought, financial problems and enough land (in Lebowa) as reasons for not wanting more land .

Although this question and results may seem odd, it nevertheless reflects the conditions under which the households operate and to some extent reflects the productivity of the land and the income earning potential of agriculture. The results indicate that the KaNgwane respondents clearly notice the potential of agriculture in their region. At least 5 percent of the respondents indicated they want 50 hectares or more additional land. A further interesting aspect of the results to the open ended question, "how much land do you want?", was also noted. The respondents' answers to this question were much related to the land size they currently occupy and in general twice the size. This to some extent reflects the respondents knowledge of what size of land they are able to handle, given available capital, labour and skills and knowledge.

4.5.2.3.2 Crop production

The majority of the respondents in all the survey areas indicated that they cultivate maize. In Lebowa (Phokoane) 93 percent of households were involved in maize cultivation, while in Venda 73 percent and in KaNgwane 77 percent of the households cultivated maize. A profile on the various crops grown by households in each region is provided in Table 4.46.

Table 4.46 : Crop production in Venda, Lebowa and KaNgwane, 1992 (number of households producing a particular crop).

Crop	Venda (n = 60)		Lebowa (n = 84)		KaNgwane (n = 111)	
Maize	44	(73%)	78	(93%)	86	(77.5%)
Tomatoes	1	(1.7%)	0	(0%)	29	(26%)
Sorghum	0	(0%)	0	(0%)	1	(0.9%)
Dry Beans	1	(1.7%)	3	(3.6%)	13	(11.7%)
Pumpkins	1	(1.7%)	5	(6%)	18	(16.2%)
Potatoes	0	(0%)	0	(0%)	21	(19%)
Cabbage	1	(1.7%)	0	(0%)	26	(23.4%)
Spinach	2	(3.3%)	0	(0%)	30	(27%)
Onions	1	(1.7%)	0	(0%)	21	(19%)
Beetroot	1	(1.7%)	0	(0%)	26	(23.4%)
Greenmealies	17	(28.3%)	2	(2.4%)	8	(7.2%)
Peanuts	1	(1.7%)	0	(0%)	30	(27%)

The importance of maize production in all three regions is clearly evident from the table. An analysis of household maize production is provided in Table 4.47. It should be noted that yield figures for both crop seasons, i.e. 1990/91 and 1991/92, were recorded yields provided by respondents when interviewed during the period December 1992 to January 1993.

The impact of the drought during the 1991/92 crop season on household maize production is clearly noticeable from the yield figures presented in Table 4.47. In Venda and Lebowa yields were reduced by more than 50 percent, resulting in households barely producing enough for household needs. More or less the same area of maize was planted in response to good early season rains, but the lack of rainfall during the remainder of the season had a detrimental effect on the recorded yields in all three survey areas, but especially in Venda and Lebowa. This also impacted on the sales of maize with 89 percent of households in Phokoane (Lebowa), 98 percent of households in Venda and 87 percent of households in KaNgwane not being able to sell any maize harvested during the 1991/92 crop season.

Table 4.47 : Household maize production in Venda, Lebowa and KaNgwane

Item	Venda		Lebowa		KaNgwane	
	1990/91	1991/92	1990/91	1991/92	1990/91	1991/92
Area planted (ha)	1.15	1.19	2.09	1.91	4.03	3.79
Yield (bags *)	4.56	2.64	28.09	10.45	31.88	17.47
Yield per ha (bags)	3.96	2.22	13.44	5.47	7.91	4.60
Home consumption (bags)	4.43	2.38	11.41	4.29	14.52	9.88
Stored and milled (bags)	-	-	21.51	9.89	22.56	17.29
Additional yield statistics:						
HH's recording yield #	72%	69%	100%	95%	96%	67%
Variance in yield (bags)	1 - 23	¼ - 10	1 - 163	¼ - 60	1¼ - 360	0.6 - 225
Mode (bags) @	3	2	24	5	2½	1¼

Notes : * Bags refer to 80 kg bags
 # % of households who indicated they plant maize and eventually recorded some yield
 @ Yield per household recorded most

Table 4.47 also provides interesting statistics on the number of households who had planted maize and actually recorded some yield. The fact that so many of the Phokoane respondents in Lebowa recorded some yield despite the drought is indicative of the high agricultural potential of that specific area. One respondent in Lebowa recorded a total yield of 163 bags on 2.8 hectares during the 1990/91 season, i.e. an average yield of 58.2 bags per hectare or 4.6 tons per hectare. In the following drought prone crop season this farmer recorded a yield of 49 bags on the same acreage, a yield of 1.4 tons per hectare (a reduction of 70 percent). The yield obtained by this farmer compares favourably with that of commercial farmers. In the 1990/91 season this particular individual sold 140 bags to a local shop, one of only two respondents using this option to dispose of their surplus produce. In KaNgwane one respondent recorded a total yield of 360 bags on an area of 10 hectares, averaging a yield of 2.8 tons per hectare.

The figures in the first four rows of Table 4.47 need further qualification due to the large variance in households' maize yield as indicated in the second last row of the Table. In Lebowa, for example, the yield per household varied from as low as a quarter of a bag to as high as 60 bags per household. The impact of the drought on recorded maize yields is also clearly shown by the drop in the mode yield per household. In Venda the mode yield was reduced by 33 percent as a result of the drought. In Lebowa the reduction was 79 percent and in KaNgwane 50 percent.

From the figures provided in Table 4.46 it is evident that the KaNgwane respondents produce a much wider spectrum of commodities, albeit at a very small scale. Crops such as potatoes, onions, spinach, cabbage, tomatoes and beetroot are mainly grown in communal gardens while only a few respondents indicated that they grow these crops in their backyard garden. The majority of respondents growing pumpkins and dry beans indicated that they are grown on dry land, and presumably often intercropped with maize. A complete profile of crop and vegetable production in KaNgwane is provided in Table 4.48. The figures presented in the table are averages, but again a high coefficient of variation was found in all the calculations. The results should therefore be treated with care. In some cases respondents were able to give an indication of the area cultivated with a particular crop, but were not able to provide information on production, consumption, etc, resulting in average figures on yields, consumption and sales not always adding up.

Table 4.48 : An overview of the extent of crop and vegetable production by KaNgwane respondents (1992/93)

Crop	Area	Total Production	Own Consumption	Sold
Tomatoes	0.2 ha	8.0 boxes	1.7 boxes	6.3 boxes
No. of respondents	29	4	4	4
CV	229%	143%	125%	147%
Dry beans	4.41 ha	3.33 bags	1 bag	2 bags
No. of respondents	23	19	18	13
CV	118%	106%	116%	89%
Pumpkins	3.25 ha	53 pumpkins	34 pumpkins	10,70,170 *
No. of respondents	18	13	13	3
CV	107%	27%	79%	-
Potatoes	0.07 ha	8 bags	3 bags	5 bags
No. of respondents	21	18	18	13
CV	327%	82%	48%	93%
Cabbage	0.03 ha	5.4 bags	2.2 bags	3.2 bags
No. of respondents	26	25	25	21
CV	347%	101%	124%	117%
Spinach	0.001 ha	21.4 bundles	8.2 bundles	15 bundles
No. of respondents	30	30	30	26
CV	343%	125%	123%	130%
Onions	0.001 ha	5 bags	1 bag	4 bags
No. of respondents	21	21	21	18
CV	132%	91%	49%	97%
Beetroot	0.001 ha	5.5 boxes	2.5 boxes	3.8 boxes
No. of respondents	26	25	25	19
CV	446%	76%	120%	88%
Green mealies	1.5 ha	20, 45, 120 bags *	20, 40, 45 bags *	-
No. of respondents	8	3	3	-
CV	106%	84%	37%	-
Peanuts	1.57	7.8 bags	2.7 bags	6.8
No. of respondents	30	16	16	12
CV	93%	182%	101%	200%

Note : Number of respondents refer to respondents from the 111 respondents who cultivate the particular crop

* Actual figures provided by respondents to illustrate the variation.

4.5.2.3.3 Livestock production

It is often said that livestock play an important role in the semi-pastoralist system of rural households in South Africa. The survey results indicate that the occurrence of households keeping livestock is not high and that less than 50 percent of households keep cattle, for example. This is clearly shown in Table 4.49.

Table 4.49 : Number of households keeping livestock, 1992.

Livestock	Venda	Lebowa	KaNgwane
Cattle	31 %	42 %	52 %
Goats	20 %	40 %	34 %
Chickens	38 %	58 %	51 %

In Venda ownership of cattle per household varies between 2 and 35 head, with 79 percent of the households keeping cattle, owning between 3 and 12 head per household. In Lebowa ownership ranges between 1 and 40 with 80 percent of households keeping between 3 and 12 head of cattle. One case of a herd of 40 cattle was recorded. From the figures in Table 4.49 it also follows that cattle ownership in KaNgwane is much higher than in the other areas surveyed. This is also reflected in the fact that more than 10 percent of the households own 30 head of cattle or more. The five largest herds in the sample were 40, 50, 68, 75 and 90, respectively. The majority of the respondents own between 5 and 30 head of cattle.

The limited extent of livestock production in the survey areas was also evident from the survey results. The drought had a severe impact on the mortality rate of livestock especially in Lebowa and KaNgwane. Sales of livestock are particularly low, with only 2 respondents in Venda (3.33%) selling an average of 2 head of cattle. In Lebowa only 4 households (4.7 percent) sold on average between 1 and 2 head of cattle. In KaNgwane the corresponding figure is 14 percent, with households selling on average 4 head of cattle. The ownership of cattle is higher in KaNgwane and also the occurrence of sales of livestock. In KaNgwane cattle were mainly sold to butchers, while neighbours/friends and auctions were to a lesser degree used as a marketing channel. Households slaughtered on average 2

heads of cattle for various purposes (i.e. own consumption, feasts, etc), while on average 3 head of cattle were used for lobola.

In Lebowa the survey results indicate that the FSP farmers owned on average more cattle (6 versus 3) than the non-FSP farmers. This probably confirm the suspicion of some commentators that the households participating in the FSP programme are often the wealthier households, with more cattle and larger savings accounts.

4.5.2.3.4 Farming constraints

Due to the drought in 1991/92 it was expected that the respondents would highlight low rainfall as the aspect that restricts their farming operations the most. This is shown in Table 4.50. Some farmers also viewed the shortage of mechanisation contractors as a major constraint, especially in peak times. Lack of finance was also seen by a number of respondents in each of the three regions as a factor restricting their farming operations.

Table 4.50 : Major farming constraints experienced by respondents in Venda, Lebowa and KaNgwane, 1992

FARMING CONSTRAINT	VENDA (% of respondents)	LEBOWA (% of respondents)	KANGWANE (% of respondents)
Drought	65%	28 %	46 %
Lack of finance	5%	14 %	17 %
Lack of mechanisation	-	15 %	11 %

4.5.3 An analysis of certain elements of the FSP

4.5.3.1 Credit

Certain aspects of credit provision to rural households for agricultural purposes were touched upon in this survey. Respondents were asked about their preference for the payment of their production loan. Most of the respondents prefer their loan payment in the form of a letter of credit. The only difference was in KaNgwane where the majority of respondents (44%) preferred to have their loan paid out in cash. This is something institutional lenders would probably not consider as these loans will often be used on consumption and non-productive items.

It is well known that Agriwane provides credit to KaNgwane farmers through group loans. More than 85 percent of the respondents interviewed in KaNgwane were members of these groups. However, only 67 percent of the KaNgwane respondents favoured the practice of group lending. Only 50 percent of the members of these groups are seen as committed to repayment of the group's loan at the end of the production season. Only 34 percent of the respondents were of the opinion that they were negatively affected by the group lending scheme. The main reason (58%) cited by these respondents, was that all the group members are punished if one member fails to repay his/her share of the loan.

Credit to Lebowa farmers was provided on an individual basis, with group lending in a few cases (4%). In Venda 45 percent of the respondents indicated that they were members of such groups, while 62 percent were in favour of provision of credit through farmer groups.

The accessibility of credit to surveyed households improved in Lebowa since 1989, with 71 percent of households having access to credit in 1991/92. No improvement since 1989 was, however, noted in Venda and KaNgwane with only between 40 and 50 percent of the households indicating that they have access to institutional credit provided via co-operatives or farmers' associations. The average loan provided to KaNgwane farmers was considerably higher than the loans provided to Lebowa and Venda farmers. This is related to the larger size of the

operation of the KaNgwane farmers.

Table 4.51 : Credit accessibility and loan size (1989 - 1992).

Year	Venda N = 60			Lebowa N = 84			KaNgwane N = 111		
	Access * (%)	Loan # (R)	Repay- ment @ (R)	Access * (%)	Loan # (R)	Repay- ment @ (R)	Access * (%)	Loan # (R)	Repay- ment @ (R)
1989	33.3	290.00	290.00	16.7	669.07	450.00	48.6	2252.44	2062.38
1990	21.7	314.60	303.00	38.1	566.62	591.33	57.0	4017.82	1927.60
1991	40.0	370.20	395.00	58.3	534.60	442.38	34.0	2513.59	2379.41
1992	40.0	372.91	61.93	71.4	417.68	198.96	40.0	2993.66	2750.08

- * % of respondents having access to production credit
 # Average loan per respondent
 @ Average amount repaid by respondents

The information in Table 4.52 suggests the limited use of informal sources of finance in the financing of agricultural production. It is clear from the table that there is a strong reliance on institutional credit and/or cash to purchase agricultural inputs. This is contrary to the belief that institutional credit typically accounts for a relatively small portion of total credit used in agriculture, while the bulk comes from private moneylenders. On the other hand, the fact that the surveys were done in regions where support programmes were implemented, and because the majority of the respondents were FSP members, it was expected that the results would show a high usage and availability of institutional credit.

Table 4.52: Sources of finance for the purchase of inputs (1992).

Source	Venda			Lebowa			KaNgwane		
	Fertiliser n = 56	Seed n = 53	Ploughing services n = 50	Fertiliser n = 77	Seed n = 74	Ploughing Services n = 68	Fertiliser n = 111	Seed n = 111	Ploughing services n = 108
Co-op	82%	81%	80%	83%	84%	78%	-	-	-
Cash	16%	17%	18%	12%	12%	16%	58%	57%	52%
Assoc	-	-	-	-	-	-	42%	40%	36%
Savings	-	-	-	-	-	-	-	1%	1%
Stokvel	-	-	-	-	-	-	-	-	-
Family	2%	2%	2%	1%	1%	2%	-	2%	11%
Cattle	-	-	-	-	-	-	-	-	-
Other	-	-	-	4%	3%	4%	-	-	-

Only 35 percent of the respondents in all three regions indicated that participation in the support programme resulted in them having more debt than before. The financing of crop production during and after the 1991/92 drought can best be summarised by the following table (Table 4.53). Farmers in Lebowa and Kangwane were the only farmers receiving a drought subsidy from their respective governments.

Table 4.53 : The impact of the drought on financing of crop production by respondents

Percentage of households:	Venda	Lebowa	KaNgwane
who had to repay loans despite crop failure	45 %	45 %	27 %
who were able to repay loans	27 %	71 %	48 %
who were able to get new loans for the next crop year despite defaulting old loan	40 %	8 %	40 %
who owe more as a result of drought	30 %	19 %	27 %
who received a drought subsidy	0 %	81 %	51 %
Average drought subsidy per household (R)	R 0	R 209 *	R 2551.09

* The majority of respondents indicated that they have received a subsidy worth 50 percent of their total input costs. The amount differed between respondents but the average subsidy was around R209.

4.5.3.2 Inputs and mechanisation services

The availability and affordability of agricultural inputs were analysed. The results are summarised in Table 4.54 below. From these results it can be concluded that the majority of the respondents had access to fertiliser and seed. The respondents viewed the inputs as generally affordable. It was also determined that 58 percent of the respondents have changed to a different type of fertiliser since the introduction of the FSP. Only 35 percent of the respondents indicated that they are still using manure to fertilise their crops, although they use much less than before the FSP. The use of farm manure as fertiliser is much higher in KaNgwane where 61 percent of the respondents indicate that they do use farm manure. This could be related to the higher cattle ownership of cattle in KaNgwane. In Lebowa the

occurrence was much lower, with only 26 percent of the respondents using manure. Almost all (93%) of the respondents indicated that they make use of hybrid seeds, while only 55 percent make use of chemicals such as pesticides and herbicides. Fertiliser and seed are mainly purchased at co-operatives and service centres.

Table 4.54 : Input availability (% of households responding positively)

	Venda			Lebowa			KaNgwane		
	Available	Affordable	Credit Available	Available	Affordable	Credit Available	Available	Affordable	Credit Available
Fertiliser	90 %	92 %	82 %	91 %	81 %	75 %	97 %	90 %	43 %
Seed	93 %	95 %	83 %	92 %	82 %	71 %	96 %	92 %	45 %
Chemicals	58 %	58 %	60 %	31 %	32 %	30 %	84 %	84 %	41 %
Ploughing Services	93 %	92 %	82 %	93 %	75 %	69 %	93 %	91 %	42 %

Information on the usage of inputs by respondents was also obtained. This is summarised in Table 4.55 below.

Table 4.55: Amount of inputs (for maize production) purchased during 1990/91, 1991/92 and 1992/93 (per hectare).

	Venda			Lebowa			KaNgwane		
	1990/1	1991/2	1992/3	1990/1	1991/2	1992/3	1990/1	1991/2	1992/3
Fertiliser	98 kg	82 kg	80 kg	154 kg	165 kg	179 kg	136 kg	139 kg	141 kg
Seed	10 kg	12 kg	9 kg	9.5 kg	10 kg	10.5 kg	16 kg	19 kg	19 kg
Ploughing Services *	R320 #	R350 #	R352 #	R119	R136	R187	R145	R149	R186

* Amount paid for ploughing services in Rand per hectare.

Payment for fertiliser and seed are included in the mechanisation service package.

The figures in Table 4.55 indicate that the farmers are applying fertiliser and seed strictly according to the recommended application rates. This partly explains the low variation between different years. The drop in the average quantity of fertiliser applied by Venda farmers is related to a change in the fertiliser recommendations provided by the extension officers. The recommended application rates were revised after the 1990/91 season from as much as 100 kg to only 80 kg per hectare.

4.6 VERIFYING THE RESULTS BY COMPARING THE RESULTS OF THE FIRST AND SECOND SURVEYS

In this section results from the two surveys are compared for certain important criteria. The purpose of this exercise is to put the results of the second survey into perspective and to distinguish discrepancies. Given the fact that the first survey was done during a normal agricultural year, and the second survey during one of the worst droughts in southern Africa, this section adds additional information to Section 4.5 in determining the impact of the drought on the households in the survey area. A complete analysis could not be done due to the fact that the same questionnaire was not used in both the surveys. It was therefore only possible to compare certain key criteria that were covered in both questionnaires. This analysis was done for all three survey areas and the results are discussed individually.

4.6.1 Venda

A comparison of the average figures for certain key items of the two surveys in Venda is presented in Table 4.56. From the information presented in Table 4.56 it is evident that the mean figures for area cropland and the area planted with maize are similar in both the surveys. The impact of the drought is clearly reflected in the maize yields as well as the number of respondents selling surplus maize, which was down from 31 respondents or 34 percent to only 1 respondent or 1.6 percent in 1992. The impact of the drought on the households' inability to repay their production credit is also clearly shown in the table below.

In analysing yield figures and sales of maize of FSP households it was found that the drought had a similar impact on FSP households. This was expected because the majority of the households in both surveys were FSP participants. These households are just as vulnerable (or may be more) to severe drought conditions.

Table 4.56 : Comparison of key items between the 1991 and 1992 surveys of rural households in Venda (Average figures)

Item	1991 survey (1990/91 crop season) (n = 91)	1992 survey (1991/92) crop season (n = 60)
Household size	6.2	8.3
Cropland	1.10 ha	1.12 ha
Area planted with maize	0.96 ha	1.11 ha
Total production of maize (80kg bags)	10.6 bags	2.6 bags
Quantity maize sold (80kg bags)	3.1 bags (n = 31)	4 bags (n = 1)
Crop income	R117 (n = 28)	R144 (n = 1)
Average number of cattle	3	10
Average number of goats	1	5
Average number of chickens	5	9
Credit : Loan amount	R213.70	R372.91
Amount repaid	R199.70	61.93
Amount outstanding	R11 (n = 7)	#
Inputs : Seed	25.35 kg	13.92 kg
Fertiliser	114.07 kg	98.33 kg
Expenditure on all food (Rand per month)	R140	R211
Farming constraints	Lack of fencing (1) Land shortage (2)	Drought (1) Lack of finance (2)

The average outstanding amount of respondents in this survey could not be calculated, but it was found that 18 respondents (30%) were not able to repay their loan and owe more as a result of the drought.

The farmer support philosophy has much to do with ensuring access and availability to a number of elements. It is therefore necessary to consider the improvement in the availability of agricultural inputs, i.e. seed, fertiliser and chemical sprays as well as the availability and access to credit and extension services. This is done by comparing households' perceptions of the availability and access to the various elements as tested in both surveys. This analysis is summarised in Table 4.57.

The figures in Table 4.57 suggest an improvement in the general availability of farming inputs and mechanisation services from 1991 to the end of 1992. Although 84 percent of the respondents indicated that they had access to credit facilities, only 40 percent of the respondents made use or were able to make use

of the facilities during the 1991/92 season.

Table 4.57 : The availability of inputs, mechanisation services, credit and extension to households in Venda, 1991 and 1992 (% of households responding positively).

Item	1991 (% of households)	1992 (% of households)
Inputs :		
Fertiliser	76%	90%
Seed	76%	93%
Chemical sprays	2%	58%
Mechanisation services	71%	93%
Credit	75%	84%
Extension services	80%	83%

4.6.2 Lebowa

Like the analysis in Venda, the results of the first and second survey of households in the Phokoane region of Lebowa was also compared with the same purpose in mind. The comparison of key items from the two surveys is summarised in Table 4.58.

