CHAPTER SEVEN: DESIGNING A NEW PROJECT AT SHEILA

7.1 Introduction

This study aims to prove that a support strategy based on a redesigned project planning, implementation and evaluation approach is an intervention facilitating access to services and resources for differentiated farmer groups. The design described in this chapter is therefore based on the study's hypotheses that a project approach that accounts for economic diversity in an agricultural community is required to facilitate access through integration of role-players.

In previous chapters it has been established that extensive diversity exists at Sheila, despite the fact that this community resides in a fairly homogeneous land type and perceive themselves as farmers. It was further established that the previous project had benefits, but failed to sustain widespread empowerment, particularly due to a lack of focus on human capacity development and participation.

Given current constraints in terms of land access, credit availability, the state of mechanisation and farming skills, the project approach (again) represents a potential intervention to foster development. Redesigning of the approach entails that the project planning, implementation and management cycle is extended to include the project design criteria derived at through this study. This is elaborated upon in the strategies discussed, as part of an *ex ante* analysis to estimate the impact of these strategies on each of the groups defined in the previous chapter. The rationale is to enhance resource allocation efficiency and facilitate appropriate support strategies for the specific farmer types.

As a result of variation found in farmer potential and requirements, a differentiated approach to agricultural development at Sheila was first proposed by Bembridge *et. al.* (1982). According to this analysis only 10% of the Sheila farmers were potentially independent farmers. It was further argued that roughly 40% would not be susceptible to development programmes, due to socio-economic constraints, while the remaining 50% could, with guidance, improve their livelihood. These findings are largely supported by this study's results. Moreover, these conclusions support the project approach, based on a typology. The four farmer types identified could not be forced into one Taylorist model of support. It is conceivable that although one overall project could be used, differences in regulatory and support services should be established. The farmer-types described will consequently be subjected to logical framework analysis, describing strategies suitable for each type, based on a project approach. These strategies will be evaluated as basis for support recommendations.

The first step in this procedure was to consult again with a selection of the participants dealt with in the previous chapter, with regard to constraints and possible solutions. The methodology used was the Logical Framework Analysis (LFA) described in chapter three. After the LFA the intermediate impact (institutional change) is dealt with, as this links closely to the results from the LFA. The stakeholder level impacts, indirect impacts and concluding systemic impact framework follow. This order differs somewhat from that used in the *ex post* analysis, but is more logical for an *ex ante* analysis.

7.2 Defining issues and impacts

7.2.1 Logical Framework Analysis: The participative group process

As part of the *ex ante* impact analysis, a participative group process was organised with representatives of the four types of farmers, as determined with the quantitative survey reported on in the previous chapter. This entailed separate meetings with the representative groups. The names of the participants are attached as Annexure 4. The selection process was that all those interviewed and forming part of a particular group, were invited, and a representative sample of each group did take part in the subsequent meetings. Participative discussions led to the identification of the main perceived constraints. During this process a problem tree analysis was completed through contributions from the farmers. Although the problems described by the different farmers' types are linked to one another and to the main issue of cultivation, it is meaningful and illustrative to construct four problem trees. Logical linkages between these aspects are highlighted and solutions that impact on all groups facilitated in the process.

7.2.1.1 Dynamics of sharecropping at Sheila

Given the land tenure system in the Sheila area, sharecropping plays a central role in all crop farming. This phenomenon also featured in the reasoning of all four groups when constraints were discussed. Sharecropping is therefore described in some detail, to enlighten the subsequent discussion of constraints. Sharecropping arrangements for access to land do impact, although in different ways, on all farmer types. As described previously, agricultural land in the area is state-owned and was allocated in 15 ha units to residents at the time of project development. Given the tenure system limitations, access to land for new entrants and farmers wanting to cultivate more than 15 ha often is problematic. The only way in which innovative farmers could access more cropland is through sharecropping the land of inactive farmers. Sharecropping entails forms of land hiring. As described previously, this was first documented in the RSA during the previous century as the manner in which black farmers' utilised white owned land (Van Onselen, 1996). Sharecropping takes place between consenting parties. Particular arrangements vary extensively, depending on the demand for land and the economic position of the landowner. The types of sharecropping common at Sheila can be described in the manner in which individuals fit the typology and the extent of landowner participation:

1 Pure hiring of the land – the landowner is paid an agreed upon fee for use of his land and has no further active interest in the enterprise. These arrangements are not common, but represent sharecropping between commercially orientated farmers and inactive landowners.