The mean figures on household size, land holding and area cultivated are more or less consistent for the two surveys. The effect of the drought is particularly noticeable by the difference in maize yields and also the lower number of respondents being able to sell maize. The yield reduction as a result of the drought resulted in households needing to buy more maize than in the 1990/91 season. This is due to the fact that the majority of households were unable to produce enough maize for their own needs. This is clearly manifested in the higher household expenditure on maize meal as indicated in Table 4.58. Since FSP households are the majority in each of the sample surveys, it is expected that the impact of the drought on these households would be similar.

Table 4.58 : Comparison of key items between the 1991 and 1992 surveys of rural households in Phokoane (average figures).

Item	1991 survey (1990/91 crop season) (n = 92)	1992 survey (1991/92) crop season (n = 84)
Household size	7.7	7.9
Cropland	2.55 ha	2.23 ha
Area planted with maize	2.14 ha	1.91 ha
Total production of maize (80kg bags)	34 bags (2.7 tons) *	10.5 bags (0.8 tons) **
Quantity maize sold (80kg bags)	8 bags (n = 23)	12 bags (n = 9)
Credit : Loan amount	R534.60	R417.68
Amount repaid	R442.38	R198.96
Inputs : Seed	20.89 kg	18.94 kg
Fertiliser	210.73 kg	315.07 kg
Maize meal expenditure (Rand per annum)	R184.14	R527.51
Expenditure on all food (Rand per annum)	R760.74	R1 815.94
Farming constraints	Drought (1) Soil erosion (2)	Drought (1) Lack of finance (2)

* 93 % of respondents in the 1991 survey, recorded some yield during the 1990/91 crop season

** 95 % of respondents in the 1992 survey, recorded some yield during the 1991/92 crop season as opposed to 100% of the same group recording a maize yield in 1990/1.

In comparison with the results of the 1991 survey at Phokoane, the results of the 1992 survey indicate that the households in the latter survey viewed the various elements of the FSP as less available as was the case with the respondents in the 1991 survey. This is shown in Table 4.59. It is only the access to mechanisation services which was higher amongst the households surveyed in 1992. Because the two surveys did not necessarily cover the same households, it is impossible to make any conclusions from the results regarding the availability of the various support elements. It was noted that there was an improvement in respondents' access to credit. This was done by asking respondents in the 1992 survey to indicate whether they had access to credit facilities in the previous season, 1990/91. Only 58 percent of the respondents indicated that they had access to credit facilities in the previous season. This had increased to 71 percent of households being able to obtain production credit for the 1991/92 crop season.

Table 4.59 : The availability of inputs, mechanisation services, credit and extension in Lebowa, 1991 and 1992 (percentage of households responding positively).

Item	1991 (% of households)	1992 (% of households)
Inputs : Fertiliser	97%	91%
Seed	98%	92%
Chemical sprays	84%	31%
Mechanisation services	87%	93%
Credit	84%	71% *
Extension services	97%	70%

* Only 58% of the households interviewed in 1992 had access to credit during the previous crop season 1990/91. (see Table 4.51).

4.6.3 KaNgwane

The results of the sample surveys of 1991 and 1992 in KaNgwane are compared in Table 4.60. This brief comparison provides some interesting results. The consistency in some of the results despite the diverse groups of respondents is especially noteworthy. Estimates for household size, land holding size and area planted with maize, were more or less in the same range, whereas the average figures for expenditures on maize meal and other food are virtually the same. The drought impacted severely on households' surplus maize production which is normally sold. In the 1991 survey, 80 percent of the respondents were able to sell surplus maize while only 13 percent of the 1992 respondents were able to sell maize. Despite the drought 75 percent of households still managed to earn an income from crop production, mainly from selling vegetables produced under irrigation in community and homestead gardens. Income from livestock sales was higher in the 1992 survey, probably as a result of increased sales by the few large livestock owners in the region due to the dry conditions and deterioration of the condition of animals.

Table 4.60 : Comparison of key items between the 1991 and 1992 surveys of rural households in KaNgwane (Average figures)

Item	1991 survey (1990/91 crop season) (n = 176)	1992 survey (1991/92) crop season (n = 111)
Household size	8.5	10
Cropland	3.5 ha	5.9 ha
Area planted with maize	3.1 ha	3.8 ha
Total production of maize (80kg bags)	47 bags (3.8 tons)	17 bags (1.4 tons)
Quantity maize sold (80kg bags)	36 bags (n = 105)	10 bags (n = 15)
Crop income	R4389 (n = 140)	R1392 (n = 84)
Livestock sales	R723 (n = 50)	R2435 (n = 19)
Maize meal expenditure (Rand per annum)	R1126	R1250
Expenditure on all food (Rand per annum)	R1389	R1681
Farming constraints	Inadequate credit (1) Drought (2)	Drought (1) Inadequate credit (2)

Earlier analysis of the KaNgwane survey results revealed that respondents cultivate a much wider variety of crops than in Venda and Lebowa. In the following table (Table 4.61) a comparison is made between the 1991 and the 1992 surveys to see whether there is a difference in the variety of crops cultivated between the two groups of respondents.

Table 4.61 : Crops grown by KaNgwane households, 1991 and 1992 (% of respondents).

Crop	1991 Survey (n = 176)	1992 Survey (n = 111)
Maize	100.0%	77.5%
Tomatoes	12.5%	26.0%
Sorghum	1.7%	0.9%
Dry Beans	26.7%	11.7%
Pumpkins	17.0%	16.2%
Potatoes	17.0%	19.0%
Cabbage	22.7%	23.4%
Spinach	18.7%	27.0%
Onions	20.5%	19.0%
Beetroot	11.9%	23.4%
Greenmealies	7.4%	7.2%
Peanuts	14.2%	27.0%

The number of respondents in each of the surveys growing a particular crop is fairly consistent between the two surveys. The only differences were noted in the number of respondents growing field crops on dry land, such as maize and dry beans. The drought conditions could partly explain this difference.

In a further effort to compare results between the two surveys, the availability and accessibility of the various FSP elements are compared. Table 4.62 shows that the 1992 group of respondents indicated higher availability of most of the elements, except for credit, to which less households had access to.

Table 4.62 : The availability of inputs, mechanisation services, credit and extension to households in KaNgwane, 1991 and 1992 (% of households responding positively).

Item	1991 (% of households)	1992 (% of households)
Inputs : Fertiliser	86%	97%
Seed	86%	96%
Chemical sprays	67%	84%
Mechanisation services	70%	93%
Credit	47%	40%
Extension services	66%	69%

4.7 HOUSEHOLD PERCEPTIONS OF THE FSP

Criticism often expressed against the procedure of evaluating the FSP, is the lack of participation by the beneficiaries of the FSP in the evaluation of the programme. It is often stated that they would be more than able to determine whether the programme is effectively achieving its aims and meeting their needs. A call is therefore made for greater participation by rural households in this process.

In addressing this concern, a special effort was made to consult leaders of various farmer groups and associations to determine their perceptions of the working and implementation of the FSP (See Kirsten *et al*, 1993 for details). To add further perspective on this, a number of questions were included in the second questionnaire to determine the households' perceptions of the FSP. Households' perception of the FSP's contribution to food supply and improvement of the households' general welfare were tested through the inclusion of the following questions:

Since joining the FSP, were you able to :

- produce enough food for the household?
- buy new clothes for your family?
- pay for children's education?

Are you better off than before joining the FSP?

The responses of the households to these questions are summarised in Table 4.63. The results in the table speak for themselves and need no further elaboration. It is, however, evident that the KaNgwane FSP has failed the "acid test", while the households in the other regions have mixed perceptions of the contribution of the programme to improved living conditions. The households in the Phokoane region of Lebowa have a strong positive view regarding the FSP's positive contribution to increased food production.

The respondents were asked to indicate which aspect of the programme they view as very important in their farming operation. As indicated in Table 4.63 the majority of the households in all three regions viewed mechanisation services as the most important aspect in their farming operation. In an analysis of all the respondents in all three regions the various elements were rated in the following order: mechanisation, inputs, credit, marketing and training/extension. It is interesting to note that the KaNgwane respondents considered credit as the least important element. This should be put against the emphasis placed by Agriwane on the provision of credit to farmers in KaNgwane, which to some extent corresponds with the views of the respondents regarding the impact of the FSP.

Table 4.63: Households' perception of the FSP (% of FSP households)

	Venda	Lebowa	KaNgwane
Number of FSP households interviewed	48	70	95
1. Help to provide enough food	61.8 %	81.4 %	32.6 %
2. Able to buy new clothes	47.2 %	60.0 %	21.0 %
3. Able to pay for education	52.7 %	72.8 %	31.5 %
4. Improved living conditions	56.4 %	77.1 %	17.8 %
5. Most important FSP element	Mechanisation	Mechanisation	Mechanisation

Respondents were also asked whether the FSP has assisted them in making a profit from farming. The number of households responding positively to this question was as follows:

Venda : 65 %
 Lebowa : 76 %
 KaNgwane : 18 %

These figures give a clear indication of the households' perception of the FSP which to some extent reflect the success or failure of the FSP's in the three regions. It also confirms the results presented in Table 4.63.

4.8 THE COST OF IMPLEMENTING FARMER SUPPORT PROGRAMMES

Another criticism often expressed against the FSP as an agricultural development strategy, is that the programme is expensive. It has been described earlier that the FSP was introduced as an alternative to the costly and often capital intensive agricultural projects which were implemented in many of the less developed areas of South Africa. Van Rooyen (1993) calculated the costs of FSPs in comparison to traditional farmer settlement models (Table 4.64). Apart from these rough estimates (largely based on information from DBSA's loan book) no other estimates of the real costs (recurrent costs, depreciation on assets, etc) were done. This section therefore endeavours to fill this gap and to provide some basis on which criticism on the cost of the programme can be rejected.

Table 4.64 : Relative costs of the Farmer Support Programme as opposed to traditional farmer settlement models

Item	Settlement Models		Farmer Support Programmes	
	Irrigation	Dry land	Irrigation	Dry land
Total fixed cost per ha	R 25 264	-	R 6 576	R 350
Annual variable cost per ha	R 6 063	-	R 2 922	R 750
Fixed cost per farmer	R194 533	R 80 848	R 4 885	R 367
Variable cost per farmer (p.a)	R 48 685	R 6 200	R 2 113	R 785

Source : Van Rooyen (1993 : 10)

Since the DBSA's shift towards FSPs in 1987 there was a decline in state and settlement projects in the DBSA loan portfolio. The decline in the overall cost of DBSA's annual agricultural loan portfolio since 1987 must, according to Van Rooyen (1993), be attributed to the cost savings per farmer associated with the FSP approach as indicated in Table 4.64. DBSA's agricultural loan provisions therefore reach an increased number of beneficiaries with less financial outlay.

Many of the various support elements of the FSPs are financed through DBSA loans to a number of implementing agents, as is indicated in Table 4.65. Other role players such as the various governments and their implementing agents (agricultural development corporations), contractors, farmers and the private sector also make

some contribution to the funding of the FSP elements. DBSA provides the major share, namely 67.8 percent. The largest share of the funds went to financing of infrastructure and marketing (38.6%) and moveable assets (29%). The financing of production inputs received 26.5 percent of the funds while extension and training attracted only 2.6 percent of the funds budgeted for the FSP over the period 1987 to 1991. These funds were mainly used for general infrastructure and equipment for the extension effort. The extension function remains largely the responsibility of the homeland governments rather than the implementing agent in each of the three cases examined in this chapter.

Table 4.65 : Financial contribution towards investment in the various FSP support elements (1987 - 1991)

	Training and Extension	Production Inputs	Infrastructure and Marketing	Moveable assets	Policy and Preparation Assistance	Total	%
DBSA	R1 074 946	R32 277 878	R45 092 604	R23 837 680	R 1 736 299	R104 019 407	67.8
Contractors *	0	R 120 467	0	R 276 655	0	R 397 123	0.3
Private Sector	0	R 2 004 964	R 1 675 914	0	0	R 3 680 878	2.4
Farmers	R 44 633	R 6 954 544	R 87 251	R 7 395 760	0	R 14 482 188	9.4
State/Quasi state	R2 941 043	R 2 347 085	R12 381 811	R13 045 656	R 194 963	R 30 910 287	20.1
Total	R4 060 623	R43 704 938	R59 237 580	R44 555 751	R 1 930 992	R153 489 883	100
%	2.6%	26.5%	38.6%	29.0%	1.3%	100%	

* Refers to private tractor or mechanisation contractors

Source : Van Rooyen (1993)

Van Rooyen (1993) estimated that cost recovery from farmers on infrastructure vary between 20 and 50 percent, while training and extension services are generally provided at no user charge. No defaults have been recorded yet from borrowers who on-lended funds to farmers. Before the recent drought default rates of farmers on production loans were generally relatively low. The drought and resulting crop failures changed the situation.

An estimation of the costs of the FSP requires a comprehensive and detailed effort. Each programme has to be analysed in detail to determine the extent of the programme, the various elements and role players involved, sources and application of funds, loans, etc. This is something that needs to be done quite urgently as an important facet in the evaluation of the cost effectiveness of the FSPs. For the

purpose of this section only the farmer support programmes discussed earlier will be analysed to determine the costs of the programmes in the three areas.

Before the various cost elements can be analysed some clarification is necessary since there have been several misconceptions related to the cost of implementing the FSP. The "cost" of the FSP is related to the various elements of the programme and includes therefore investment in fixed assets such as co-operative buildings, depots and sheds. The actual cost of implementing the programme therefore only includes recurrent costs incurred by the implementing agent and the homeland government in providing extension and training services as well as administration costs including salaries and transport of staff managing the programme. Often it is these overhead costs incurred by the implementing agents which are difficult to account for, since there is little information available in terms of borrowers' transaction costs, etc.

The FSP strategy consists largely of DBSA loan funds to implementing agents who on-lend these funds to farmers in the form of production credit and to contractors to provide mechanisation services to farmers. The cost incurred by the implementing agent in managing these on-lended funds are covered through an interest mark-up of around 2% and/or grants received from the government of the specific "homeland". Investments in fixed and moveable assets are largely funded through loans, the majority from DBSA. These capital investments cannot be viewed as part of the annual costs of the FSP as argued above and should be treated separately. Annual depreciation cost is the only item related to capital investments that can be included in the annual recurrent costs of the programme.

To determine the costs of the programme it is necessary to have a thorough understanding of the working and implementation of the FSP. In order to achieve this it was necessary to consult the project descriptions and loan agreements for each of the FSPs. With this knowledge it was possible to analyse the cost of the FSPs in detail. This is done in the next three sections.

4.8.1 The Farmer Support Programme in Venda

The first FSP in Venda emerged from agreement between the DBSA and the Venda government in which the ailing Venda Dryland Crop Production Project at Mashamba, Khakhu and Mulima was to be converted to a FSP. Although only Khakhu and Mashamba were analysed earlier in the chapter it was necessary to include Mulima in this part of the discussion since it forms part of the loan agreement.

4.8.1.1 Capital costs

Capital costs incurred in the process were for the construction of physical facilities and infrastructure as well as acquisition of moveable assets. These are detailed in Table 4.66.

Table 4.66 : Loan funds for physical facilities, infrastructure and moveable assets in the Venda FSP.

Item	Mulima	Mashamba	Khakhu
Physical facilities and infrastructure :			
Offices and storage facilities	R 60 950	R 60 950	R 34 500
Security fencing	R 5 750	R 5 750	R 4 600
Mechanisation sheds	R 8 050	R 8 050	R 4 140
Contingencies	R 3 738	R 3 738	R 2 162
Total	R 78 488	R 78 488	R 45 402
Moveable assets :			
Vehicles	R 21 160	R 21 160	R 2 875
45 - 58 kw tractors (6 + 6 + 2)	R372 094	R372 094	R114 977
Implements	R121 002	R121 002	R 32 373
Office equipment	R 6 130	R 6 130	R 4 405
Total	R 520 386	R 520 386	R 154 630

Source : DBSA Loan agreements

Both the items detailed in the table were funded by two DBSA loans to AGRIVEN and were specified as follows :

Loan 1 : Physical facilities and infrastructure : R 202 378 over 20 year period at 8% interest with one (1) year grace period.

Loan 2 : Moveable assets : R 1 195 402 over 10 years at 8% interest rate with three (3) years grace period.

The first loan was fully disbursed in 1989/90, while the second loan was disbursed over a three year period from 1988 to 1990.

The funds acquired for moveable assets were provided to the primary co-operatives at Mulima, Mashamba and Khakhu which purchased the necessary mechanisation equipment and vehicles to render mechanisation services. The funds were on-lended by AGRIVEN to the co-operatives but thus far the co-operatives have not repaid any of these loans although AGRIVEN might have started repaying its loan to DBSA.

4.8.1.2 Production and operational capital

DBSA also provided a third loan of R566 985 to AGRIVEN for production and operating capital which operate as a revolving credit fund for the three FSP target areas and is utilised for:

- granting of production credit to individual farmers with de facto land tenure rights for agricultural inputs and mechanisation services. No credit is granted to farmers with outstanding debts from previous seasons until such debt is fully redeemed.
- financing of operational expenses of the co-operatives with respect to the provision of mechanisation services.
- the granting of credit to individual mechanisation contractors.

In addition to the loan of R566 984 the Venda government contributed a further R724 769 towards production capital. This was largely in the form of subsidised interest on production credit and a mechanisation subsidy paid over to co-

operatives. The subsidy on production credit is transferred monthly to the co-operatives and is based on outstanding credit to farmers for production inputs. The mechanisation subsidy is based on the actual total cost of services rendered minus that amount received from farmers. According to the loan agreement it was agreed that these subsidies will eventually be phased out. In addition to production credit and the subsidies mentioned above the farmers contribute their own funds as well. In the loan agreement it was estimated that the total contribution by farmers from own funds for production inputs would amount to almost R1 million (R978 252) over the loan period of 6 years.

The DBSA loan of R566 984 for production capital is over a 6 year period at an interest rate of 6% per annum with a grace period of 6 years. The credit is on-lended to farmers at an interest rate of 9% per annum. Although the loan agreement and project description make provision for the establishment of independent entrepreneurs to provide mechanisation services to farmers, this has not taken place. Mechanisation services are still only provided by the mechanisation units of the three co-operatives and thus no credit was on-lended to any mechanisation contractors.

4.8.1.3 Determining the cost of the FSPs at Khakhu and Mashamba

With only primary and secondary data available for the FSPs at Khakhu and Mashamba it was possible to determine the per unit cost of the FSP in only these two areas. As argued earlier the use of the terminology "the cost of the FSP" is an unhappy compromise. It would be more correct to determine the cost of providing farmer support services, i.e. credit, inputs, mechanisation and extension to farmers in the Khakhu and Mashamba wards of Venda. The calculation of the per farmer and per hectare costs are also not without flaws since non-members often also make use of the services. The number of farmers purchasing inputs and paying for ploughing services are thus most likely to be more than the registered and paid-up members of the co-operatives.

Based on the latest information on farmers and area cultivated under the FSP, it was possible to estimate the per unit cost of the various cost categories related to

the implementation of the FSP. The latest information provided by Agriven (1994) differs to some extent from the information provided earlier in the study but gives an idea of the present position. Agriven estimates that there are 134 hectares arable land in the Khakhu FSP and that around 300 farmers are members of the Khakhu co-operative. In the Mashamba FSP 264 hectares are presently being cultivated with 592 members of the Mashamba co-operative.

Before doing this it should be noted that the overhead costs incurred by the implementing agent, in this case Agriven, are quite often overlooked. An effort is hereby made to allocate a share of Agriven's administration costs to the FSP. A very small staff contingent (1 permanent staff member) within Agriven are full-time involved in the farmer support programme in Venda. Account has to be taken of his costs in terms of salaries, office space and transport. Apart from this administration of loans, etc also has cost implications and has to be included. According to Agriven (1994) these costs amount to R154 000 per annum.

Apart from the various subsidies referred to earlier, the Venda Department of Agriculture and Forestry is also responsible for the provision of extension services by one extension officer in Khakhu and two in the Mashamba ward. The estimated annual cost in terms of salaries and transport is around R73 000, in the case of Khakhu, and R112 000 in the case of Mashamba.

Each of the co-operatives employs staff whom are remunerated from profits made by the co-operative from sales of goods. Mashamba co-operative is an exception, because the co-operative is managed by an Agriven employee. Agriven is therefore responsible for his salary which is included in Agriven's overhead costs referred to above. The monthly salary bill of the Mashamba co-operative's staff of 11 amounts to R3 718 and is paid from own funds. The staff of the Khakhu co-operative consists of a manager, cashier, 2 tractor drivers and 2 guards and the monthly salary bill amounts to R2 205, also paid from the co-operative's own funds. It is however, debatable whether these costs should be included in the costs of the FSP. Because the salaries and other related costs are funded by profits emanating from the FSP and the resultant farming activity, it could be argued that these jobs were actually created by the FSP and should not be viewed as a cost.

Based on the discussion above it can be argued that the cost of the FSP at Mashamba and Khakhu refers only to the recurrent cost of the implementing agent and the relevant government department involved. Farmers also do incur costs but these are in relation to their productive activity of producing crops for sale or for home consumption. It has nothing to do with the actual costs of providing the services to the farmers. For comparative purposes it is also worthwhile to calculate the capital costs of the FSP, i.e. fixed investment and moveable assets. These are however not annual costs but one-off investments in capital items necessary for the provision of services to farmers. From the figures presented in Table 4.67 it is determined that the capital costs of the FSP at Mashamba amount to R598 874 or R2 275 per hectare cultivated. In comparison the capital costs of the Khakhu FSP is R200 032 or R1 495 per hectare. As said earlier the per hectare and per farmer costs are actually somewhat lower as a result of many non-members also utilising the services.

Table 4.67 : Capital and recurrent costs of the farmer support programmes at Mashamba and Khakhu, Venda.

COST ITEM	MASHAMBA			KHAKHU		
	Total	Per hectare	Per farmer	Total	Per hectare	Per farmer
Fixed investment : # Physical facilities and infrastructure	R 78 500	R 298	R 133	R 45 500	R 339	R 194
Moveable assets : #	R 520 000	R 1 977	R 878	R 155 000	R 1 156	R 662
Annual recurrent costs:	R 275 000	R 1 045	R 464	R 166 000	R 1 238	R 709
1. Agriven :						
Overheads*	R 51 000			R 51 000		
Depreciation	R 30 000			R 10 000		
2. Venda government :						
Extension	R 112 000			R 73 000		
Subsidies	R 82 000			R 32 000		

Investment by implementing agent funded through DBSA loans (Total fixed investment)
 * It is assumed that the overheads can equally be shared amongst the three FSPs

Total recurrent costs of each of the programmes amounted to R 275 000 (R1 045/ha) in Mashamba and R 166 000 in Khakhu (R1 238/ha) and include costs of providing extension services, credit and mechanisation subsidies, the

implementing agent's administrative overheads and depreciation on capital items. It should, however, be noted that the amount allocated to moveable assets reflected in the table above refers to the tractors and implements currently owned by the co-operatives. The situation in Venda differs from the other case studies where "moveable assets" refer to loans to private contractors.

4.8.2 The Farmer Support Programme in Lebowa

The same arguments and reasoning behind the calculation of the cost of the FSPs apply to the Lebowa FSPs. The combined costs of the two FSPs, i.e. Phokoane and Kadishi will be determined due to the fact that the two target areas were treated as one programme in the loan agreement.

4.8.2.1 Capital costs

All existing buildings and moveable assets were transferred to the FSPs as part of the conversion of the maize projects at Phokoane and Kadishi to FSPs. This resulted in considerable less capital expenditure as would have been the case otherwise. The programme made provision for the upgrading and extension of the existing buildings and facilities of the two co-operatives at Kadishi and Phokoane to a total estimated amount of R115 000. The existing co-operative buildings were taken over at a book value of R 61 000, resulting in capital expenditures on fixed improvements totalling R176 000. Another capital element of the programme included the provision of credit to 29 mechanization contractors by LAC to a total estimated amount of R1 441 500.

Table 4.68: Capital costs of the Lebowa FSP.

Item	Total costs	DBSA loan
Buildings and facilities :	R 115 000	R 92 000
Mechanisation equipment :	R 1 441 500	R 1 153 200
Tractors	R 1 131 000	R 904 800
Trailers and Implements	R 310 500	R 248 400

Source : DBSA loan agreements

Both the items detailed in the table above were partly funded by two DBSA loans to LAC and were specified as follows :

Loan 1 : Co-operative facilities : R 92 000 over 20 year period at 8% interest with a two (2) year grace period.

Loan 2 : Mechanisation equipment : R 1 153 200 over 8 years at 8% interest rate with a one year grace period.

The balance of the cost of extending and upgrading the co-operative facilities amounted to R23 000 and was paid by the Lebowa government. The balance of the cost of mechanisation equipment was equally shared between LAC and the contractors, who each paid a deposit on their loan to purchase the mechanisation package.

4.8.2.2 Production credit

A further element of the programme was the granting of production credit by the two co-operatives to their members up to a total estimated amount of R836 700. DBSA funded the bulk of this credit fund through a loan to LAC of R669 360. The balance was shared between LAC and the farmers. The DBSA loan for the production credit was provided over a 6 year loan period at 6% interest rate and with a four year grace period. The production credit is operated as revolving credit funds and are utilized for:

- the granting of credit to individual farmers with de facto land tenure rights for agricultural inputs and mechanisation services needed;
- granting of credit to mechanisation contractors for fuel, parts and service of mechanisation equipment.

4.8.2.3 Determining the cost of the FSP at Phokoane and Kadishi

Like in the case of Venda the same cost items of the FSP were again identified and calculated. The same arguments also apply. Because the cost items in the loan

agreements were not allocated between the two target areas, it was not possible to determine the cost of the two programmes separately. The calculations were therefore done for the two areas combined. In Phokoane it has been estimated that 5 200 farmers are currently serviced through the FSP and make use of the co-operative's facilities and that around 6 800 hectares are cultivated in the immediate vicinity of the Phokoane co-operative. At Kadishi it is estimated that 165 farmers are served by the co-operative with around 165 hectares being cultivated (Boshoff, 1994). These figures were used in calculating the per hectare and per farmer costs.

Table 4.69: Capital and recurrent costs of the farmer support programmes in Lebowa.

COST ITEM	Phokoane and Kadishi		
	Total	Per hectare	Per farmer
Fixed investment : # Co-operative facilities	R 176 000	R 25	R 33
Moveable assets :	R1 441 500	R 207	R 269
Annual recurrent costs:	R 478 500	R 69	R 89
1. LAC :			
Overheads *	R 364 000		
Depreciation **	R 17 839		
2. Lebowa government :			
Extension	R 90 000		
Depreciation ***	R 6 661		

- # Investment by implementing agent funded through DBSA loans (Total amount)
 * Include salaries, fuel for vehicles (including extension officers' vehicle), etc.
 ** Depreciation on moveable assets and fixed improvements
 *** Depreciation on extension officers' vehicle

The overheads of the implementing agents were again included as part of the recurrent costs. These consisted of the salaries to the co-operative managers and accountants, who are all LAC employees and the salaries, transport costs, etc. of the staff compliment in LAC who are responsible for managing the FSP. The Lebowa government pays the salaries of the two extension officers who were seconded to the FSP. The other staff members of the two co-operatives are paid from the co-operatives' own funds and therefore do not relate to the total recurrent costs of the programme.

Total annual recurrent costs of the Lebowa FSP amounted to R478 500 (or R89 per farmer per year) and include costs of providing extension services, credit and inputs, the implementing agent's administrative overhead costs and depreciation on capital items. Total capital investment amounted to R1 617 500 or R302 per farmer which is considerably less than the norms for farmer settlement and other projects. It should be remembered that part of "capital investment" is included the large amount of R1 441 500 for moveable assets which are actually loans provided to private contractors to purchase tractors and implements to service the community of farmers. This means that the fixed investment component of the programme is much smaller as initially thought.

The per unit cost of the programme is furthermore also an overestimation as the number of farmers and number of hectares serviced through the programme are much higher than the registered members of the two co-operatives. Boshoff (1994) estimates that the FSP in Phokoane had reached an additional 3 880 farmers which are not recorded for. It can therefore be argued that a total of 9 080 farmers are reached/serviced or influenced by the FSP. This means that the capital costs per farmer can be as low as R178 and the annual recurrent costs as low as R53 per farmer. All these farmers were not directly serviced by the FSP in terms of extension and credit, but the diffusion of new technology and improved yields were noticed. This can be attributed to improved access to (high yielding) inputs and the informal dissemination of the "maize gospel" within the community.

4.8.3 The Farmer Support Programme in KaNgwane

The earlier analysis of the FSP in KaNgwane focused only on the first three phases of implementation of the FSP. These three phases included the construction of additional service centres; the acquisition of tractors and tillage equipment by independent contractors; the provision of production credit to farmers; the purchase of irrigation equipment and the construction of small-scale water supply systems for irrigation farmers. However in determining the recurrent cost of the KaNgwane FSP the total costs of operating the KaNgwane FSP (or FS & DS) will be taken into consideration.

4.8.3.1 Capital costs

Capital expenditure in the KaNgwane FSP relates to the construction of 13 service centres in the first phase and 8 in the second phase. Additional capital investment include the loans to 26 mechanisation contractors in FSP I and 30 in FSP II to acquire tractors and implements. Each contractor could purchase a new or second-hand tractor. He had to pay a minimum 5% deposit on the total purchase price and had to furnish R500 operating capital. The balance of the total investment was funded by a DBSA loan. A third element of capital investment in the KaNgwane FSP is the provision of medium term credit to 26 small-scale irrigation farmers to purchase irrigation equipment. Farmers will contribute a 5% deposit on the loan. The final capital item is a DBSA loan of R204 000 to be on-lended to farmers' associations for the construction of small scale water supply systems for irrigation purposes. These loans were not taken up.

Given these facts it would be wrong to consider the loans provided to contractors and farmers to acquire moveable assets such as tractors and implements as part of capital expenditure under the programme. The amounts are nevertheless included in Tables 4.70 and 4.71 but refers in fact to capital investment by individual entrepreneurs and not by the implementing agent.

Table 4.70 : Capital investment in physical facilities, infrastructure and moveable assets in the KaNgwane FSP.

Item	FSP I	FSP II	FSP III
Physical facilities and infrastructure :	R 263 000	R 45 226	
Service centres	-		-
Fencing	-	-	-
Facilities			-
Small-scale water supply systems			0
Total	R 325 000	R 45 226	R 0
Moveable assets :			
Tractors and implements	R 1 084 000	R 327 397	-
Irrigation equipment	-	R 390 000	-
Construction equipment	-	R 4 341	0
Total	R 1 084 000	R 721 738	R 0

Source : Agriwane - Actual amounts taken-up from loan facility

The items detailed in the table above were partly funded by DBSA loans to AGRIWANE and these loans were specified as follows :

FSP I :

Loan 1 : Construction of service centres : R260 000 over 20 year loan period at 8% interest with a two (2) year grace period.

Agriwane contributed R30 000 from own funds and there will be R35 000 contributed by farmers in the form of labour offered for the building of the service centre.

Loan 2 : Mechanisation equipment : R960 000 over 8 years at 8% interest rate with a six month grace period.

Agriwane contributed R240 000 to the total available credit which were on-lended to 26 contractors.

Loan 3 : Production credit : R240 000 over 6 year loan period at 6% interest with a one (1) year grace period. Agriwane will contribute R60 000 to this credit fund.

FSP II :

Loan 1 : Construction of service centres : R296 000 over 20 year loan period at 8% interest with a two (2) year grace period.

Loan 2 : Mechanisation equipment : R390 000 over 8 years at 8% interest rate with a six month grace period.

Contractors will contribute R 9 000 of the total cost as described earlier.

Loan 3 : Irrigation equipment : R741 000 over an 8 year loan period at 8% interest rate with a two year grace period.

Farmers will contribute the balance of R39 000 to the total cost of this element of the programme.

FSP III :

Loan 1 : Construction of small scale water supply systems : R204 000 over a 20 year loan period at 6% interest with a two (2) year grace period.

Loan 2 : Construction equipment : R49 000 over 20 years at 8% interest rate with a two year grace period.

4.8.3.2 Production credit

Under FSP I, DBSA provided a loan of R240 000 as part of a R300 000 revolving credit fund for the provision of production credit to farmers. Agriwane contributed the balance of R 60 000. This loan facility was also available as production credit for the subsequent phases of the FSP. The DBSA loan is again a soft loan with interest at 6% and loan period of 6 years and grace period of 3 years. The seasonal loan business of Agriwane has grown since the first loans in 1987 and during the 1993/94 production season production loans worth R10 082 000 were granted to KaNgwane farmers (Agriwane, 1994).

4.8.3.3 Determining the cost of the KaNgwane FSP

To determine the cost of the FSP in KaNgwane it was necessary to obtain management expenses and other overheads incurred by the implementing agent related to the FSPs. The KaNgwane Department of Agriculture provided an additional three extension officers to assist with extension provision for FSP I amounting to cost of R60 000 per annum. The incremental cost of extension services for FSP II was estimated at R66 000 per annum. Annual recurrent costs incurred by Agriwane in the operation of the FS & DS programme amounts to R2 374 000 (Agriwane, 1994). This includes salaries and all benefits to staff in the FS & DS programme as well as the management costs related to the FS and DS programme incurred by Agriwane head office and all functional departments (including training, marketing, finance, etc.).

To calculate the unit costs of the FSP it was necessary to obtain information on the number of farmers serviced as well as the cultivated area involved. Agriwane (1994) estimates that around 9 349 farmers on approximately 29 420 hectares make use of the various services provided under the FS & DS programme.

In calculating the capital costs only FSP I and II were considered because no loans were taken up under FSP III. For the purpose of calculating the recurrent expenditure per farmer and hectare the FSP programme as a whole was considered.

Table 4.71: Capital and recurrent costs of the farmer support programmes in KaNgwane.

COST ITEM	FSP I and II		
	Total	Per hectare	Per farmer
Fixed investment : Service centres Water supply systems	R 308 500 -	R 11 -	R 33
Moveable assets : #	R 1 815 000	R 62	R 194
	KaNgwane FSP (Total)		
	Total	Per hectare	Per farmer
Annual recurrent costs:	R2 620 000	R 89	R 280
1. Agriwane :			
Overheads *	R2 374 000		
Depreciation **	R 120 000		
2. KaNgwane government :			
Extension	R 126 000		

Refers only to loans to contractors to purchase tractors and implements.

* Salaries, benefits, administrative costs.

** Depreciation at 10% per annum on moveable assets and 4% per annum on fixed improvements

Total recurrent costs for the FSP in KaNgwane amounted to around R 280 per farmer and include costs of providing extension services, farmer training, marketing assistance, input supply, credit and mechanisation services, the implementing agent's administrative overheads, cost of debtors accounts and depreciation on capital items. The cost of fixed investments in service centres amounted to R308 500 or R33 per farmer.

4.8.4 Summary

To conclude this section it would be worthwhile to summarise the results to compare the costs per farmer of the various FSPs analysed in this chapter. This is done in Table 4.72. The purpose of this table is not to compare the cost efficiency of implementing agents but to illustrate the variation in fixed investment expenditure and recurrent costs per farmer between the three survey areas. It should be kept in mind that the figures on fixed investment are only the total amounts and not the annualized costs. On the other hand, the recurrent costs are the annual costs of the programme.

Table 4.72: The capital and recurrent costs per farmer in the FSPs of Venda, Lebowa and KaNgwane

COST ITEM	VENDA		LEBOWA #	KANGWANE
	Mashamba	Khakhu		
Number of farmers	262	234	5 370	9 350
Fixed investment	R 133	R 194	R 33	R 33
Recurrent costs (State/quasi)	R 464	R 709	R 89	R 280

Only Phokoane and Kadishi

The higher recurrent expenditure in the case of the KaNgwane FSP could be related to the larger staff and management component directly involved with the FSP. The Lebowa figures refer only to two localities i.e. Phokoane and Kadishi (but includes the LAC staff component) while the KaNgwane figures refer to the programme as implemented across the whole of KaNgwane in a total of 26 localities. This illustrates why the figures should not directly be compared.

4.9 SUMMARY AND CONCLUSIONS

This chapter presented the South African experience with the implementation of support programmes to traditional farmers in three of the less developed areas of South Africa, i.e. Venda, Lebowa and KaNgwane. The bulk of the chapter is based on the results of two rounds of surveys of households which participate in the FSP in the Kadishi and Phokoane areas of Lebowa, the Mashamba and Khakhu wards of Venda and the Mswati, Mlondozi and Nkomazi areas of KaNgwane. These findings together with an analysis of institutional aspects of the programme were used to evaluate the various elements of the Farmer Support Programme. This section provides a resumé of the findings from the major sections of the chapter.

The research that was reported in this chapter consisted of the following activities:

- Evaluation of the FSP elements implemented
- Analysis of FSP impact
- Analysis of FSP policy framework

The research consisted of three phases. The objective of the first phase was to give an overview of the position of the households and the agricultural scenario in the respective areas and to evaluate some of the FSP elements implemented. Sample surveys to obtain the information were conducted in the initial phase of the assignment. The second phase consisted of conducting interviews with implementing agents, input suppliers and contractors as the second phase of the assignment. The third phase involved a second round of household surveys to evaluate certain elements of the FSP. But due to the very dry conditions a lack of farming activities in many of the survey areas was experienced, which made the evaluation exercise not possible. This resulted in a change in objective for the third phase to monitoring the performance of the FSP under drought conditions.

In order to determine the impact or effect of the FSP, the ideal would have been to compare the situation with the FSP with the conditions experienced before the implementation of the programme. Thus, to compare the present situation with a

baseline scenario would give a clear indication of the impact of the FSP on aspects such as agricultural output, input usage, household income and food security. Such a baseline study was, however, never done as was explained in Section 4.2.

Because it was not possible to determine the impact of the FSP, the best alternative available would have been to compare FSP farmers with those not taking part in the programme, or easily identifiable as farmers not being members of the various co-operatives or farmers' associations or those not receiving extension and training or credit. By means of this process it was possible to obtain some idea of the impact of the FSP on agricultural output, input usage, household income, food security, debt levels and standard of living. However, this process also has flaws, as the non-FSP farmers might also be able to obtain access to various support services. It is therefore not possible to arrive at intended conclusions based on the differences between FSP and non-FSP farmers.

The main findings from the analysis in each of the three survey areas are discussed next.

4.9.1 Venda

The constraints experienced by Venda farmers in the target areas were identified as being:

- low local availability of agricultural inputs;
- insufficient extension and technical advisory support services;
- untimely and low level of availability of mechanisation services (winter ploughing / late planting); and
- a lack of local institutional structures to coordinate and effect input acquisition and produce distribution.

From the discussion in the chapter it can be concluded that the implementation of the FSP and the various elements of the programme, to a large degree succeeded in alleviating the mentioned constraints. Farmers who joined the FSP had improved access to inputs, extension advice was generally available to them and

mechanisation services were more available and more reliable. The farmers' appreciation of and high regard for the mechanisation services provided by the FSP co-operatives could be related to the fact that untimely and low level of availability of mechanisation services was probably the biggest constraint for many of the Venda farmers. This was further emphasised by the important contribution of this element of the FSP to increased maize production, as shown in the discriminant analysis.

The increased availability and/or improved access to an input package consisting of tillage services in combination with improved seeds and fertilisers are the elements of the Venda FSP that had the greatest impact on the agricultural situation and practice of the households. Additional analyses showed that the contribution of access to credit to improved agricultural situations was not visible. Although access to credit is to some extent linked to the input package described above, the analyses show that the impact of credit in Venda is not that great.

Although extension advice was provided to farmers in general, and also contributed to increased production, the farmers' dissatisfaction with the extension service was clearly evident from the results of the household survey. This stems to a large extent from a lack of commitment by the extension officers of the Venda Department of Agriculture and also from a lack of coordination between the Venda Department of Agriculture and Agriven. The extension officers are not responsible to the FSP programme manager and they do not report to him at all. This creates all sorts of problems, mainly in terms of total lack of coordination and accountability.

From the institutional analysis it is evident that the local institutional structure as a whole is still lacking coordination and efficiency. Some of the institutional structures established at implementation of the FSP, have disbanded or are in effect defunct. This aspect, being identified as the fourth constraint facing farmers, is clearly not resolved and it seems as if institutional inefficiencies, duplication and coordination are the major problem of the Venda FSP at present.

For a more efficient operation of the FSP in Venda, a review of the institutional framework within which the FSP operates is recommended. No institution or organization and/or committees should be involved and responsibilities assigned unless there is a clear definition of accountability by such an institution, organization and/or committee. All efforts must be aimed at closing the responsibility-accountability gap. This will comprise cutting out the "dead wood" in the FSP's institutional framework.

The FSP should, within Agriven, be accorded a higher level of managerial and organizational structure than the current sub-section in which the programme is managed. A fully fledged FSP section should be established within Agriven, manned by a team of well-qualified personnel rather than the present one-man show. All personnel involved in the FSP must, as a matter of practical rationality, fall under the supervision of a well-qualified FSP Programme Manager.

Although the implementation of the FSP in Venda seems to be generally successful, unfavourable climatic conditions, higher indebtedness and institutional inefficiencies could influence the success of the programme to a large extent.

The results of the second survey showed that the drought had a similar impact on all households in rural Venda irrespective of their access to support institutions. The disastrous drought resulted in virtually no recorded maize harvests across the board. The FSP households were particularly constrained due to their inability to repay their loans and resultant increased debt load. The drought showed that households purchasing farm inputs (such as fertiliser and new seed varieties) on credit (or cash) do have increased risk due to the sensitivity of these new maize cultivars for adverse weather conditions. A slight drop in yield would make it impossible for households to repay their debt and to feed the household.

4.9.2 Lebowa

From the surveys and analyses it appears that the success of the FSP in Phokoane is based on access to one of the FSP elements, namely extension and training. All other elements are in one or another way attached to this service. At present, it

seems as if the FSP (especially at Phokoane) is successful, but it must be stressed that this is to a great extent based on the positive influence and commitment by the LAC officials involved in the FSP.

Besides extension and training, analyses have shown that the availability and access to credit, fertiliser and seeds were major contributors to the improvement of the agricultural situation of the households in especially the Phokoane region. It was also found that in all three survey areas, size of agricultural land had the largest impact on Phokoane households' agricultural situation.

In general, it can be concluded that the implementing agents in Lebowa are determined to contribute to the upliftment of the rural population. Institutional record keeping is improving and the impression is gained that the FSP in Lebowa is successful. However, there is a lack of own decision-making by the participants and co-operatives, which indicates that the FSP, to some extent does not meet the objective of "learning-by-doing".

The FSP in Lebowa has the support of the people since it helped them to overcome their major daily problem - hunger. The FSP banished hunger by improving the food security situation in these areas and contributed to a better livelihood for thousands of households in rural Lebowa.

The institutional structure of the FSP in Lebowa is much slimmer than in Venda and there seems to be no major coordination problems as the programme is the sole responsibility of LAC. A lack of training personnel appears to be a major inhibiting factor. The dedication and commitment of the LAC officials and their two extension officers are the major factor contributing to the successful implementation of the FSP in Lebowa. The officials from LAC succeeded in bridging the cultural and communication gap between the implementing agent and the people. Although the approach is somewhat patronizing it is done in such a manner that nobody is offended.

The successful implementation of the FSP in Phokoane contradicts the difficulties experienced with the implementing of the programme in Kadishi. The success of

the FSP in Phokoane can be attributed to the personal interest of the LAC extension officers in the Phokoane area. It could also be argued that their approach was specifically designed for the circumstances in the Phokoane area and was successful due to the fact that they were always present in the area and that they viewed the programme as a personal challenge. The difficulties in Kadishi are to some extent attributed to the political division in the community and because the region is isolated from the rest of Lebowa.

The effect of the drought in Lebowa was particularly noticeable through the difference in maize yields between the two surveys and also the lower number of respondents being able to sell any maize. The yield reduction as a result of the drought also resulted in households needing to buy more maize than in the 1990/91 season. This was due to the fact that the majority of households were unable to produce enough maize for household needs. This is clearly manifested in higher household expenditure on maize meal.