2 Pure sharecropping –the land lessee hires the land of the landowner for a part of the harvest – usually a tenth, paid in bags of grain. The landowner again takes little active interest. This is popular amongst progressive entrepreneurs or commercialising farmers in dealing with inactive landowners.

3 A shared contract – both the land owner and the land lessee provide part of the capital – often both spent capital, i.e. the owner pays for seed, fertiliser and labour while the lessee provides mechanisation and fuel. Variations on this theme occur. The landowner is active in the whole process. This is common where landowners have resources available and the cropper requires support in financing the enterprise.

4 The landowner is hiring the services of a farmer (contractor). He buys his own inputs and pays for all activities i.e. cultivation, weed control and harvesting. The landowner is the active farmer, more involved than the contractor. Here landowners are relatively well of and influences the contract significantly. This form is also popular with active farmers, as their risk decreases when landowners take responsibility.

Although sharecropping is the manner in which cultivation takes place, there are obvious differences in which the different types of farmers deal with circumventing the constraints inherent in the land tenure system. There are positive aspects to these sharecropping arrangements, as they do spread risk and represent a relatively low cost approach to land hiring. For example, obtaining land for ten percent of the eventual harvest can be viewed as cheap. Informal rental arrangements on communal land suggest that provision of credit to access land could greatly increase *de facto* access to production rights for enterprising farmers (Van Rooyen, 1993). How these arrangements fit the profile of the farmer types and can be made more efficient, given the specific constraints, is dealt with next.

7.2.1.2 Describing constraints - Logical framework analysis:

From the following section it will be clear that there is overlap between the constraints of the different types of farmers in the typology. Some of the problems are however unique to specific types of farmers. The following descriptions of the specific constraints in crop farming for each farmer type were identified during both the qualitative and quantitative surveys and were comprehensively described during the participative LFA process.

7.2.1.2.1 Inactive landowners

This group of respondents represented land right holders who during the evaluation were inactive and were not planting the 15 ha allocated to them. During the participative process it was ascertained that no respondent in this group had their land planted during the previous season. It was also perceived unlikely that this would change in the following season. This farmer type, called 'inactive landowners', became progressively less active since the termination of the project during 1994. For the past few seasons this most vulnerable group has not gained any benefit from their allotted cropland. During the evaluation a year earlier, less than half of this group planted, and then only small areas, on average 1ha in size. Mechanisation services are usually hired. This group has limited access to capital, as signified by an average monthly spending of R760 on essentials. The group represents 19% of the total population. These farmers do not qualify for credit, as they are considered too risky to finance.

Given the lack of secure tenure, no security is available for lender institutions to recognise. The mean household also owns significantly less stock than the average for the study area, further illustrating this types' lack of assets. The critical issue is that these farmers' lands are not utilised, providing neither income nor food. They are highly vulnerable, as illustrated by fewer income sources, less access to resources, and less food than other farmer types. The indirect lack of access to land contributes to poverty and hunger. The most obvious solution, expressed by this group, would be to hire out their land for sharecropping.

However, various factors contributed to a lack of sharecropping in recent years. One reason is that no relationship of trust exists between landowners and sharecroppers. Inactive landowners perceive that they have often been exploited in the past, not receiving their fair share of the output of their land. For most members of this group, sharecropping would entail a simple provision of land for a sum of money or more often a part (usually a tenth) of the harvest. They often perceive the share they receive as inadequate. Another perception amongst inactive landowners is that most sharecroppers cannot cultivate 'their land' properly due to failing mechanisation, causing low yields. This also limits sharecropping contracts. This group is significantly poorer than any other group and limited resources are geared towards survival, further limiting their influence in negotiations for sharecropping.