In comparison to the results of the 1991 survey at Phokoane, the results of the 1992 survey indicated that the households in the latter survey viewed the various elements of the FSP as less available as was the case with the respondents in the 1991 survey. It is only the access to mechanisation services which was higher amongst the households surveyed in 1992. Because the two surveys did not necessarily cover the same households, it is impossible to determine whether there is an improvement in the availability of the various support elements. With regard to the availability of credit it was possible to get some sense of the improvement in access to credit. This was done by asking respondents in the 1992 survey to indicate whether they had access to credit facilities in the previous season, 1990/91. Only 58 per cent of the respondents indicated that they had access to credit facilities in the previous season. This has dramatically improved to 71 per cent of households being able to obtain production credit for the 1991/92 crop season.

4.9.3 Kangwane

Evaluating the Farmer Support Programme in KaNgwane proved to be the most difficult as a number of problems were experienced. Firstly, the wide diversity of farming activities and the differences between and within regions made analysis and interpretation of the survey data somewhat tricky. Secondly, difficulties in identifying farmers and farmers' associations under the FSP complicated matters further. Thirdly, institutional cooperation in the evaluation process was sometimes lacking. Furthermore, general record keeping on the extent of the FSP *per se* was lacking, both with the farmers' associations as well as with the implementing agent. A paucity of useful data at the institutional level made it difficult to put the survey results in the correct perspective. These aspects resulted in difficulties in obtaining meaningful results from the analysis. Contradicting results were often obtained and for that reason different approaches as well as different angles were considered. In this section the survey results were initially discussed. Due to the problems described above, the results were discussed in three different ways to obtain a clear picture of farming in KaNgwane and to ensure a meaningful classification of farmers in order to determine the effect of the FSP.

Using the classification of farmers in the 4 different groups it was possible to select two of the groups, i.e. FSP farmers and non-FSP farmers to be used in further analysis. In analysing the differences between these two groups it was determined that the FSP farmers have access to all the FSP elements (extension, credit, inputs and mechanization services), while these services were generally not available to the other farmers. The FSP farmers produce more maize, obtain higher maize yields per hectare, sell more maize, use more fertiliser and seed and cultivate a larger area of maize than the non-FSP farmers.

It is relatively uncertain whether the FSP contributes to increased agricultural output and improved standard of living. The results from the discriminant analysis, which was based on a limited data base, indicate that access to credit and extension make only a relatively small contribution to increased maize output. It is mainly factors outside the FSP framework, for example owning cattle, which contribute to increased output. However, FSP participants do achieve substantially

higher maize yields per hectare than non-FSP farmers. In subsequent analysis based on data from the second survey it was found that credit availability significantly contributed to the improvement of the agricultural situation of KaNgwane households.

Agriwane followed a strategy of group lending in the provision of credit for agricultural activities. Although the idea seemed to be sound, the manner in which the strategy was managed proved not to be. In interviews with farmers and farmer groups a lot of dissatisfaction was found amongst farmers around the provision of group loans. A number of groups defaulted on their loans and contributed to the dissatisfaction. The problems related to the group lending scheme, could be attributed to groups be too large and too divergent. It is important that groups under such a dispensation should be small and have similar interests and operations. This is not the case in KaNgwane.

The drought impacted severely on the KaNgwane households' surplus maize production which normally are sold. In the 1991 survey, 80 per cent of the respondents were able to sell surplus maize while only 13 per cent of the 1992 respondents were able to sell surplus maize. Despite the drought 75 per cent of households still managed to earn an income from crop production, mainly from selling vegetables produced under irrigation in community and homestead gardens. Income from livestock sales was higher in the 1992 survey probably as a result of increased sales by the few large livestock owners in the region due to the dry conditions and deterioration of the condition of animals.

Although the various elements of the comprehensive agricultural support service as stipulated in the project description were implemented, there seems to be a lack of coordination between the various elements. The approach of providing all the elements as a "package" was not adhered to. Thus, there exists no sign of a holistic approach linking all the FSP elements. The impression was also gained that Agriwane, as far as the FSP programme is concerned, is merely run as an on-lending institution working to ensure full repayment of the loans. This resulted in a lack of commitment with regard to the other elements of the FSP approach. Agriwane, however, plays an important role in providing extension and training to

farmers.

4.9.4 General conclusions

Through a comparison between the results of the first and second survey it was determined that the results are in general consistent with exception of the figures for average maize yields. The difference could to large extent be attributed to the drought. The comparison of the survey results was done to highlight the impact of the 1992 drought on respondents. The comparison of results also made it possible to show how the availability of the various FSP elements has improved or deteriorated in each of the three areas and was discussed in detail in Section 4.5.

Differences between sub-regions in each of the survey areas were also highlighted. From these results it became clear that different regions differ with regard to crop combinations (in KaNgwane), yield potential, income sources and household composition. It furthermore shows that aggregation of data ignores regional differences, which could lead to erroneous policy decisions.

Households perceptions of the FSP were also reported. The perceptions and views of the community is what ultimately will determine the success or failure of the FSP. It was therefore important to determine how communities perceive the FSP. Households in Venda had in general mixed perceptions of the contribution of the programme to improved living standards, while the KaNgwane respondents were generally not at all impressed with the contribution of the FSP. The households in the Phokoane region of Lebowa have a strong view regarding the FSP's positive contribution to increased food production. The Phokoane households in generally attributed their improved living conditions, their ability to pay for education and ability to buy new clothes to their success in farming through joining the FSP farmer groups and co-operative. From the results it became evident that the KaNgwane FSP has failed the "acid test", while the households in the other regions do have mixed perceptions of the contribution of the programme to improved living conditions, etc. The households in the Phokoane region of Lebowa do have a strong view regarding the FSP's positive contribution to increased food production.

The respondents were also asked to indicate which aspect of the programme they view as very important in their farming operation. The majority of the households in all three regions viewed mechanisation services as the most important aspect in their farming operation. In an analysis of all the respondents in all three regions the various elements were rated in the following order: Mechanisation, inputs, credit, marketing and training/extension. It is interesting to note that the KaNgwane respondents considered credit as the least important element. This should be put against the emphasis placed by Agriwane on the provision of credit to farmers in KaNgwane and to some extent this corresponds with the views of the respondents regarding the impact of the FSP.

Due to the difference between the three regions in terms of agro-climatic aspects, farming practices and institutional constraints, it is difficult to generalise on the above findings. However, the results indicate that increased real earnings in rural areas will change consumption patterns as the demand for staple foods is expected to increase less than the demand for more luxury goods such as clothing. The demand for goods produced by the household is expected to increase less than the demand for purchased goods.

In general, surplus production was associated with households who make use of FSP related services, e.g. credit. These financial measures specifically are dimensions of the income or liquidity impact on food production. As earnings from agriculture are a relatively small share of total rural earnings, income effects from non-agricultural earnings such as wage remittances are important.

Surplus producing households have greater access to financial resources. This confirmed earlier findings (*cf.* Nieuwoudt and Vink, 1989) and may be attributed to the liquidity constraint on food production where farmers with access to non-farm income are better able to invest in agriculture. The relationship between agriculture and non-agriculture is expected to be competitive as far as the labourer's time is concerned, but it could be complementary as far as other factors are concerned, i.e. where wage remittances can be an input in agriculture. It is also possible that increased earnings in agriculture will make agriculture more attractive for some members who were previously engaged in non-farm employment.

CHAPTER 5

THE FSP EXPERIENCE IN RETROSPECT AND ITS FUTURE ROLE IN A RESTRUCTURED AGRICULTURE SECTOR

5.1 INTRODUCTION

This chapter reviews the FSP experience as discussed in Chapter 4 and highlights the reasons for success or failures, as well as lessons learned in the process. The experience with the provision of the various services under the FSP is compared with the international experience discussed in Chapter 3. Although the FSP has shown some positive results in certain areas, the sustainability and viability of this approach to agricultural development in a new dispensation has to be contemplated. In view of the inevitable change in agrarian institutions the question needs to be asked: Should the FSP be continued in its present format? If yes, who is going to implement the FSP in future, and how will it fit in a single agricultural dispensation? These issues are addressed in the final section (Section 5.5) of the chapter.

5.2 THE IMPLEMENTATION OF FSPs IN VENDLA, KANGWANE AND LEBOWA: SUCCESSSES AND FAILURES

5.2.1 Introduction

It is rather difficult to judge the success of individual farmer support programmes, since the measure of success is not clear-cut. The question is therefore on what basis should success of the programme be measured? Should it be in terms of higher yields or improved household food security or increased household income or improved living standards of the community as a whole or perhaps job creation in the rural economy? In several of the earlier analyses and discussions on the FSPs it was often implicated that higher (maize!) yields were the major indicators of success. Since FSPs were often designed according to the needs of a particular

community one can argue that the sole judge of the programme's success should be the extent to which the community's needs were met.

The FSP was initiated to ensure improved access to support services for large numbers of smallholders in the less developed areas of South Africa. As mentioned in earlier chapters, the FSP approach actually is a normalisation of the agricultural support system. From this point of view the success of the programme can also be judged in terms of equitable access to resources and support services. Improved access that puts every farmer in a position to execute his or her choice and "puts the farmer in control" of his/her production activity would represent a far more logical criterium for judging its success. Farming on dry land in southern Africa is risky and it would seem unwise to judge the success of the programme only on the basis of yield and marketable output. On the other hand, it can also be argued that since large sections of rural communities live in absolute poverty and experience food insecurity, the programme would have achieved a certain level of success if improved access to services and institutions led to improved household food security.

Improved access or improved availability of services could however not be the sole criterium for determining the success of the programme. The FSP is an approach towards agricultural development and as such it can be argued that the FSP should be judged in terms of its contribution to agricultural development and broader rural development. The question needs to be asked whether the improved access to support services do assist rural dwellers to move up the "farming ladder"? Does it provide the necessary incentives and conditions for rural households to move out of a condition of absolute poverty and subsistence production into some entrepreneurial activity, albeit at a very small scale?

In the analysis of the FSP in the three target areas discussed in Chapter 4 much emphasis has been placed on evaluating the impact of the FSP in terms of increased yields, marketable output and the use of off-farm inputs. It endeavoured to evaluate the success of the FSPs from the point of view of the initial objective which envisages a change away from subsistence agricultural production to commercial production. In view of the lack of baseline studies it was the only way

to obtain some concrete indication of the impact of the FSP. This was however, not necessarily correct, especially in view of the changed objective of improving farmers' access to support services over a broad base in a sequential and evolutionary manner.

The programme's success can be tested by the community's perception of it; i.e. do they experience the programme as contributing to their basic needs and alleviating their constraints in farming. These can be regarded as a valid and important measurement of success of the programme.

The success, or the impact of the FSP can thus be viewed from a variety of angles. By keeping the above arguments in mind and basing the discussions on the analyses and results in Chapter 4, each of the FSPs are briefly considered.

5.2.2 Venda

Based on the survey data from the FSPs at Khakhu and Mashamba a number of discriminant analyses were done to determine what contribution the programme made to output and food security. It was found (as reported in Section 4.4.2.3.1) that the elements of the FSP, in particular mechanisation services and inputs, can confidently be associated with surplus producing households. It was also found that there are more surplus producing households amongst those having access to the FSP services. This also implies a greater level of food security amongst these households.

In considering the achievement of the programme in terms of improved access to support services, Table 4.57 in Chapter 4 shows how household's access to inputs has improved to a level where virtually all households in the target areas had access to, or were within reach of a supplier of fertiliser and seed. The same applied to the availability of mechanisation services, credit and extension services.

The implementation of the FSP in the two survey areas in Venda succeeded in alleviating the constraints experienced by Venda farmers such as low local availability of agricultural inputs; insufficient extension and technical advisory

support services; and an untimely and low level of availability of mechanisation services. Most of these services are provided via the co-operatives or service centres at Khakhu and Mashamba. The farmers who became members of the FSP co-operatives were very appreciative of, and had a high regard for the mechanisation services provided by the co-operatives. This could be related to the fact that untimely and low level of availability of mechanisation services was probably the biggest constraint of many farmers in these two areas. Although extension advice was provided to farmers in general, the farmers' dissatisfaction with the extension service was evident from the results of the household survey. This stems to a large extent from a lack of commitment by the extension officers of the Venda Department of Agriculture, and also from a lack of coordination between the Department and Agriven.

Although the analysis shows that the FSP made some contribution to increased maize output, it is not enough evidence to view the FSP at Khakhu as a success. Rather, the success of the FSP can be attributed to the efficient operation of the co-operative at Khakhu. The co-operative is run by members from the community and is supported and trusted by the community. The co-operative succeeds in providing support services in an efficient manner to the community. It seems, however, that the success of the FSP in the Khakhu ward is to a great extent based on the positive role and influence of the tribal chief. In Mashamba the situation is improving. Agriven is currently training a member of the co-operative to eventually run the co-operative. Previously, corruption and negative opinions of the FSP reduced its effectiveness. The fact that especially the participants and the co-operative in the Khakhu ward increasingly make their own decisions clearly indicates that the FSP can meet the objective of "learning-by-doing". It should, however, be emphasised that the effectiveness of implementation of the programme will increase if more attention is also given to the other elements of the FSP, i.e. extension and marketing.

The analysis and results in Chapter 4, farmers' relatively positive perceptions of the programme (Table 4.63), and their high appreciation for timely mechanisation services, provide a relatively positive picture of the FSP in Venda. However, things are not that rosy. A number of reports, such as Kirsten *et al* (1993) and Fischer

et al (1992) refer to institutional inefficiencies as the main weakness of the programme in Venda. From the institutional analysis provided in these reports, it became evident that the local institutional structure as a whole is still lacking coordination and efficiency. Some of the institutional structures established when the FSP was implemented, have disbanded or are defunct. This aspect, being identified as one of the major constraints facing farmers, is clearly not resolved and it seems as if institutional inefficiencies, duplication and coordination are at present the major problems of the Venda FSP.

The recent drought cast a further shadow on the potential success of the programme in Venda. The results of the second survey (See Section 4.5) show that only a few respondents were able to harvest any maize. As a result a large number of households were indebted by participating in the programme. Fischer *et al* (1992) also indicated how difficult it is for the average household in a normal to good year to produce enough surplus (maize) to be able to pay off their production loan. Maize yields in Venda are very sensitive to slight adverse changes in weather. Adverse weather conditions make it virtually impossible for subsistence households to repay their debt and access services and inputs during the following year. Extension could still be accessed, but without the other elements, production would normally not be possible. In these circumstances it can be argued that the FSP in actual fact increases risk and does not succeed in breaking the poverty cycle.

No clear conclusion on the success or failure of the Venda FSP has emerged from the discussions and analysis. A number of positive aspects were identified but the major weaknesses in terms of institutional inefficiencies, the relatively poor natural resource base, the poverty, the high risk of commercial dry land maize production in Venda, cast some doubt over the ability of the FSP to ensure a sustainable agricultural development process. Households were put at great risk by high yielding maize cultivars and the purchase of off-farm inputs on credit. Although the programme might have achieved household food security, it remains to be seen how, if ever, households will be able to repay their production loans from agricultural income. In many cases remittances or income from other sources were used to finance household food production. The programme would therefore not

necessarily lead to increased household income and improved living standards. It would thus fail to achieve many of the objectives of an agricultural development programme.

5.2.3 Lebowa

The FSP in Lebowa and particularly the FSP implemented in the Phokoane region is often seen as the success story of the FSP. Why was the success so remarkable and so widely reported? How was it achieved? Why is Phokoane such a special case? These are some of the questions that need to be addressed.

Food security was identified as the basic need of the community in the Phokoane area. In trying to address the community's needs, the FSP at Phokoane was designed with the immediate aim to increase yields. The lack of knowledge was identified as the main obstacle inhibiting increased production and the transfer of knowledge by means of extension and training was regarded as the solution to the problem. As a result the programme at Phokoane was largely extension driven with all the other elements to some extent attached to this service. The extension and training effort became a personal matter with only three (sometimes four) extension officers from the implementing agent showing personal commitment and succeeding in providing good extension to a large number of farmers in the area.

The perceived success of the programme is therefore largely attributed to the tremendous yield response resulting from the successful adoption of new cultivation methods and the use of correct fertiliser and hybrid maize varieties. A seven-fold increase was experienced after the first few years of the programme (See Section 4.4.3.5.1). Various analyses reported in Chapter 4 showed that the FSP in Phokoane has mainly, by providing good and coordinated extension, contributed to an increase in agricultural output and by that achieved the objective of the programme and also satisfied the community's needs. However, this would not have been possible if the other elements such as inputs, mechanisation services and credit were not available and efficiently provided by the nearby Phokoane co-operative and private contractors.

The extent of the success of the programme is further highlighted by a recent report by Davie (1994). Based on information from 1 200 farmers in this area provided by the implementing agent, Davie reports that in 1990 these farmers had to purchase maize meal worth R150 000 to feed their families. After completing the training programme under the FSP these farmers managed to produce maize for food worth R649 000 and sold the surplus production for R744 000 during the 1992/93 season. These figures once again confirm the earlier results reported in Chapter 4.

The success of the programme in the Phokoane area is to a great extent due to the way in which the needs of the community were met, in terms of food production. The rapid expansion of the membership of the co-operative and the adoption of the new cultivation techniques by other farmers in the region not participating in the FSP (the so-called spin-off effects from the Phokoane extension programme) are further evidence of the success of the programme. Initially the farmer groups receiving extension comprised mainly of women in their 50s and 60s. Their success in farming and their success in producing enough staple food for the household led to more and more younger people taking up farming.

Further proof of the success lies in the community's positive perception of the programme and the fact that they attribute their improved food security situation and increased yields to the "school" which taught them the "maize language". The FSP restored hope and self-confidence in the community and many farmers are proud to tell of their success in farming. Table 4.63 provided the community's perception of the FSP showing that the majority of households attribute their improved living conditions and the production of sufficient food to the FSP. It is clear that the FSP has the support of the people since it helped them to overcome hunger which was their major daily problem.

The successful implementation of the FSP in Phokoane can be attributed to a number of factors: Firstly, the Phokoane area is situated on high potential soil which is characteristic of the Eastern Transvaal Highveld, an important and high potential maize growing area. Secondly, the officials from the implementing agent succeeded in bridging the cultural and communication gap between themselves and

the people, and winning the farmers' confidence. Thirdly, and probably the major factor contributing to the successful implementation of the FSP, is the dedication and commitment of the officials and extension officers of the implementing agent. The implementing agent took sole responsibility for the extension programmes and did not rely on, or shared the responsibility with the extensionists from the Lebowa Department of Agriculture.

The successful implementation of the FSP in Phokoane contradicts the difficulties experienced with the implementation of the programme in the Kadishi region of Lebowa. The results from the Kadishi survey were not all promising and were to a large extent contradicting many of the Phokoane results. The survey in the Kadishi area proved as a whole not to be satisfactorily. Much of the difficulties in the Kadishi region are to some extent attributed to the political division in the community and are also due to the area's isolation from the rest of Lebowa. The political division often led to political unrest which, for a number of years, made it impossible to do any extension work in the area. The Kadishi co-operative was successfully established and experienced an increase in agricultural input sales annually, thus indicating increased adoption of the new technology. Kadishi's problems could also be related to the poor soil (often rocky) and generally less favourable agricultural conditions. The recent drought had a much more severe impact in the Kadishi area than in Phokoane. Phokoane farmers did manage to harvest enough maize for home consumption, while farmers in the Kadishi area experienced total crop failures.

The experience with the FSP in these two areas of Lebowa showed that a particular approach to agricultural development, designed for a specific area, is not necessary replicable in another area. The experience also shows that a good natural resource base combined with good extension and official commitment based on community needs could lead to successful agricultural development.

5.2.4 KaNgwane

In KaNgwane the reason for poor agricultural productivity was conceptualized as being a lack of access to credit. The KaNgwane FSP is therefore largely "credit-

driven". Determining the success of the farmer support programmes in KaNgwane proved to be much more difficult than in the previous two cases. Regional differences in terms of natural resources, climate and cropping patterns contributed to these difficulties. Institutional record keeping was limited and in many aspects lacking altogether. The KaNgwane FSP was furthermore introduced on a much broader front because service centres were established in 19 localities.

KaNgwane farmers are generally unfamiliar with the FSP, as well as the FS and DS programmes. To them the programme is "Agriwane" who "help" them, and they see this "help" in terms of credit and the provision of inputs. By referring to and associating the programme with credit and inputs, farmers give expression to the emphasis Agriwane places on credit in the implementation of FSP.

Although the implementation of the programme increased the availability of services such as providing inputs, mechanisation and credit, the results of the analysis do not indicate that the improved access to agricultural services have led to an increase in output and improved living standards.

The confusing, and often contradicting, results obtained from the various analyses, make it important to consider the community's perception of the programme. As was indicated in Table 4.63 the KaNgwane households generally do not view the FSP as contributing to sufficient food production and improved living conditions. This view could to a large extent be attributed to the fact that the FSP in KaNgwane was largely credit driven. Their perceptions are largely based on the working of the credit delivery system of Agriwane. The framework for the Agriwane support programme was based on the assumption of a spirit of co-operation and collectiveness within each of the farmers' associations in KaNgwane. The lack of unity and co-operation within the farmers' associations was ever present and was further aggravated by Agriwane's credit policy. The policy of collective responsibility for individual debt contributed to the division in the farmers' associations and undermined farmer cooperation. This and the resulting accumulation of debt contributed to the discredited image of Agriwane. To access any of the other services provided under the FSP the farmers had to first acquire credit, and due to the strict credit policy this was often not possible. As was

indicated in Table 4.60 the KaNgwane households still view inadequate credit provision as the most important problem next to drought.

The impression was gained that Agriwane implemented the FSP in a "top-down" fashion similar to the other projects managed by Agriwane. This was confirmed by the description of a number of case studies of farmers' associations by Fischer *et al* (1992). To a large extent everything was still done "for" the farmer and there was little done "with" or in conjunction with the farmers. A number of farmers' associations highlighted the lack of coordination of the various support elements as the major problem. Some mentioned that extension and training was lacking, while others complained that Agriwane provided credit, seeds and fertilisers, but no implements or tractors. The sharing of the extension responsibility in the FSP between the KaNgwane Department of Agriculture and Agriwane created further difficulties with conflict between the lower staff ranks creating dissatisfaction and inefficiencies.

Judging by the perceptions and views of the farmers it seems that the implementation of the FSP in KaNgwane was not a great success. One contributing factor could be the fact that the FSP was only provided to dryland farmers while the irrigation projects and farmer settlement type projects applied to irrigation farmers. These farmers received services in a different manner and often more of Agriwane's man hours are spent on these projects than on the FSP. Dryland farming in the Eastern Transvaal lowveld, where KaNgwane is located, is very risky and often not suitable for commercial maize production because of the high temperatures and unreliable rainfall.

The effort by Agriwane to improve the accessibility and availability of modern inputs by establishing a number of service centres throughout KaNgwane was courageous and needs to be commended. However, as was argued in the introduction, the availability of inputs and credit do not guarantee a successful outcome for the programme. Good coordination with the other elements, in particular extension, is necessary to ensure success. It seems as if the lack of coordination in the delivery of the various elements, the lack of good and coordinated extension, the strict credit policy and the manner in which the group

credit scheme was operated contributed to the limited level of success of the FSP implemented in KaNgwane.

5.2.5 Reasons for the variation in results

The foregoing makes it imperative that an attempt must be made to find the reasons for the variation in results between different regions. This is done below.

History in a certain way played a major role in shaping the FSP in each of the mentioned areas. Therefore, one explanation for the variation of results can be found in terms of the historical context of each area. The Venda FSP at Khakhu, Mashamba and Mulima replaced the failed Venda dryland maize project in the three areas. When the Phokoane dryland maize project failed, a worsening relationship between farmers and the Phokoane co-operative and the co-operative manager resulted. The FSP was thus an opportunity to rescue the co-operative, save the managers life and to understand the basic needs of the community. The history of the Kadishi area is one of a relocated community (forcibly removed elsewhere) and resulting in political divisions within the community and instability. The historical context of the KaNgwane FSP is not clear, except for the fact that the first FSP was implemented in KaNgwane during 1987. The FSP was initially seen as a way to provide support services to mainly dryland farmers in order to bring them on par with the services received by farmers on irrigation settlement farms.

A second reason for the differing results is the implementing agent which is to a large extent linked to the historical background. All the implementing agents signed loan agreements with the DBSA to implement the FSP in their respective target areas. The implementation had to take place according to certain guidelines (DBSA, 1986) referred to in earlier chapters. However, many of the implementing agents to a large extent departed from the original guidelines. Instead of providing all elements in a coordinated fashion, many of the implementing agents tended to emphasise one element above the other. In Venda, for example, a lot of emphasis was placed on mechanisation services, while the Lebowa Agricultural Corporation concentrated on an intensive extension and training programme. As showed earlier, in Kangwane the emphasis was more on the provision of credit (mainly in

kind as fertiliser and seed). All three implementing agents thus emphasised that particular element which according to their perception was the major constraint facing their farmers. This however, does not imply that the other elements were neglected.

It can be said that implementing agents have differed in their approach to implementing the FSP. Some, like the Lebowa Agricultural Corporation (LAC), made an effort to first of all win the farmers confidence by bridging the language and cultural gap, and in this way determined the specific needs of the farmers. It can be argued that LAC's approach tends to be patronising, but the way in which it was done did not offend the farmers, and it produced results.

In a DBSA interim evaluation report of the FSP (DBSA, 1989), it was concluded that the borrowers or implementing agents do not understand the FSP philosophy. This appeared to be the case some four years later. There has been a general lack of adherence to the agreed arrangements due to misinterpretation, misunderstanding and an inability to adjust these arrangements to operational reality and action plans. It often happened that "old style" project schemes were reinterpreted as "farmer support" actions (*cf.* Van Rooyen, 1993). The basic structure of these schemes remained paternalistic and centrally managed. Van Rooyen (1993) also mentions that the distinction between settlement projects and the FSPs became increasingly blurred since 1987. Settlement projects funded by the DBSA are now generally financed along the same lines as FSPs, the only difference being the settlement of new farmers within a project framework.

The DBSA (1989) argues that the FSPs tend to get managed rather than nurtured. This is more or less the case in KaNgwane and also to some extent in the Mashamba ward in Venda. In Lebowa the same argument applies since managers are appointed by the implementing agent to manage the various co-operatives. These managers take responsibility for input provision, coordination of mechanisation services, marketing and storage arrangements and general management of the co-operative. The managers report to boards of directors consisting of farmers from the local community, but the day-to-day running of the co-operative and of the programme is their responsibility. In all these cases there

seems to be a lack of local institutional building since the element of "learning by doing" is missing. The case study of the Khakhu co-operative is the only exception where community members are running the co-operative and where they are in control and make their own decisions.

A third reason for different success rates is the natural resource base of the target area. The natural resource base, in particular the soil quality and rainfall has an impact on maize yields which influence households food security position as well as their ability to repay loans received under the programme. The experience at Phokoane showed that a good yield response as a result of good climatic conditions and fertile soil leads to quick adoption of new technology and cultivation techniques and to some extent reduces the risk related to single cropping of hybrid maize. The natural resource base of the Phokoane area is the most favourable of the areas investigated and therefore explains to a large extent the more positive results obtained from the implementation of the FSP in the Phokoane area.

In the FSP guidelines (DBSA, 1986) it is emphasised that target areas for the implementation of the FSP should only be areas of high agricultural potential. The experience discussed above has shown that the success of the programme depends on the soil potential and that the higher potential areas tend to have greater success. This, however, should not rule out other areas to receive support services. With less emphasis on maize and staple food production, increased diversification and acknowledging the important role of livestock, programmes consisting of good and coordinated extension on a variety of production activities and a variety of inputs available could succeed in less favourable areas. Admittedly when one talks of staple food production or cash crop production on dryland and on small areas, production on low potential soil in areas with below average rainfall would lead to failure and dismay amongst farmers. This is due to the fact that programme participants often purchase off-farm (modern) inputs on a credit basis, which lead to households being indebted due to negative climatic variations.

Finally, it has been argued in certain circles that successful support programmes depend on farmer participation, increasing farmer control and less involvement by the implementing agent. The formation of voluntary farmer groups and farmer

control of, and involvement in the management of co-operatives or service centres (thus the establishment of local institutions) are important aspects in this regard. If farmers view the programme and institutions as their own and not as part of the government or the development corporation, it could impact positively on the outcome of the programme. The importance of a bottom-up approach to address the community's needs, is evident from the discussions above.

5.3 THE INDIVIDUAL ELEMENTS OF THE FSP : A CRITICAL EVALUATION

5.3.1 Introduction

The discussion in Chapter 3 highlighted the international experiences with, and approaches to the delivery of support services to smallholders in developing countries. In this section the approaches followed in the delivery of the various support elements of the FSPs are summarised and critically evaluated based on the lessons and experience in other developing countries.

5.3.2 The package approach

The basic approach followed in the FSP is the delivery of a package of services to farmers. The DBSA therefore required that all elements of the programme should be present and provided in a coordinated manner before finance is approved. In any case it is true that all the elements have to be provided in a coordinated manner to ensure successful implementation of the programme. This is why it is viewed as important to have a coordinated effort and why a package of elements or services is provided to farmers.

The concept of "packaging" is also used by Ellis (1992) and Chenery *et al* (1974) to describe the process whereby one agency (parastatal or government) provides all the mentioned services. In the discussion in Section 3.3.3 it was mentioned that the provision of a number of services by one agency can create problems of access due to the fact that the target group is often narrowly defined. Although this might be true, the evidence from the South African experience suggests the opposite. Institutional confusion, duplication and lack of coordination has arisen

in Venda and in KaNgwane due to the fact that the implementing agent did not have sole responsibility for extension, etc. These aspects do influence farmers' perception of the programme as well as the successful outcome of the programme. This again confirms the point made earlier that coordination of elements is important for the success of the programme. In the developing areas in South Africa it often implies that coordination can only be achieved when one institution takes responsibility for all services. However, this does not guarantee a successful outcome as has been shown often. The Phokoane case study did however show that success is possible by a coordinated effort.

One of the long term objectives of the FSP is that ultimately the majority of services should be provided by private entrepreneurs. In many of the FSPs this is partly achieved through the establishment and financing of tractor contractors. The other services, like input supply, marketing and credit provision, are still largely in the domain of the parastatal development corporations. Hopefully private input supply companies and private traders would later perform some of the functions.

• The problem with these private entrepreneurs and companies is that they will only concentrate on those areas that promise quick or high returns. Even if these private entrepreneurs do provide some of these services, it will still be the responsibility of the implementing agent or Department of Agriculture to provide those services that could not profitably be provided by private companies or individual entrepreneurs. ⁶ Thus, to enable the households to make their own decisions and choices in the end, it will be necessary to ensure that all the elements or services are available at the right time and at the right place, and accessible to everyone.

Related to the aspect of packaging is the question whether development corporations are the appropriate institutions to implement the FSP or provide support services to farmers. Many of these institutions were used to implement development programmes in a top-down manner without noting of the needs of the farmers. In some of the cases discussed in this study it happened that the FSP was incorrectly implemented and that institutional inefficiencies within many of these development corporations contributed to the concerns expressed.

5.3.3 Credit

The approach to credit provision followed by the implementors of FSP seems to lean towards the conventional style programmes discussed in Section 3.3.2. Credit is largely provided in kind, mainly in the form of fertiliser and maize seed, supplied by the co-operatives or service centres.

The important part here, which in this regard goes right to the heart of FSP, is the target population. According to the FSP policy document (DBSA, 1986) the target is the emerging farmer group. Based on the definition of emerging farmers (DBSA, 1986) not all the respondents participating in FSP can be categorised as such. DBSA (1986) states that the FSP should be seen as inclusive and accommodating and that the services of FSP should be available to all farmers, although the benefits are specifically aimed at emerging farmers. Based on the agricultural production performance, the proportion of farming income to total household income, and the marketable sales of farmers, it seems that only the Lebowa farmers (and specifically the Phokoane group - and some individual respondents in KaNgwane) could be called emerging farmers. Coetzee *et al* (1993b) therefore raise the question, that if this is the case and if the FSP should serve all farmers, is the credit component adequately structured and does it answer the need for financial services for all the farming families in the target areas?

The behaviour of the agricultural development corporations (specifically in KaNgwane) follows a predictable course according to the conventional approach to credit programmes. Experiences of non-recovery excludes defaulters from the following years production loans. Over time the less risky borrowers are selected. Less risky borrowers usually are those with larger tracts of lands, and higher off-farm and farming incomes. In this way some groups of households every year get less credit from the development corporations, while a more affluent group receives more access. In terms of the targeting of FSP to emerging farmers it could be argued that this selection process is now reaching the emerging rather than the subsistence farmers. However, the broad inclusion of all farmers in the FSP programme shows that the current FSP credit policy is diverting credit from some FSP clients.

During the first years of implementation of the FSP in KaNgwane, Agriwane changed individual loan practices to a group basis. Although this is a way to decrease transaction costs, success with a group approach depends on how the group concept is implemented. In this instance the development corporation chose farmer associations to be the group, and joint liability by the group is an important rule. Unilateral decisions where the individual members of the group are already in near default position, cannot be a measure that will ensure repayment. The group concept should be handled with care since mixed success has been reported, especially where groups have been formed exogenously and with the sole purpose to be used as a credit conduit (Slover, 1991; Bratton, 1986).

The behaviour of some group members in other homeland areas, such as KwaZulu, is also an indication of the extreme caution needed when using groups as a conduit. Cross and Evans (1991) observed that meetings of groups for repayment purposes are often badly attended and that the credit officers often need to visit an individual member repeatedly to obtain payments. This results in (expensive) home visits becoming the norm rather than the exception for collecting debts from individual group members. These problems are seen as systemic problems (based on the operational policy of the lender), rather than as constraints on the cash flows that inhibit repayment of loans (Cross and Evans, 1991). This implies that by following a more rigorous and well planned policy according to the local situation, the development corporation may have a more successful credit provision experiences.

The different credit use profiles of FSP and non-FSP members could be based on the access to alternative sources by FSP clients. Although it is not the intention of this section to discuss the theoretical basis of financial markets dealing with risk, transaction costs, information and related concepts, one theory could assist in the explanation of the selection of financial sources by respondents. Cuevas (1992) bases this selection procedure on a theory of "pecking order." This implies that the farmer or entrepreneur will follow the "safety first" principle and access financial sources so that the sources with the least external influence on decision making and ownership of his firm will be selected first, e.g., own savings. This also implies that in areas where FSP credit is an important source the farmer may regard this as an "easy or cheap" source in terms of the external influence on the control of

his firm (farm) and as a source where the perceived retribution when defaulting may not carry a high risk (Coetzee, 1993).

Interest rates for formal FSP credit are subsidised in all regions. Although informal rates are not available, Coetzee (1988) reported informal credit rates to be as high as 40 per cent per annum in KaNgwane (from money lenders) and on average 16.3 per cent (formal loans carried rates of on average 12.1 per cent for the same area and period). The negative effects of subsidised rates on the viability of lending operations and the lack of deposit mobilisation contributes to the reliance of these institutions on public sector injections of capital. This is one area in the FSP that needs much attention in future.

In general FSP policy in itself seems to be sound. However, problems arise in the implementation of FSP. The lack of appropriate policy guidelines to the implementors of FSP, specifically with respect to financial policies, is highlighted as a major contributing factor in this respect. The following suggestions should form part of a sound FSP financing policy. More attention should be paid to the characteristics of successful and viable rural financial institutions. As discussed in Section 3.2.3, the viability of institutions that supply credit services can be ensured by including deposit mobilisation and other services, by lowering the levels of transaction costs of these institutions and their clients and by charging market related interest rates. The indicated importance of self-financing should allow for deposit mobilisation as a financial service provided to farming households and this could have concomitant positive effects for the functioning of rural financial markets in these areas. Currently, subsidisation of interest rates rules out the provision of savings facilities by financial institutions. Due to low, if any, cost recovery on loans it is impossible to offer attractive interest rates on savings. The important role of deposit mobilisation has been argued.

The FSP has the potential to contribute positively in alleviating the constraints to farming activities of emerging commercial farmers. Several constraints, however, are not adequately addressed by FSP. This may be due to different implementation of FSP in the different areas, but also to optimistic production targets on which input requirements, credit requirements and production activities of farmers are

based, and the seemingly unimportant role risk plays in the planning stages of FSP. Further, some confusion is evident due to the implied targeting of emerging commercial farmers and the all inclusive nature of FSP. The structuring of, and policy on provision of elements of FSP, especially for credit, should incorporate this dual objective. Rigid application of credit procedures and financial services should make way for area-specific adaptation of the credit supply element. This is not only true of the provision of credit support between different areas, but also of different types of clients within specific areas.

Access to credit for agricultural production from formal sources seems to have the highest impact where farming households have access to larger tracts of land and where these households have higher levels of off-farm income. It has been argued that for the emerging farmer complement agricultural credit may be more important than for subsistence and sub-subsistence farmers. Access to credit for other purposes may play a more important role for the latter group of farmers. As argued above the expansion of financial services rather than concentrating only on farmer credit may have a positive impact. All clients do not have the same needs, resources and sources of income and the lenders should incorporate this in their policy. It seems that informal sources of credit have a better handle on this, most probably because of better information on clients and their activities. In the areas where FSPs were implemented it could be argued that the greatest need is not for production credit but for consumption credit (or consumption smoothing credit) and distress related credit. In targeting households for production credit one has to keep in mind that very few households are capable of sustaining a viable agricultural enterprise (especially on dryland) in the sense that they can take and repay loans (see also Section 5.4.3).

Transaction costs for both borrowers and lenders are important components affecting the viability of financial institutions. More information in this regard is needed. Steps that could be considered has been discussed and include the following possibilities (Meyer and Cuevas, 1990): improving the economic environment (including efforts outside the FSP such as improved communication, transportation and information systems, improved marketing information services to farmers); improved regulatory structure; reduction of risks; diversification of

services provided by financial institutions; expanding the service network; group based schemes; improved internal operations; and linking informal finance with formal finance.

Good intentions in development often result in failures and pain for those at the receiving end. For credit/financial programmes this is mostly due to inadequate information on the clients and the financial market in which they operate. It is also due to an ignorance of the risk factors inherent in financial transactions and the concrete fact that the lender can never have the same information on the potential and circumstances of the borrower as the borrower himself. This is called the problem of asymmetric information, and may lead to adverse selection (more risky borrowers) or/and borrowers that have a high chance of wilful default (problem of moral hazard)¹. Adams and Meyer (1989) concluded that employing rural financial markets to transfer subsidies results in inequitable distribution of incomes and assets, also that targeted loans had little effect on borrower behaviour and that loan targeting and subsidies seriously damage the ability of financial markets to carry out their real role, i.e., that of improving the efficiency of resource allocation.

5.3.4 Input supply

In all three the survey areas inputs are provided to farmers via co-operatives and/or service centres. The way in which inputs are provided to these service centres differ between the various regions as described below.

The farmers in KaNgwane obtain inputs from any of the service centres established under the FSP. The individual service centres are not responsible for their own sourcing of inputs. The Agriwane head office purchases inputs such as fertiliser and maize seed in bulk at a significant discount from input supply companies. Sourcing of inputs is thus done by the Agriwane head office which also provides

¹ These are elements contributing to the principle-agent problem. This alludes to the problem of the relationship (contract) between the principles (e.g. shareholders of a bank) and their agent (manager or management of the bank). In this relationship the agent is acting on behalf of the principle. This highlights the problem of whether the agent will fulfil the wishes of the principle or not, which influences the return on the investment of the principle.

storage space for these supplies until the stock is distributed to the various service centres according to their particular needs. The production inputs are sold to farmers through the service centres at a predetermined price which include a mark-up above the purchase price. The farmers are able to purchase these inputs (on credit or cash basis) in smaller units from the service centres. All sales are initially recorded by the service centres but the information is eventually transferred to head office where all sales are centrally recorded. The situation in KaNgwane is thus typically of an Agricultural Development Corporation which controls input provision and also takes responsibility for credit provision and extension services.

Agriwane has started a process of privatising the service centres. This has been done in the spirit of the FSP philosophy and by early 1993 two of the service centres were already owned by farmers' associations and a number were in the process of being sold to farmers' associations. Although it can be argued that this is a step in the right direction, the outcome proved not to be, as Fischer, *et al* (1992) has shown in the case of the Mashibambisane farmers' association. The purchase of the service centre led to bankruptcy and despair since the farmers' association was not able to repay their loan. As a result they could not purchase any input supplies or other supplies from Agriwane. Neighbouring farmers who used to purchase inputs at this service centre were now forced to look elsewhere for agricultural and other supplies.

In the two case studies in Lebowa, namely Phokoane and Kadishi, farmers purchase inputs from the co-operatives at Phokoane and Kadishi on a credit and/or cash basis. The managers of the individual co-operatives are responsible for their own sourcing of fertiliser, seed and other inputs. It does, however, often happen that the co-operative managers meet to place orders collectively to ensure the best possible price. The procedure for input provision differ to a large extent from the situation in KaNgwane where the development corporation was solely responsible for input provision.

In Venda the same situation applies where farmers purchase inputs from the Khakhu and Mashamba co-operatives respectively. The primary co-operatives such as Khakhu and Mashamba used to buy their inputs from the Venda Secondary Co-

operative. Due to the insecure future and various financial difficulties of the Venda Secondary Co-operative the co-operatives had to look for other sources of supply. It seems therefore as if the co-operatives are responsible for their own sourcing of inputs with little if any intervention from the government or the development corporation (Agriven). The management committee of the Khakhu co-operative, for example decide in cooperation with the local extension officer what type of fertiliser to apply and what the application rate should be. In accordance with this decision orders are placed with the appropriate suppliers.

In many developing countries the private sector was slow to provide reliable input supply systems. This led to governments embarking on efforts to provide inputs to farmers. The same argument applies to South Africa due to the virtual absence of input suppliers in the less-developed areas, resulting in governments supplying inputs to farmers through parastatal development corporations (and their co-operatives). This is the case in KaNgwane and to a lesser degree in Lebowa and Venda.

The case studies provide typical examples of development corporation involvement in the provision of inputs as identified by Ellis (1992). However, the range of problems and constraints related to these institutional arrangements for input provision as listed in Section 3.3.3, do not seem to apply in the three case studies. Inputs were normally on time, in the right size and quantity farmers needed it, and supplies were always sufficient. Although some inefficiencies would probably be found in some of the institutions, the input supply systems in all three cases generally succeeded in making modern inputs available to the farmers. The affordability of the inputs is another matter altogether. It could be foreseen that this institutional arrangement would for some time in the future carry on since the private delivery systems will be inadequate for a number of years. This is mainly due to the private companies' lack of sufficient outlets and in some cases an unwillingness amongst these big companies to supply small quantities of inputs to small-scale farmers.

In conclusion it must be emphasised that inputs should be available on time and in the right quantities, according to the specific needs of the small farmers. This

usually becomes a serious problem when dragging credit arrangements delay the ordering of inputs and farmers have to run around to get seed and fertilizer. To avoid this, service centres and co-operatives should also provide inputs to the general farming community on a cash basis and not necessarily link the ordering of seeds and fertilizer to credit arrangements with FSP clients.

Often many farmers are not sure as to why the co-operative or service centre provides them with a particular maize hybrid or fertilizer. They need to be informed on these issues, since it would help to clear suspicion. Farmers must also be informed about input prices and comparing price structures. Distrust and rumours about exploitation and excessive profits are many, and very often implementing agents do not deserve it.

The transport facilities for the delivery of inputs to the FSP co-operatives, especially in Venda, must be attended to as a matter of urgency. The lack of transport is causing the co-operatives a loss in income and farmers could have the problem of inputs not being available on time.

5.3.5 Mechanisation

In Section 3.3.5 it was mentioned how miserably government tractor hire services have failed all over the developing world. The inefficient provision of mechanisation services by governments was also a contributing factor to failures of many of the dryland crop projects in the less developed areas of South Africa, some of which were transformed to FSPs. This was one aspect the FSP paid specific attention to, and as stated previously, the establishment of private tractor contractors is a major element in the FSP framework. It was argued that individual tractor ownership will remove the institutional inefficiencies mentioned above. In KaNgwane and Lebowa this was successfully achieved. In Venda, however, tractors were allocated to the co-operatives to be privatised at a later stage. Currently the co-operatives still own the tractors and fortunately provide an efficient mechanisation service to farmers. Farmers are appreciative of the services provided by the co-operatives and are of the opinion that it is an improvement to the service provided by the Venda government.

Agriwane provided loan finance to individual contractors in KaNgwane to enable them to purchase a tractor and implements. A large number of these contractors defaulted their loans due to various reasons as discussed in Chapter 4, and due to financial difficulties experienced by the contractors. Agriwane repossessed virtually all the tractors and resold them to new buyers on hire purchase.

In Lebowa the contractor system seems to work well. The farmers and contractors in the Phokoane area are particular happy with the system operating there. The Phokoane co-operative coordinates the service to a large extent and ensures that the contractors are paid. The system makes provision that the farmer could determine whether the contractor should be paid or not (see Section 4.4.3.4 for more details). Although Ishuza (1991) does have several reservations with regard to individual ownership of tractors, the process of individual contractors seems to work in some of the areas surveyed. Recently it was noted that the shortage of tractor contractors was becoming a major constraint in some of the areas, especially during planting time. This would increasingly happen as farmers adopt the new technology.

Farmers in all three areas view mechanisation services, and specifically ploughing and planting, as the most important factor in their farming operation and the most important element of the FSP. This is not because it is subsidised (it only happens in Venda), but because it reduces the time farmers (mainly women) have to spend in preparing the land and planting the seed. With more than 80 percent of farmers in all areas being women, and time being their major constraint, it is not surprising that mechanisation is rated so high. The results in Chapter 4 also show that the correct ploughing methods led to higher yields and often made it possible for the women to cultivate virtually the whole of their allocated piece of land. Thus the initial utilisation of ploughing by tractor created a need for more labour during the growing season as a larger area had to be weeded by hand. At harvest time more labour is needed to harvest bigger yields. The argument of Binswanger (1978) that tractors are labour displacing can therefore not be supported. To some extent it could be argued that tractors are actually labour using technology.

In conclusion it can be argued that the incorporation of individual tractor owners should be further developed. This was to some degree successfully implemented in KaNgwane and Lebowa, but could still be improved and expanded on. The further development and incorporation of tractor owners will require:

- a support service for tractor owners. Because their tractors are old, and owners lack funds and sometimes also the required mechanical knowledge, and because they are isolated and spare parts are not always available, it sometimes takes tractor owners a year or longer to repair their tractors in case of major as well as minor breakdowns.
- loans to repair tractors and not only to buy tractors.
- training in mechanical skills for contractors, owners and drivers, and farmers.

5.3.6 Extension

The success of extension systems in assisting farmers in developing countries to adjust to new technology has been, inevitably, variable. There are examples of complementarity, however, extension services can also be ineffective for many different reasons, such as lack of communication and conflicts between different state agencies involved in agricultural development programmes; lack of logistical support from base; lack of means of transport for getting around villages and farms; lack of motivation due to poor remuneration and inadequately defined or confusing goals (Ellis, 1992). Most of these problems typify the extension services of many of the less developed areas in South Africa and are therefore also present in some of the farmer support programmes discussed in Chapter 4.

The success story of extension and training in the Phokoane FSP has often been referred to. The extension element of the FSPs in the other two survey areas, namely Venda and KaNgwane, were not that successful and did not attract the same amount of praise from the farmers. Farmers in actual fact complained about the extension services in Venda and KaNgwane. The complaints and inefficiencies

of these extension services relate largely to conflicts between state agencies and lack of communication, as mentioned above.

In Chapter 4 it was pointed out that the Venda extension service operates at a very low efficiency level due to inadequate training, lack of subject matter specialists, etc. In the Venda FSP the Venda extension service of the Department of Agriculture and Forestry assumed responsibility for the extension element. The extension officers of the department had to report to the FSP manager who was an employee of the development corporation. This created friction, and often no coordination of the extension effort was possible due to lack of communication and clashing interests. In KaNgwane the same problem had arisen due to the implementing agent and the Department of Agriculture in KaNgwane sharing the responsibility for the provision of extension to farmers. This institutional confusion often led to frustration and conflict between junior staff members of the two institutions. Being aware of the inefficiency of the Lebowa extension service, LAC, the implementing agent of the FSP in Lebowa, took sole responsibility for the extension effort by making its own staff available and by the secondment of two of the best extension officers from the Department of Agriculture of Lebowa to the FSP programme.

From the above it follows that the main problem of the extension element in the FSPs is a general low level of efficiency and effectiveness, with one exception, namely the Phokoane FSP. The extension effort at Phokoane is successful because it was driven by a zealous individual. This person, a former project manager, initiated the extension approach which was based on good extension methods applied in a most practical manner. The methodology used consisted basically of group formation and dynamics; needs analysis; adult education methods; practical demonstration; groups to ensure involvement; and sound communication methods and principles. The FSP in Lebowa is based on voluntary participation. No farmer is forced into the programme, forced to join or form a farmer group. Groups are activated spontaneously and the success of the programme at Phokoane led to many groups being formed. Farmer groups are essential to the working of the programme in terms of implementation and the provision of extension. Extension is only provided to the various farmer groups on a rotational basis and on a fixed

schedule. The success of the extension programme at Phokoane created an increased demand for extension and training. This is fast becoming the biggest threat to the FSP in Lebowa and LAC is currently in the process of training more extension officers in the well tested extension methods applied in the Phokoane area.

Personal visits are the most common form of extension provided by the service in Venda, although media facilities, such as radio talks and publications, are used as well. Farmers' days are regularly arranged to address special problems within the various fields. From the surveys it was determined that farmers are of the opinion that they do not see the extension officer enough, thus pointing to a need amongst the farmers for more information. Inadequate extension was also identified as one of the major problems experienced in farming. Despite the need for information, low attendance rates at training courses were experienced. It is therefore clear that the approach to extension provision did not succeed in satisfying the farmers' information needs or delivering information and advice to farmers.

In KaNgwane the extension programme to a large extent works through the various farmer associations in the region, which often is not a voluntary composed and homogenous group of farmers. The extension officers employed by Agriwane and the KaNgwane Department of Agriculture pay regular visits to the farmers and the various farmers' associations. Farmers are presented with refresher courses and training in various farming and cropping techniques. In addition more formal training courses, demonstration plots and farmer days are also offered. KaNgwane farmers did however expressed the need to see the extension officers more often, which is to some extent a reflection on the shortcomings of the extension programme in KaNgwane.

From the discussions above it is evident that the problems with extension provision in many of the less-developed areas of South Africa, correspond to a large extent with the problems of extension programmes in other parts of the developing world, as identified in Section 3.3.1. It is clear that the extension element has not been effectively applied in most of the FSPs discussed in this study. There is however, a chance to improve the situation should the authorities be committed to extension.

Hayward and Botha (1993) make the following recommendations to remove the inefficiencies facing many of the extension systems:

- A continuous system of in-service training to supplement the extension officer's formal education;
- Support by subject matter specialists;
- Extension to farmer interest groups;
- Programme planning techniques should be applied;
- Extension should be needs-based and also be based on informal adult education methods;
- Involvement of and participation by farmers.

It can therefore be argued that farmers can best be reached by well trained field extension officers within a well managed extension service using a participatory approach in conjunction with a comprehensive programme planning methodology. The involvement and participation of farmers in research and extension are aspects lacking to a large extent in the extension effort of all the FSPs analysed in this study. The rigidity of the recommendations for maize cultivation, for example, created difficulty for many of the farmers. The recommendations of extensionists often do not favour diversity in the farming enterprise, discourages mixed and intercropping and is mainly focused on mono-cropping. Although the extension effort was in some cases needs-based, recommendations for maize cultivation was never based on on-farm research and different levels of input application were rarely considered. The farmers and the on-farm conditions were virtually never considered and the farmers never involved. Extension programmes were in many cases designed with the attitude that "we think we know what the farmers want". The impression therefore exists that many of the technical recommendations are merely an extrapolation of commercial farming.

In conclusion, the lack of farmer participation in the implementation of the FSP and specifically the extension and research element of the programme is a major shortcoming in the make-up of the FSPs as they were implemented. The importance of farmer participation is stressed by Norman (1994 : 13) as follows :

"...active participation is usually one of the major conditions for the success of agricultural projects - since they are in a sense buying into the action. Farmers' intimate knowledge of their local environment (i.e. both natural and human) together with their continuous informal experimentation, make their active participation in the design of strategies for improvement extremely useful."

5.3.7 Marketing

Marketing is the aspect lacking most in all the FSPs discussed here. Due to the low volumes of commodities being offered for sale none of the implementing agents have done much to improve marketing infrastructure or marketing arrangements. Many of the commodities are sold through informal channels or through barter transactions, but the majority is stored for home consumption or consumed immediately by the households.

In KaNgwane the development corporation (Agriwane) only acts as facilitator and never handles or stores any produce. Crops such as sugar, maize and cotton are marketed through the formal marketing channels and Agriwane's role is fairly small in this regard. Agriwane acts also as facilitator in the process of arranging market facilities for fresh produce. In the case of Lebowa the co-operatives act as depots for maize deliveries by farmers for long term storage and exchange arrangements and for the sales of surpluses. The maize for storage and exchange is milled into maize meal at the nearest miller. The surplus is sold to agents of the South African Maize Board. In Venda the Khakhu and Mashamba co-operatives do not provide marketing facilities or do not act as marketing agent because farmers prefer to sell maize out of hand since they receive higher prices than through formal channels.

It can be argued that the underdeveloped state of agricultural marketing, and in particular marketing infrastructure and information, limits agricultural development in the developing areas since profit incentives do not exist. The success of future FSPs and other agricultural development efforts will depend on the extent to which this problem has been solved.

5.4 SHORTCOMINGS AND PROBLEMS IN THE FSP FRAMEWORK

5.4.1 Introduction

A number of shortcomings of the FSP were identified in an interim evaluation report in 1988/89. According to Christodoulou *et al* (1993) this led to alteration of the FSP approach in four major areas, i.e. the FSP concept; the scope of the FSPs; beneficiary participation in project design, planning and implementation; and access to land.

The FSP concept places an emphasis on broad based orientation to rural dwellers involved in farming, rather than focusing, narrowly on a particular group of farmers. Due to the more broad based nature of the programme the scope of the FSPs was expanded so as to include other elements which form part of a broader Rural Support Programme. The movement towards commercialisation in farming activities restricted the applicability of the FSP and thus necessitated this change. The FSP objective was therefore changed "to promote economic development by improving farmers' access to support services over a broad base in a sequential and evolutionary manner". Although the scope and objective has changed, many of the FSPs studied still only target a particular group of farmers in certain areas. It is thus necessary to further discuss the problems related to the targeting of households. This is done in Section 5.4.2. Beneficiary participation was recognised as a major shortcoming of the FSP and this, according to Christodoulou *et al* (1993), led to the identification two additional FSP elements, namely, institutional capacity and gender issues.

Although these aspects signify a change in the approach and philosophy of the FSP, it is doubtful whether these changes have manifested themselves in any of the FSPs implemented since the change in approach. From the analysis of the FSPs in the three survey areas it appears as if not much of this changed approach is present. The manner in which the FSPs are being managed suggests that the initial objective is still in operation. In view of this, it is considered appropriate to re-emphasise the shortcomings of the FSP approach (and to add other) as experienced in Venda, Lebowa and KaNgwane.

5.4.2 Target groups and target areas

One of the principles in the original guidelines of the FSP (DBSA, 1986) was comprehensive support targeted to emerging farmers. It was, however, quickly realised that this principle would exclude a large section of the rural population. As was indicated above, this principle was relaxed to include all rural households making a living from cultivating the soil or rearing animals. It should, however, be kept in mind that all the FSPs evaluated in this study were implemented before 1990 and thus had the old target community in mind. This to some extent, added some form of exclusivity to the FSP. The impression was gained that you had to be a member of the "club" to have access to certain services. The manner in which the FSP was implemented amounted to not adhering to the objective of a "broad-based approach". In the analysis in Chapter 4 this aspect was also, perhaps incorrectly, overemphasised in comparisons between "FSP members" and "non-FSP members".

In many of the FSPs analysed here the impression was gained that the FSP is largely focused on the promotion of improved maize cultivation practices through access to and utilisation of off-farm inputs. Because many households lack operational capital to purchase these inputs, access to production credit becomes an important aspect of the programme. Credit was often the aspect by which entrance to the "FSP club" was controlled. Without access to credit, it was difficult to access other support services such as input supply and mechanisation services. To ensure that production loans were repaid and to minimise risk of default, it was very important that the implementing agent selected and targeted the correct farmers or clients. This was why emerging farmers (in high potential areas) were targeted in many cases. They were already in a position to produce surpluses which could be sold to repay loans.

In Lebowa the participation of farmers in the extension programme provided them with the "key" to join the "FSP club". Completion of the first phase of training enabled farmers to access credit, to become members of the co-operative and to access various inputs. Inclusion of only certain members of the community in the programme quite often leads to conflict, envy and division within the community,

and thus disturbing harmony and stability. The Phokoane case study, however, showed that the exclusive nature of the programme tended to be exaggerated. The success of the initial participants of the FSP at Phokoane created a spin-off effect with non-members of the co-operative (and FSP) utilising certain of the services (mainly input supply) offered by the Phokoane co-operative. This showed that when there are incentives and when services are available, there is nothing that could and should prevent people to use these services. The only limitation naturally is the availability of cash funds to purchase inputs, because credit usually is unavailable unless you are a member of the "club".

Since exclusivity is likely, people tend to criticise the FSP as increasing rural inequity because often only the well-to-do and better-off households make use of the service offered under the FSP. These households often are in a better position than the rural poor to use these services. It is often said that only the rural elite participate in the programme. To determine whether this is the case, Sartorius von Bach and Kirsten (1993) did an analysis of the characteristics of households most likely to participate in the FSPs in the three study areas.

The results of this study gave a new perspective on the participation of households in the FSP. Factors used to predict the rate of adoption or participation not only depended on physical aspects such as cropland and household size, but also on current equity or relative values in the rural areas. The adoption or participation of a rural household is not only dependent on the objective to improve food security by increasing maize production, which could be done by joining the support programme (access to credit, inputs, extension service, etc.), but also on socio-economic differences. Aspects such as income or expenditure patterns did not significantly determine programme participation. Sociological aspects are important in the decision-making processes. Rural households rate themselves according to their own situation and compare this with neighbours to determine whether adoption of, and participation in a development programme meet their objectives. If they choose to participate because of a need to improve their food security situation, the household will compare itself with neighbours in the sub-region. The absolute difference between their personal situation and that of the sub-region significantly contributes to the decision. Sociologic aspects such as how one

household influence others, whether a community expects participation or how households are rated in society, are important issues. These and physical endowments determine the possibility of adopting technology or participating in the FSP.

In general, it can be concluded that household and cropland size measured in absolute, equity and relative values are good indicators of programme participation. The analysis showed that the programme in some sub-regions can result in inequality, i.e. the probability that households with larger cropland (associated with higher maize yields) would be bigger than households with smaller cropland. The results showed that household participation differs between the homelands and its sub-regions. This may be the result not only of the absolute or relative value endowments, but of different approaches followed in the different study areas.

The analysis of households in the survey areas showed that in the majority of sub-regions in KaNgwane households with medium size cropland and medium household size are more likely to participate in the FSP. In the Mswati and Mlondozi regions of KaNgwane households with access to small cropland size and medium household size are more likely to participate. In two of the sub-regions of Lebowa, namely Eensaam and Mathukuthela it was noted that households with large cropland and a large family are more likely to participate in the FSP. A probable reason is that these households are more food insecure due to the large number of people in the household that must be fed. The FSP was viewed as assisting the household in providing enough food for all the household members. In the Nebo region households with larger crop land and medium household size were found to be likely to participate in the FSP. In Phokoane it was a small area of crop land and large households that determined households' participation.

In the Mashamba ward of Venda medium size households and households with small crop land are likely to participate in the FSP. In Khakhu medium size households with larger than average crop land were found more likely to participate in the FSP.

In conclusion it has to be said that the principle of targeting goes against the broad-based approach of the FSP. It is difficult to see how these two could be reconciled. Sender (1993) sees a further danger in the way the programme is targeted. According to him the FSP is not going to reach the very poor farmers, or the women. Thus the equity and gender objectives are unlikely to be reached. To some extent this argument is true, but on the other hand it must be kept in mind that the majority of farmers participating in the FSPs studied are women. It can therefore be said that the FSP, in at least some of the areas, has succeeded in empowering women and restoring their dignity and pride (especially in the Phokoane case). Sender (1993) also argues that the programme is not going to be able to focus in a cost effective way on dynamic black capitalist farmers who prove capable of generating substantial wage opportunities.

Turning to target areas, the danger exists that many areas could be excluded from comprehensive support services. The DBSA policy guidelines proposed three criteria for the selection of target areas, the agricultural potential of the natural resource base, the actual and potential demand for support services, and the availability of existing and technical and infrastructural support. Because the FSPs tend to focus on field crop production and the livestock element is treated in a livestock support programme, the agricultural potential of the natural resource base is emphasised in the selection of target areas. It is not clear why the livestock aspects are separated from crop cultivation. Livestock and staple food production both play an important role in rural households and it seems illogical to separate the two. It therefore would be more appropriate to incorporate aspects of livestock production in the FSP and not to have a separate FSP for livestock production.

By offering a variety of support services and advice under the FSP it would not be so important to target areas in terms of soil potential. Because they are needs-based the criteria for demanding services could still be appropriate to determine where the programmes should be implemented. In general a broad based "strategy" of agricultural support services would seem to be much more appropriate than a support "programme" targeted at certain communities and certain areas. This is further debated in Section 5.5.

5.4.3 Increased household risk and debt

Despite the fact that the FSPs were targeted to so-called emerging farmers and high potential areas, participation in the FSP often resulted in households being indebted. The risk of increased indebtedness is larger because many of the households participating in the FSP do cultivate the land to produce enough staple food for the household. The focus of many of the FSPs were also on staple food production on dryland, which therefore increases the risk that households could experience food insecurity and/or be indebted because of purchasing on credit inputs used in staple food production.

Given the average household size, it is estimated that households' annual staple food needs are around 14 bags (80kg bags) of maize per year (Adendorf, 1992). This implies that each household that participates in the programme and acquires maize seed, fertiliser and other inputs on credit will have to produce a large enough surplus above household needs to be able to repay their production loan. In view of the variability in climatic conditions, harvests could in certain years be too small to cater for household needs and sufficient surplus sales. Many households participating in the FSP therefore decided in some years rather to default their loan repayment than to starve - a perfectly rational choice.

Using the data gained from the two surveys a break-even analysis was done to show the yields that have to be achieved to ensure food security and to prevent indebtedness. These calculations were only done for Venda and Lebowa since KaNgwane households cultivate a wide variety of crops making this calculation somewhat complicated. Table 5.1 summarises the calculations for maize production during the 1990/91 production season in Venda and Lebowa. A number of assumptions were made in these calculations. The average land size cultivated by Venda households is around 1 hectare and in the case of Lebowa 1.3 hectare. Two price scenarios are presented: Firstly, the net producer price paid by agents of the South African Maize Board, which was around R302 per tonne during the 1991/92 marketing year. Secondly, at the other end of the spectrum the average price obtained by households in transactions with private traders was around R50

per 80 kilogram bag in all areas. The calculations are conservative and do not include transport costs to market the surplus production.

Table 5.1 : Break-even analysis for household maize production in Venda and Lebowa, 1990/91.

	Venda *		Lebowa *	
	Khakhu	Mashamba	Phokoane	Kadishi
Input costs (R/ha)	R364.51	R309.13	R486.50	R463.35
Household consumption	14 bags (1.1t)	14 bags (1.1t)	14 bags (1.1t)	14 bags (1.1)
Break-even yield:				
- Official (R302/t) #	2.3 t/ha	2.2 t/ha	2.4 t/ha	2.3 t/ha
- Traders (R50/bag)	1.7 t/ha	1.6 t/ha	1.6 t/ha	1.6 t/ha
Yield to cover loan and HH consumption:				
[Average loan per ha]	R322	R120	R292	R278
- Price = R302/t	2.1 t/ha	1.5 t/ha	1.8 t/ha	1.7 t/ha
- Price = R50/bag	1.6 t/ha	1.3 t/ha	1.3 t/ha	1.2 t/ha
Average yields **	1.6 t/ha	0.72 t/ha	2.8 t/ha	2.5 t/ha
Gross margin above direct costs and consumption (R/ha): ##				
- Price = R302/t	(213.51)	(309.13)	26.90	(40.55)
- Price = R50/bag	(52.01)	(309.13)	576.00	411.65

* Average farm sizes : Venda = 1 ha ; Lebowa = 1.3 ha

** Average recorded yields for 1990/91

Net producer price received from sales to agents of maize board.

Given average yields and viewing household consumption not as income.

The break-even yield is calculated for each of the scenarios and then compared with the average yields achieved during the 1990/91 production year. The picture that emerges confirms the concerns expressed earlier that households participating in the FSP could end up in debt because many farmers achieve yields lower than what is necessary to cover input costs and the households own staple food needs. Unless part of the costs are funded by migrant wages or other sources of income, which often happens, many households will find it difficult to improve their living conditions and food security. It could happen that part of the households' food needs are sold to pay off debt incurred in the production process, thus leading to a deteriorating food security position. The average loan amount of Venda farmers

and total production costs minus 40% deposit in the case of Lebowa were used to depict the yield necessary to cover production credit and household needs. Again it is only the farmers under the Lebowa FSP who are able to prevent hunger and indebtedness.

The impact of the recent drought on maize yields was shown in Table 4.47. The average yield of Venda farmers during the drought was only 0.2 t/ha and that of the farmers in Lebowa only 0.5 t/ha. Assuming the same outlay in terms of production costs the impact of the drought on household food security and household debt is clearly evident.

Apart from showing that participation in the FSP could lead to increased debt levels, the analysis above also confirms that promoting staple food production on small land allotments under dryland conditions will not generate immense income earning possibilities and is not going to revitalise the rural economy. In the Phokoane case study it was found that those households cultivating larger than average tracts of land are earning an income and also have food stocks for around two years. This brings into play a whole new dimension of the FSP, namely access to land, discussed next in Section 5.4.4.

The analysis and discussion above only considered the position of households in the FSP from one angle. The analysis ignored the value of household consumption which can be viewed as income accruing to the household. The discrepancy between producer price for maize and the price of a bag of maize meal makes this calculation important. It can be argued that many households do not have any incentive to produce more staple food than household needs, due to the unfavourable price relationships. As was shown above, coarse maize can at the best be sold at R50 per bag, while the price of maize meal varies between R98 and R103 per bag in the local stores (Nkosi, 1992). This again confirms the high value of household consumption of maize in relation to sales of surplus production. Assuming an average price for maize meal of R100 per bag and assuming that production costs are paid by other sources of household income (remittances, pensions, etc) the value of the household's agricultural activities can be calculated as follows (Table 5.2).

Table 5.2 : Value of household maize production in Venda and Lebowa, 1990/91.

	Venda *		Lebowa *	
	Khakhu	Mashamba	Phokoane	Kadishi
Input costs (R/ha)	R364.51	R309.13	R486.50	R463.35
Household consumption	14 bags (1.1t)	14 bags (1.1t)	14 bags (1.1t)	14 bags (1.1)
Average yields **	1.6 t/ha	0.72 t/ha	2.8 t/ha	2.5 t/ha
Value of maize production :				
- HH consumption	R 1 400	R 900	R 1 400	R 1 400
- Sales of surplus: ##				
a) Price = R302/t	R 151	-	R 513	R 423
b) Price = R50/bag	R 312	-	R 1 062	R 875
Total value per ha:				
- Scenario (a)	R 1 551	R 900	R 1 913	R 1 823
- Scenario (b)	R 1 712	R 900	R 2 462	R 2 275
Gross margin per ha: @				
- Scenario (a)	R 1 186.49	R 590.87	R 1 426.50	R 1 359.65
- Scenario (b)	R 1 347.49	R 590.87	R 1 975.50	R 1 811.65

* Average farm sizes : Venda = 1 ha ; Lebowa = 1.3 ha

** Average recorded yields for 1990/91

Net producer price received from sales to agents of maize board.

Assuming total surplus above household needs is sold and not stored

@ Viewing household consumption as income accruing to the household and assuming that surplus above household consumption is sold

The results in the table above clearly show that maize production is profitable from a household food security point of view. If maize was not to be produced the household would have had to buy more or less a bag of meal per month amounting to an annual expenditure of around R 1 400. Production of staple food thus makes it possible for the household to allocate scarce income sources to other goods and services. In comparing the initial outlay in terms of input costs with the value of production it seems a "profitable" venture in a normal production year. With the money spend on inputs the households would only be able to purchase staple food for between three and four months. However, the investment provided the household with enough staple food for the year. The analysis in Table 5.2 also shows how erroneous conclusions could be made if the value of household consumption is not accounted for.

Labour costs are not included in the calculation since it is largely family labour being utilised. At an opportunity cost of R100 a bag, the labour time is effectively being rewarded but once a surplus is produced the reward to labour for the extra effort is much lower, due to the gap between producer and consumer prices.

The argument above takes into account the value of household consumption and also acknowledges that the household often has more than one income source which has to be accounted for in the process of determining whether maize production on dryland is a profitable venture from a household food security point of view. The discussion above shows that it pays the household to purchase off-farm inputs and apply "FSP" cultivation methods. The return in terms of the value of household consumption is much higher than the initial production costs. If the surplus is not enough to cover production costs other source of income will have to be used. This will only happen if the credit system is of such a nature that households will repay their loan. If households do not have other sources of income the argument will not hold and the first calculations (Table 5.1) will apply. Then only farmers in certain areas will be able to make ends meet.

5.4.4 Access to land

Christodoulou *et al* (1993) argue that access to land production rights remains a major constraint for the expansion of farming in the less developed areas. Finance for land purchases is currently not provided under the FSP as the DBSA is not mandated to provide finance for land purchases. However, under a future land reform programme this could become a major support service. As a result of positive incentives and the need for larger tracts of land to ensure a viable farming enterprise, many enterprising farmers are involved in informal rental arrangements on communal land. These trends suggest that the provision of financial support to lease land could promote formalised land lease arrangements resulting in greatly increased *de facto* access to production rights for enterprising farmers. The accommodation of more formal and secure land lease arrangements is currently a major shortcoming of the FSP. This influences its viability and is something which could be addressed in a new dispensation.

5.4.5 Institutional constraints and local capacity building

Although DBSA had clear principles and guidelines for the FSP, different implementing agents had different approaches to the FSP, which led to different results. Apart from the different implementing agents there were also other role players such as government departments and parastatals which in many cases created some institutional confusion and inefficiencies. This appeared to be one of the major constraints in the implementation of the FSP. It would also appear that most institutions are far removed from their clients.

Apart from this, all the implementing agents face an image and credibility problem. Agriwane, Agriven and the LAC are all creations of "national" development and are associated with an unhappy history of agricultural intervention, whatever their intentions with FSP. Widespread suspicion is therefore a basic and permanent reality the implementing agents of the FSP will have to contend with. Because of prevailing suspicions implementing agents will have to prove and maintain credibility, and they should take care not to damage their images. In every community, clients and people who are not interested and even opposed to FSPs, live side by side.

The fact that implementing agents control, or are perceived to control, agricultural resources is the most important reason why farmers participate in the programmes. But many farmers are reluctant and refuse their support precisely because of this perception and the historically founded suspicions people in rural areas harbour against those in control of their resources. The attitude, style and approach of implementing agents are crucial to this end. Actions that may lead to perceptions of exclusive support and intervention in established agricultural and land use patterns should be avoided. Such perceptions reinforce suspicions causing damage to their images.

If the FSP is to be effective, there is need to build institutional capacity at the local level. The FSP was originally intended as a "learning-by-doing" approach but lack of local participation and the fact that FSPs were often managed and not nurtured, kept it from materialising. Among the implementing institutions there is lack of

building and strengthening institutional capacity at a local level. Farmers are rarely given the opportunity to ask any questions about the process.

In recognising this shortcoming, institutional capacity was identified as a new FSP element to emphasise the importance of active participation by beneficiaries during the preparation and planning of a project (Van Rooyen, 1993). This approach promoted local ownership of programmes and led to requests to support local capacity building and institutional development as associated elements in their own right. Technical assistance towards institutional development was subsequently included in all new FSP loans.

In reviewing the major constraints and shortcomings of the FSP, the question now to be answered relates to the future of the FSP.

5.5 THE FSP IN A CHANGING AGRICULTURAL DISPENSATION

The FSP served its purpose in a particular regional and political dispensation and during the time it was first implemented it was certainly a pioneering undertaking. It remains to be seen whether the present format of the FSP can sustain the present changing environment.

The FSP approach constitutes a major diversion from the project approach previously applied to black agriculture. Although this might well be the case, the mere fact that the FSPs were also treated within the project cycle of DBSA, that development corporations (who were still involved in old style agricultural projects) were the implementing agents, led to the FSPs also being conceived of as projects. The implementation of the FSPs only in certain target areas contributed to the "project" characteristic of many of the FSPs. As a result FSPs were implemented in a piecemeal manner, which to some extent contradicts the broad based philosophy of the programme. It also happened that old style centrally managed projects were called FSPs in order to get DBSA funding.

The FSP attempted to break with unsuccessful approaches to agricultural development in an effort to provide access to support services to large numbers of

small farmers and thus to normalize the agricultural support system in South Africa. It is, however, still doubtful whether the support system can be normalised in such a piecemeal manner as has been the case. A comprehensive strategy of reforming agrarian institutions and provision of support services on a much broader base to all farmers and rural dwellers will be required. This should be similar to the strategy followed in Zimbabwe after independence. To illustrate the above argument it is necessary to quote the following extract from Eicher (1994):

"In thirty years of Africa's independence, many donors have helped African governments design and implement farmer support projects (credit, extension, seed, fertiliser) that serve a few thousand smallholders. But most new governments have had great difficulty in acquiring the managerial capacity to replicate successful projects on a regional or national level. Zimbabwe's experience sheds further light on the complex managerial problems involved in restructuring farmer support institutions and scaling them up to serve the majority of farmers in a nation - i.e., the smallholders."

This quotation by Eicher sketches the dilemma of the FSP in its current format. The question is therefore: How are we going to normalise and unify the agricultural support system within a changing political dispensation where small scale agriculture will be the main focus? Can the FSP framework provide the basis for integrating black and white agricultural support services, as argued by Van Rooyen (1993)? If the FSP should survive in its current format who should be responsible for its implementation?

Due to a new national and regional dispensation and probable rationalisation of development corporations, institutional gaps will be created and institutional confusion increased, at least in the short term. However the preconditions for an integration of farmer support services to all farmers in South Africa have now been met. This could lead to the disappearance of the effect of any such programme.

The FSP was to some extent initiated to provide an answer to the shortage of support services to farmers in the homeland areas. With a new government in

place the political will and commitment would be there to rid the agricultural sector of its dualism and to make all services available to all farmers in South Africa. Admittedly it will be a long process due to the shortage of rural infrastructure and the time necessary for the reorganisation and re-orientation of institutions. The FSP framework, as well as the experience with the FSP, could however serve as basis to normalise the agricultural support system. Thus the debate about the future of the FSP shifts to the centre of the debate on agricultural support services for a new South Africa. It is however clear that it will have to be a national strategy (and not a piecemeal effort) coordinated within one ministry. As argued in Chapter 3 any government involvement in input supply, marketing, and mechanisation services will be futile. The government should create a conducive policy environment, provide efficient extension on a participatory basis and could in some way be involved in credit provision preferably through viable rural financial institutions. It is however, clear that without a coordinated national strategy this effort could also end up in the text books as one of the many failures in agricultural development. In this national development effort investment in human capital and investment in, and development of, local institutions will be of the utmost importance.

5.6 SUMMARY AND CONCLUSIONS

This chapter summarised the experience with farmer support programmes in the less-developed areas of South Africa over the past six or seven years. The successes and failures of the FSPs in Venda, KaNgwane and Lebowa were contemplated in the first section. It was found that the programme had achieved varying degrees of success in different target areas. Although it seemed difficult to measure the success of the programme, it was nevertheless clear that the Phokoane FSP is the most successful of the FSPs studied. The success of the programme at Phokoane largely manifested itself in the way in which the needs of the community were met; the rapid expansion of membership of the co-operative; increased demand for participation in the extension programme; adoption by non-participants of the new cultivation methods; and lastly, new and younger entrants into farming.

In comparison with the other FSPs it was clear that Phokoane of all the target areas had the better resource potential, the officials involved were much more committed and the programme much better coordinated. The other FSPs analysed were not absolute failures but did not succeed in winning the same amount of praise and support from the local farming community. The Phokoane FSP succeeded in ridding the households of hunger, restored confidence and dignity and put households in control of their lives again. They were now in a position where they could make their own decisions and did not have to depend on someone else.

The reasons for the variation in results were discussed, and it was found that the difference in interpretation of the DBSA guidelines and the resultant different approaches, contributed to the variation. Some implementing agents followed a more top-down approach in the implementation, which in many cases led to negative results. The other reasons for the different outcomes of the programmes relate to the historical context of the region, its natural resource base and the degree of farmer participation.

The second part of the chapter critically evaluated the different elements of the FSP. The provision of credit under the FSP typically followed the conventional approach to credit programmes and therefore needs adjustment to ensure viable rural financial institutions. In terms of input provision by the parastatal development corporations and its co-operatives, it is accepted that these institutions have a major role to play due to the absence of private suppliers from the areas under consideration. These institutions have largely succeeded in providing agricultural inputs at the right place, on the right time and in the right quantity. The provision of mechanisation services by individual contractors proved to be successful, although problems of coordination and shortage of contractors did appear. Approaches to extension differed largely between the three areas. Conflict and institutional confusion and coordination were major problems in the extension effort of Venda and KaNgwane. In Lebowa, where LAC took sole responsibility for extension, none of these constraints was experienced and a good and coordinated extension programme was achieved. Marketing lacked the most in all three case studies and very little attention was paid to market development.

Turning to the shortcomings of the FSP, it became evident that the aspect that lacks most is that of institutional capacity building. Like in the case of many projects that successfully achieved their physical targets, the FSPs can be criticised for their negligible impact on institution building. Many of the FSPs discussed here tend to be managed and not nurtured resulting in no local institutional capacity being established.

The targeted approach of the FSP was also questioned since it is argued that it tends to be exclusive and tends to increase rural inequity. A more broad based strategy to provide support services (not necessary including credit) to smallholders in the less-developed areas of South Africa is proposed. A movement away from a project type of targeted approach is necessary to ensure a normalisation of agricultural support services in South Africa. In view of the new political dispensation and the inevitable restructuring of the agrarian sector it is doubtful whether the FSP will survive in its present format and way of implementation. With a refocussing of agrarian institutions towards the smallholder sector expected, a national strategy for the provision of support services to smallholders will have to be designed on similar lines as in Zimbabwe. The FSP framework might serve a certain purpose but more important are the lessons learned during the implementation of the FSP, which would be of much more value to such a broad based effort. But Eicher (1994) and Eicher and Rukuni (1992) warn that the process of restructuring farming institutions and scaling them up to serve the smallholder majority, will involve complex managerial problems. The challenge for South Africa, therefore, lies in the restructuring and reorientation of agricultural support institutions to ensure a broad base provision of services to all farmers.

CHAPTER 6

SUMMARY AND CONCLUSIONS

6.1 SUMMARY

6.1.1 Introduction

It is widely accepted that the South African agricultural sector will have to be restructured in view of political requirements that will demand changes towards a greater participation of black farmers in the agricultural economy of South Africa. It is, however, true that the inherent dualism of South African agriculture poses the greatest challenge to a restructuring programme. It is accepted that it will take a long time to rid the rural economy of the imbalances created during the period of apartheid rule. Such a process will naturally include the reform and reorientation of the present governmental and agricultural support structures to serve the needs of the large number of small-scale farmers in the rural economy. It is, however, unlikely that a restructuring process will rid the South African rural economy of its intrinsic dualism within a year or two.

The disparities between agriculture in the developing areas and the traditional "white" commercial agriculture is a matter of great concern in a process of restructuring South African agriculture. Affirmative action measures will be necessary to remove these imbalances, inequities and inequitable access to resources and markets. This is particularly necessary in the case of the large number of people living in the developing areas (homelands) trying to make a living from agriculture, but who lack access to inputs, credit, infrastructure, extension and markets. It is therefore argued that programmes which could address these constraints could make a meaningful contribution to the restructuring of the rural economy as a whole and the agricultural sector in particular.

It is against this background that this study intended to determine how a comprehensive farmer support strategy could enable black small farmers in the

"homelands" to compete with the (white) commercial farmers. These farmers still have serious handicaps. Backlogs in the provision of education have left them with fewer farming and managerial skills, because of general poverty they have very little capital, and due to the traditional communal tenure system in the "homelands" they lack experience in individual entrepreneurial action.

There are indications that a comprehensive farmer support strategy is an appropriate option to remove inequities in agriculture as well as inequitable access to agricultural resources. Farmer support programmes, providing complementary, co-ordinated and timeous services to the broad mass of farmers have the potential to raise the overall utilization and efficiency of agricultural resources. The Farmer Support Programme or better known as the FSP was formally introduced in South Africa by the Development Bank of Southern Africa in 1987 as one of the major agricultural development strategies to support black farmers who have been historically denied access to basic support services.

The first objective of this study was to show the evolution of strategies and policies for agricultural development in homelands up to the present where the emphasis is placed on broad based support programmes to rural households.

Secondly, the study reviewed experiences with providing credit, fertiliser, hybrid seeds, extension and other support services to small-scale farmers in other less-developed countries in the world. Thirdly, and related to the latter was the objective to review the literature to assess the current approaches to and debate on service provision to small-scale farmers in developing countries.

The fourth objective is to highlight the South African experience in providing support services in a broad-based and sequential manner to farmers in the developing areas of South Africa. This was done through studies in three of the areas where the Farmer Support Programme (FSP) was implemented. The purpose of this part of the study was to evaluate the performance of the FSP and assess the contribution of the programme to increased agricultural productivity and improved household food security. The bulk of the information for this study was obtained from a three year programme to evaluate the implementation of farmer

support programmes in three of the "homeland" areas in South Africa, i.e. Venda, Lebowa and KaNgwane.

Given the experience with the FSP and the international experience with similar programmes and provision of the various support elements, it was possible to contemplate the future role of this programme in a restructured agricultural sector.

6.1.2 Approaches to agricultural development in the South African homeland areas

Three distinct phases of agricultural development strategies in the homeland or developing areas of South Africa were identified. These are betterment planning since 1936 up to the late 1970s; centrally managed project farming and farmer settlement projects during the 1970s and 1980s and farmer support programmes since the late 1980s.

Based on the in-depth overview of each of these phases of agricultural development it is evident that the strategies were generally devised to fit into the ideology of "grand apartheid". The farmer support strategy, to some extent, attempted to rectify a few of the wrongs of the past by improving the productivity of agriculture in the homeland areas with a more broad based approach. Although this was the intention of the programme, the way in which the guidelines were formulated and the way it was implemented gave the impression that only a minority of farmers would benefit.

A DBSA policy paper entitled "Policy guidelines in respect of farmer support programmes" (DBSA, 1986) provided the basis on which farmer support programmes (or FSPs) were implemented. The "guidelines" and the seminal work of Van Rooyen, Vink and Christodoulou (1987) was, what has been referred to as the paradigm shift in the DBSA's, and for that matter South Africa's approach to agricultural development. The philosophy underlying this approach is the principle of fair or equitable access as a means of achieving justice in society. Due to the inequitable access of black farmers to the agri-support system in South Africa it was argued that measures such as a support programme which could rectify these

imbalances and provide fair access to the market, could improve economic efficiency.

6.1.3 The provision of support services to small-scale farmers in less developed countries

Literature on agricultural development as well as literature on agricultural change and the alleviation of rural poverty is full of examples of smallholder agricultural development strategies that, amongst other things, emphasise the provision of services and support elements to smallholders.

The experiences of a number of developing countries in providing support services and agricultural institutions to small farmers were discussed. Most of the countries mentioned followed the smallholder route in agricultural development on the premise that broad based agricultural growth strategies are the best way to alleviate poverty. The lessons from the experiences of the various countries show the fundamental role of the government in the provision of basic support services such as agricultural research, extension, rural infrastructure, credit, etc.

The experience of Zimbabwe in this regard is of particular relevance to South Africa, given the similar colonial history. Furthermore, a bi-modal strategy of agricultural development was followed in the pre-independence period which resulted in a similar dualistic agricultural sector. Zimbabwe's maize revolution showed what benefits could flow from removing the constraints and racial barriers faced by small-scale farmers. Zimbabwe's experience also highlighted the complex managerial problems involved in restructuring farmer support institutions and scaling them up to serve the majority of farmers in a nation - i.e. the smallholders.

The debate and approaches to the delivery of certain of the support services to small-scale farmers were discussed and reviewed.

Several approaches to the provision of extension were listed and discussed but most of the literature on agricultural extension emphasises that there is no blue print for an ideal extension service. When extension systems are designed they

should take into account the particular circumstances and farmer characteristics. From the review of literature it became evident that government efficiencies, community participation and a bottom-up approach to extension are important aspects to be considered in the design of agricultural extension systems.

In reviewing the literature on agricultural credit programmes for small-scale farmers it is evident that attention should be given to a new approach to credit provision to the rural poor and small-scale farmers. The old approach of cheap credit and supply-led credit institutions is increasingly being discredited in favour of a new way that emphasises savings, loan recovery and self-sustainability and viability of financial institutions.

A lot has been written on the appropriate input delivery systems for developing countries. The problems with state input delivery systems are widespread, but consensus is yet to emerge on the appropriate roles and functions of the private sector and that of the state sector. Several authors stressed the fact that direct farm input procurement and distribution by the government has generally not been successful. Other authors are of the opinion that efforts to provide physical, social and institutional infrastructure that could improve the performances of private sector firms and co-operatives, would be more productive. Government-sponsored parastatals can play an important part in facilitating these efforts, but more research is required to determine the role of these institutions. It is likely that this role could be larger in remote areas. It is therefore suggested that policies and programmes should be implemented which would facilitate the development of multiple competitive input marketing channels, one of which might be governmental.

Government intervention in agricultural marketing in developing countries was usually motivated as improving the efficiency of traditional marketing systems and to rid the small-scale farmers of the perceived exploitation by private traders, merchants and money lenders. Parastatal marketing organisations were formed to perform these tasks but proved to be failures across the board. Marketing co-operatives had problems and weaknesses similar to the parastatals.

In view of the problems and weaknesses experienced by parastatals and co-operatives it could be argued that a marketing system based on cooperation between the state and the private sector could do much to overcome many of the problems of marketing systems in less developed countries. Improving rural market physical infrastructure and organisations could also help to rid marketing systems of their problems.

The literature review provided little evidence on the benefits of the provision of mechanisation or tillage services. On the whole the literature was particularly negative on the question whether the introduction of tractors in traditional agricultural systems was appropriate. There is, however, evidence that tillage services can help farmers to cope with specific seasonal bottlenecks or overcome conflict in the timing of activities. There is no evidence that these services should be administratively provided. It has been shown that government tractor services failed in almost all developing countries. There should therefore be no constraints put in the way in which these services are organised and provided. Preferably it should be left to private entrepreneurs or groups of farmers sharing tractors and equipment.

Throughout the discussion on the various support services and institutions the importance of investment in rural infrastructure was emphasised. In the FSP guidelines this aspect was also identified as one of the elements of a support programme. Despite this very little has been invested in infrastructure in the areas where the FSP was implemented.

6.1.4 The South African experience with agricultural support programmes

The major part of this study presented the South African experience with the implementation of support programmes in traditional farming areas in three of the "homelands", i.e. Venda, Lebowa and KaNgwane. This is largely based on the results of two rounds of surveys of households who participate in the Farmer Support Programme (FSP) in the Kadishi and Phokoane areas of Lebowa, the Mashamba and Khakhu wards of Venda and the Mswati, Mlondozi and Nkomazi areas of KaNgwane. These findings together with an analysis of institutional

aspects of the programme were used to evaluate the various elements of the Farmer Support Programme.

The research consisted of three phases. The objective of the first phase was to give an overview of the position of the households and the agricultural scenario in the respective areas and to evaluate some of the FSP elements implemented. Sample surveys were conducted in the initial phase of the study. The second phase consisted of conducting interviews with implementing agents, input suppliers and contractors. The third phase involved a second round of household surveys to evaluate certain elements of the FSP. But due to the very dry conditions a lack of farming activities in many of the survey areas was experienced, which made the evaluation exercise not possible. This resulted in a change in objective for the third phase to that of monitoring the performance of the FSP under drought conditions.

In order to determine the impact or effect of the FSP, the ideal would have been to make a comparison between the situation under the FSP and the conditions experienced before the implementation of the programme. Thus, to compare the present situation with a baseline scenario would give a clear indication of the impact of the FSP on aspects such as agricultural output, input usage, household income and food security. Such a baseline study was, however, never done as was explained in Section 4.2.

Because it was impossible to determine the impact of the FSP, the best alternative available was to compare FSP farmers with those not taking part in the programme, or easily identifiable as farmers not being members of the various co-operatives or farmers' associations or those not receiving extension and training or credit. By means of this process it was possible to obtain some idea of the impact of the FSP on agricultural output, input usage, household income, food security, debt levels and standard of living. However, this process also has flaws, since non-FSP farmers might be able to obtain access to various support services. It is therefore not possible to arrive at intended conclusions based on the differences between FSP and non-FSP farmers.

The main findings from the analysis in each of the three survey areas are discussed next.

VENDA

The constraints experienced by Venda farmers in the target areas were identified as being:

- low local availability of agricultural inputs;
- insufficient extension and technical advisory support services;
- untimely and low level of availability of mechanisation services (winter ploughing / late planting); and
- a lack of local institutional structures to coordinate and effect input acquisition and produce distribution.

It was found that the implementation of the FSP and the various elements of the programme, to a large degree succeeded in alleviating the mentioned constraints. Farmers who joined the FSP had improved access to inputs, extension advice was generally available to them and mechanisation services were more available and more reliable. The farmers' appreciation of and high regard for the mechanisation services provided by the FSP co-operatives could be related to the fact that untimely and low level of availability of mechanisation services was probably the biggest constraint for many of the Venda farmers. This was further emphasised by the important contribution of this element of the FSP to increased maize production, as shown in the discriminant analysis.

The increased availability and/or improved access to an input package consisting of tillage services in combination with improved seeds and fertilisers are the elements of the Venda FSP that had the biggest impact on the agricultural situation and practice of the households. Additional analyses showed that the contribution of access to credit to improved agricultural situations was not visible. Although access to credit is to some extent linked to the input package described above, the analyses show that the impact of credit in Venda is not that great.

Although extension advice was provided to farmers in general, and also contributed to increased production, the farmers' dissatisfaction with the extension service was clearly evident from the results of the household survey. This stems to a large extent from a lack of commitment by the extension officers of the Venda Department of Agriculture and also from a lack of coordination between the Venda Department of Agriculture and the implementing agent (Agriven). The extension officers are not responsible to the FSP programme manager and they do not report to him at all. This creates all sorts of problems, mainly in terms of total lack of coordination and accountability.

From the institutional analysis it is evident that the local institutional structure as a whole is still lacking coordination and efficiency. Some of the institutional structures established when the FSP was implemented, have disbanded or are in effect defunct. This aspect, being identified as the fourth constraint facing farmers, is clearly not resolved and it seems as if institutional inefficiencies, duplication and coordination are the major problems of the Venda FSP at present.

For a more efficient operation of the FSP in Venda it is recommended to have a review of the institutional framework within which the FSP operates. No institution or organization and/or committees should be involved and responsibilities assigned unless there is a clear definition of accountability by such an institution, organization and/or committee. All efforts must be aimed at closing the responsibility-accountability gap. This will comprise cutting out the "dead wood" in the FSP's institutional framework.

The FSP should, within the development corporation, be accorded a higher level of managerial and organizational structure than the current sub-section in which the programme is managed. A fully fledged FSP section should be established within Agriven, manned by a team of well-qualified personnel rather than the present one-man show. All personnel involved in the FSP must, as a matter of practical rationality, fall under the supervision of a well-qualified FSP Programme Manager.

Although the implementation of the FSP in Venda seems to be generally successful, unfavourable climatic conditions, higher indebtedness and institutional inefficiencies could influence the success of the programme to a large extent.

The results of the second survey showed that the drought had the same impact on all households in rural Venda, irrespective of their access to support institutions. The disastrous drought resulted in virtually no recorded maize harvests across the board. The FSP households were particularly constrained due to their inability to repay their loans and resultant increased debt load. The drought showed that households purchasing farm inputs (such as fertiliser and new seed varieties) on credit (or cash) do have increased risk due to the sensitivity of these new maize cultivars for adverse weather conditions. A slight drop in yield would make it impossible for households to repay their debt and to feed the household.

LEBOWA

From the surveys and analyses it appears that the success of the FSP in Phokoane is based on access to one of the FSP elements, namely extension and training. All other elements are in one or other way attached to this service. At present, it seems as if the FSP (especially at Phokoane) is successful, but it must be stressed that this is to a great extent based on the positive influence and commitment of the LAC officials involved in the FSP.

Besides extension and training, analyses have shown that the availability and access to credit, fertiliser and seeds were major contributors to the improvement of the agricultural situation of the households, especially in the Phokoane region. It was also found that in all three survey areas, size of agricultural land had the largest impact on Phokoane households' agricultural situation.

In general, it can be concluded that the implementing agents in Lebowa are determined to contribute to the upliftment of the rural population. Institutional record keeping is improving and the impression is gained that the FSP in Lebowa is successful. However, there is a lack of own decision-making by the participants

and co-operatives, which indicate that the FSP, to some extent does not meet the objective of "learning-by-doing".

The FSP in Lebowa has the support of the people since it helped them to overcome their major daily problem - hunger. The FSP banished hunger by improving the food security situation in these areas and by contributing to a better livelihood for thousands of households in rural Lebowa.

The institutional structure of the FSP in Lebowa is much slimmer than in Venda and there seems to be no major coordination problems as the programme is the sole responsibility of LAC. A lack of extension personnel seems to be a major inhibiting factor. The dedication and commitment of the LAC officials and their two extension officers are the major factors contributing to the successful implementation of the FSP in Lebowa. The officials from LAC succeeded in bridging the cultural and communication gap between the implementing agent and the people. Although the approach is somewhat patronizing it is done in such a manner that nobody is offended.

The successful implementation of the FSP in Phokoane contradicts the difficulties experienced with the implementing of the programme in Kadishi. The success of the FSP in Phokoane can be attributed to the personal interest of the LAC extension officers in the Phokoane area. It could also be argued that their approach was specifically designed to the circumstances in Phokoane and was successful because they were always present in the area and viewed the programme as a personal challenge. The difficulties in Kadishi are to some extent attributed to the political division in the community and to the region being isolated from the rest of Lebowa.

The effect of the drought in Lebowa was particularly noticeable from the difference in maize yields between the two surveys and also the lower number of respondents being able to sell any maize. The yield reduction as a result of the drought also resulted in households needing to buy more maize than in the 1990/91 season. This was due to the fact that the majority of households were unable to produce enough maize for household needs. This is clearly manifested in higher household expenditure on maize meal.

In comparison with the results of the 1991 survey at Phokoane, the findings of the 1992 survey indicated that the households in the latter survey viewed the various elements of the FSP as less available than the respondents in the 1991 survey. It is only the access to mechanisation services which was higher amongst the households surveyed in 1992. Because the two surveys did not necessarily cover the same households, it is impossible to make any conclusions from these results regarding the availability of the various support elements. Regarding the availability of credit it was possible to get some indication of the improvement in access to it. This was done by asking respondents in the 1992 survey to indicate whether they had access to credit facilities in the previous season, 1990/91. Only 58 per cent of the respondents said that they had access to credit facilities in the previous season. This had dramatically improved to 71 per cent of households for the 1991/92 crop season.

KANGWANE

Evaluating the Farmer Support Programme in KaNgwane proved to be difficult because of a number of problems. Firstly, the wide diversity of farming activities and the differences between and within regions, made analysis and interpretation of the survey data somewhat tricky. Secondly, difficulties in identifying farmers and farmers' associations under the FSP complicated matters further. Thirdly, institutional cooperation in the evaluation process was sometimes lacking. Furthermore, general record keeping on the extent of the FSP *per se* was lacking, both with the farmers' associations as well as with the implementing agent. A paucity of useful data at the institutional level caused a problem to put the survey results in the correct perspective. These aspects resulted in difficulties in obtaining meaningful results from the analysis. Contradicting results were often obtained and for that reason different approaches as well as different angles were considered. In this section the survey results were initially discussed.

It is relatively uncertain whether the FSP contributes to increased agricultural output and improved standard of living. The results from the discriminant analysis, which was based on a limited data base, indicate that access to credit and extension make only a relatively small contribution to increased maize output. It

is mainly factors outside the FSP framework, for example cattle ownership, which contribute to increased output. However, FSP participants do achieve substantially higher maize yields per hectare than non-FSP farmers. In subsequent analyses based on data from the second survey it was found that credit availability significantly contributed to the improvement of the agricultural situation of KaNgwane households.

Agriwane followed a strategy of group lending in the provision of credit for agricultural activities. Although the idea seemed to be sound, the manner in which the strategy was managed was not. In interviews with farmers and farmer groups a lot of dissatisfaction was found concerning the provision of group loans. A number of groups defaulted on their loans and contributed to the dissatisfaction. The problems related to the group lending scheme, could be attributed to groups being too large and too divergent. It is important that groups under such a dispensation should be small and have the same interests and operations. This is not the case in KaNgwane.

The drought impacted severely on the KaNgwane households' surplus maize production. In the 1991 survey, 80 per cent of the respondents were able to sell surplus maize while only 13 per cent of the 1992 respondents were able to sell surplus maize. Despite the drought 75 per cent of households still managed to earn an income from crop production, mainly from selling vegetables produced under irrigation in community and homestead gardens. Income from livestock sales was higher in the 1992 survey probably as a result of increased sales by the few large livestock owners in the region due to the dry conditions and deterioration of the condition of animals.

Although the various elements of the comprehensive agricultural support service as stipulated in the project description were implemented, there seems to be a lack of coordination between these elements. The approach of providing all the elements as a "package" was not adhered to. Thus, there exists no sign of a holistic approach linking all the FSP elements. The impression was also gained that Agriwane, as far as the FSP programme is concerned, is merely run as an on-lending institution working to ensure full repayment of the loans. This resulted in

a lack of commitment with regard to the other elements of the FSP approach. Agriwane plays, however, an important role in providing extension and training to farmers.

6.2 CONCLUSIONS

The implementation of farmer support programmes succeeded in improving the access to basic support services of agricultural households in the developing areas of South Africa. The FSP thus succeeded in alleviating many of the constraints these households experienced because they were previously denied many of the basic support services and institutions. The evidence from the three case studies discussed in Chapter 4 shows, however, that the results of the improved access and comprehensive provision of services are not uniform.

In Venda for example, no clear conclusion on the success or failure of the FSP has emerged from the discussions and analysis. A number of positive aspects were identified but the major weaknesses in terms of institutional inefficiencies, the relatively poor natural resource base, the poverty, the high risk of commercial dry land maize production in Venda, cast some doubt over the ability of the FSP to ensure a sustainable agricultural development process.

On the other hand the success of the FSP in Lebowa was much more evident. This is largely attributed to the tremendous yield response resulting from the successful adoption of new cultivation methods and the use of correct fertiliser and hybrid maize varieties. The success of the programme in the Phokoane area is to a great extent due to the way in which the needs of the community were met, in terms of food production. The rapid expansion of the membership of the co-operative and the adoption of the new cultivation techniques by other farmers in the region not participating in the FSP (the so-called spin-off effects from the Phokoane extension programme) are further evidence of the success of the programme. Initially the farmer groups receiving extension comprised mainly of women in their 50s and 60s. Their success in farming and in producing enough staple food for the household led to more and more younger people taking up farming.

Further proof of the success lies in the community's positive perception of the programme and the fact that they attribute their improved food security situation and increased yields to the "school" which taught them the "maize language". The FSP restored hope and self-confidence in the community and many farmers are proud to tell of their success in farming.

In KaNgwane confusing and contradicting results made it difficult to judge the success of the FSP. However, judging by the perceptions and views of the farmers it seems that the implementation of the FSP in KaNgwane was not a great success. One contributing factor could be the fact that the FSP was only provided to dryland farmers while the irrigation projects and farmer settlement type projects applied to irrigation farmers. These farmers received services in a different manner and often more of Agriwane's man hours are spent on these projects than on the FSP. Dryland farming in the Eastern Transvaal lowveld, where KaNgwane is located, is very risky and often not suitable for commercial maize production because of the high temperatures and unreliable rainfall.

The effort by Agriwane to improve the accessibility and availability of modern inputs by establishing a number of service centres throughout KaNgwane was courageous and needs to be commended. However, as was argued earlier, the availability of inputs and credit do not guarantee a successful outcome for the programme. The results of the analysis also do not indicate that the improved access to agricultural services have led to an increase in output and improved living standards. Good coordination with the other elements, in particular extension, is necessary to ensure success. It seems as if the lack of coordination in the delivery of the various elements, the lack of good and coordinated extension, the strict credit policy and the manner in which the group credit scheme was operated contributed to the limited level of success of the FSP implemented in KaNgwane.

The varying degree of success can be attributed to a number of factors, such as the historical context of the target areas, the different approaches followed by implementing agents in the implementation of the programmes, the natural resource base and finally the degree of farmer participation.

Based on the evidence from the three case studies it can be concluded that the coordination of, and availability of all the support elements are of particular importance to the successful implementation of support programmes of this nature. The commitment shown by the officials involved, especially the extension officers, is also a critical determinant of the success of the programme. The Phokoane case study, in particular, has shown how the commitment of the officials involved in the Phokoane FSP has contributed to the success of the programme. It was further instrumental in ensuring the programme's positive contribution to improved agricultural productivity and improved household food security. A third factor which would also play a major role in ensuring a successful outcome of farmer support programmes is the manner in which farmers participate in the programme and in what manner the programme addresses the needs of the local community. The importance of a bottom-up approach came out quite clear as was shown by the limited success achieved in certain of the programmes, where old fashioned top-down approaches were followed. Following from this discussion it can be concluded that coordination, commitment and participation are crucial elements in the implementation of farmer support programmes.

The aspects listed above refer in particular to broad guidelines to be considered in the implementation of the programme. The potential of the programme to achieve improvement in agricultural productivity also relates to the way in which each of the services and institutions are provided to farmers. It is therefore also necessary to discuss the approaches which should be followed in the provision of each of the support elements or services.

The importance of the availability of a package of services came out clearly and relates to a large extent to the element of coordination between the various services discussed above. Although a coordinated effort of all services is important it is also evident that it is not necessary that all the services must be provided by one institution. The objective of promoting an entrepreneurial spirit, as well as the objective of promoting economic activity in the other sectors of the rural economy, requires that more than one institution should be involved in the provision of agricultural support services. It is therefore also necessary to encourage individual entrepreneurs to provide some of the services such as mechanisation, input

provision, etc. In addition it is argued that government and its parastatals, due to its bureaucratic inefficiencies, should not be involved in the provision of all the services. Government does however, have an important role to play in terms of investment in infrastructure, institution and capacity building, extension services and research. Apart from this government should also ensure a favourable policy environment.

The approach to providing credit in all the FSPs was typical of the conventional style credit programmes. Many of the FSPs experienced high default rates, resulting in credit becoming less accessible to many of the clients of the programme. Credit seemed to be the most controversial element of the FSP, since it often led to disillusionment amongst the farmers. The negative effects of subsidised interest rates and the lack of savings mobilisation contributed to the reliance of many of the implementing agents on public sector injections of capital. It is therefore suggested that the credit element of future FSPs should pay more attention to the characteristics of successful and viable rural financial institutions. This implies lowering of transaction costs of both borrowers and lenders, charging market related interest rates, and the inclusion of deposit mobilisation and other services. Finally, it is argued that credit provision should be provided by independent and viable rural financial institutions which will not only provide credit for agricultural production but offer a variety of financial services and credit to satisfy all the financial needs of the rural population.

In providing inputs provision it would ideally be done by independent and private enterprises. The establishment of agricultural co-operatives or improved access to existing (so-called white) co-operatives would often be the best avenue for input provision. The private distribution of inputs is favoured, given the problems experienced in other countries with government involvement in input distribution. But because there is a lack of co-operatives and depots in many of the developing areas, it is foreseen that the government, through its parastatals, will probably for some time to come, assume responsibility for input provision.

The experience with private tractor contractors proved to be much more successful than previous government tractor hire services. The only problem many of the

FSPs experience is the growing demand for mechanisation services and the lack of available contractors. This aspect is still a major constraint to farmers in some of the areas especially during planting time. The financing of more tractor contractors or the joint ownership of tractors by farmer groups is something that will need attention.

Extension can probably be viewed as the one element of the support programme having a major impact on its success or failure. It was shown that the main problem with extension is the low level of efficiency and effectiveness in general. A commitment by the extension officers and good extension methods was found only in Phokoane and this to a large extent explains the better performance of the FSP at Phokoane. The Phokoane extension programme showed the importance of bridging the cultural and language gap and applying good extension methods. Many of the other FSPs can learn from the Phokoane programme.

Because of the serious inefficiencies in many extension systems in the developing areas of South Africa extension was not being effectively applied in all the FSPs, except Phokoane. A large effort to supplement the extension officers' formal education will thus be necessary to improve the service in many of these areas. Furthermore, support by subject matter specialists would be necessary and farmers would have to be involved in the extension effort to a much larger extent. Extension should be needs based and also be based on informal adult education methods. These aspects should seriously be considered in a revitalisation of the extension services in many of the developing areas.

Very little improvement in marketing infrastructure and access to markets have been noted as a result of the FSP. It was, however, not seen by any of farmers as a major constraint in their farming ventures. The co-operatives served as marketing outlets as well as depots for storage of maize for home consumption. Many farmers sold their surplus commodities out of hand to local traders or to other members of the community. The absence of markets as well as the gap between consumer and producer prices leave little incentives to produce surplus. The development of the marketing aspect therefore also needs some serious attention.

Apart from the shortcomings in the various elements of the FSP some shortcomings related to the basic approach of the FSP were also identified. It was found that the emphasis on target groups and target areas is undesirable since large sections of the rural population could be excluded from basic agricultural support services. Targeting is in many cases linked to credit provision to minimise loan defaults. Targeting and selection of clients for that purpose could be justified, but targeting in terms of the other support services does not seem logical. Targeting resulted to some degree of exclusivity in many of the programmes studied here, and thus negatively influenced the community's perception of the programme. It is therefore also unnecessary to isolate livestock support in a separate programme. All services should be provided so that households could pursue their own activities and be able to make their own decisions. The support services, such as inputs and extension services should be structured so that all potential agricultural enterprises in a particular region can be realised given the natural resource base and other local conditions. Thus, the local conditions (socio-economic as well as resource) should be the determining factors in the composition of the support services in a particular region. Targeting does not seem to be necessary.

A further shortcoming of the FSP as currently implemented is the lack of emphasis on local institution building. Although the FSP guidelines mention "learning-by-doing" as one of the objectives of the FSP, this was not achieved. In the majority of cases studied, a lot is still been done for the farmers. Often the farmers are not included in decision-making. The lack of institutional capacity is especially evident in the various co-operatives and in the process of credit provision. It became evident that capacity building should be emphasised more in future FSPs.

Access to land and/or the acquisition of land is something that has not been included in the scope of the FSP, due to various institutional and legal constraints that existed until recently. This is naturally an aspect that will have to be included and as such the programme could then fit in well in a future land reform programme. It is accepted that to have successful land reform sufficient support services will have to be in place. A comprehensive support programme could therefore play an important role in ensuring a successful outcome of a land reform programme.

The FSP was "born" out of the acknowledgement of the inequitable access to agricultural support services and institutions experienced by black farmers in the developing areas of South Africa. The FSP was designed as an approach to improve the access of these farmers/households to basic agricultural support services. The 35 farmer support programmes financed by the DBSA thus far made only small inroads in this massive task. In addition only a few of the FSPs implemented since 1987 had the desired results in terms of improved agricultural productivity and improved household food security. Unfortunately a number of these FSPs resulted in more indebted households and increased disillusionment as a result of the failure of yet another agricultural development experiment.

This study has shown that the FSP has the potential to improve agricultural productivity and household food security, if correctly implemented. The evaluation of the FSPs in the three areas has provided valuable lessons for future implementation of FSPs. In addition to these conclusions and suggested improvements it is recommended that the task of equalising access and opportunities for the farmers in the developing areas of South Africa, should be given a high priority in the Department of Agriculture. Because a change in emphasis and reorientation towards black small-scale farmers is expected the formulation of a national strategy to normalise agricultural support services should be high on the agenda. This would involve restructuring, assimilating and rationalising the existing extension services, removing the racial barriers to access to credit and marketing, redirecting the research system to the priorities of the smallholders, etc.

The piecemeal manner in which the FSP was implemented was perhaps its biggest shortcoming. It is therefore argued that the FSP should become a national strategy to rid South African agriculture of its dualism. Localised programmes, similar to the current FSPs, could then be the operational side of the national strategy. The FSP would now at least have the backing of the Ministry of Agriculture and would and should be part and parcel of the agricultural policy of the government.

What now is needed is the political will and commitment to rid the agricultural sector of its dualism and to make all services available to all farmers in South

Africa. The FSP framework, as well as the experience with the FSP, could serve as basis to normalise the agricultural support system. It is clear that it will have to be a national strategy (and not a piecemeal effort) coordinated within one ministry. The government should create a conducive policy environment, provide efficient extension on a participatory basis and could in some way be involved in providing credit, preferably through viable rural financial institutions. It is, however, clear that without a coordinated national strategy based on localised programmes within communities, this effort could also end up as one of the many failures in agricultural development. In this national development effort, investment in human capital and investment in and development of local institutions will be of the utmost importance.

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