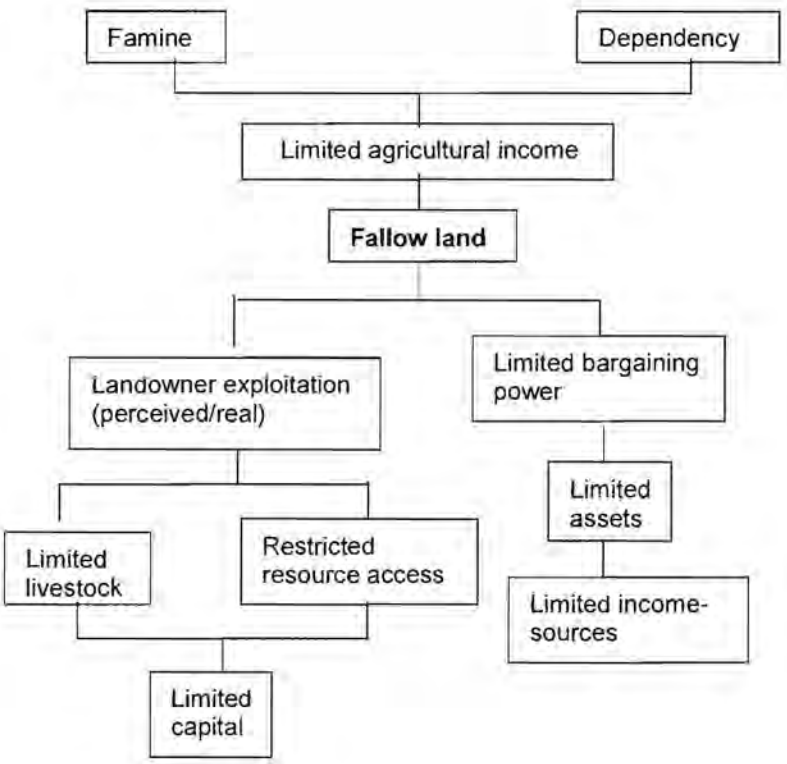

Figure 7.1: Problem tree for 'inactive-landowners'

7.2.1.2.2 Opportunists

Another participatory process was initiated with a representative group of those land right holders that do occasionally utilise the land they have rights to, through contracting the services of sharecroppers. This group differs from the totally inactive landowners in that they do have access to some resources. Although they in general also have access to only 15 hectares, the nature of their sharecropping contracts usually differs somewhat from those that inactive landowners use in that they have more bargaining power. During certain years when money becomes available, they would enter into variations of sharecropping with active farmers. This entails that opportunists provide some of the inputs and/or labour. This slightly more influential group therefore could bargain for a more favourable contract, i.e., leading to a larger share of the harvest.

These respondents also suffer some of the same constraints that the previous group experience: They occasionally also feel exploited, although they have more influence during negotiations, given their relatively higher financial status. However, where these farmers can at least during some seasons afford to hire the services of a sharecropper, these services are not always available. Mechanisation services are becoming extremely scarce due to the poor state of mechanisation in the area generally and the lack of sharecropper resources. Another constraint is that many in this group have built up considerable debt, first with Agribank and recently with the Landbank. Therefore, this group effectively also has limited access to credit.

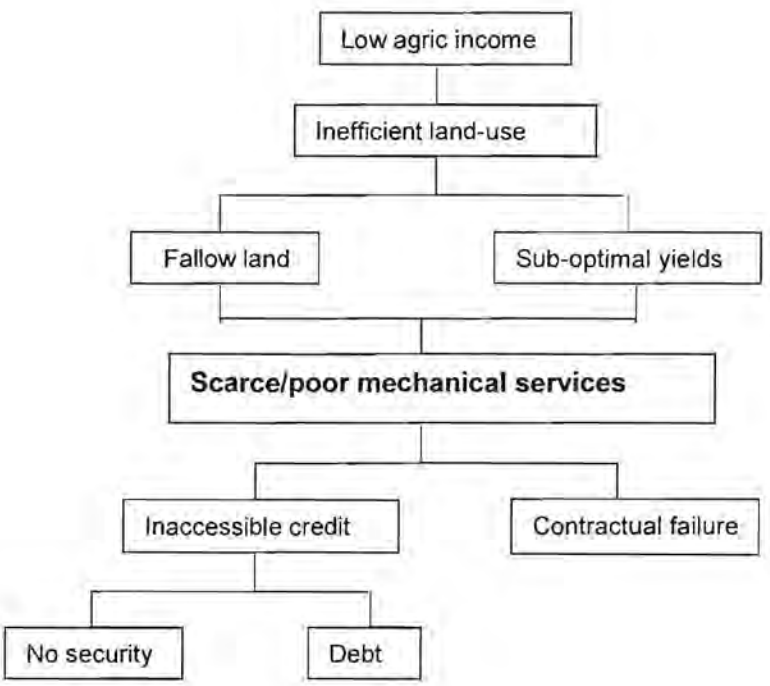

Figure 7.2: Problem tree for 'opportunists'

7.2.1.2.3 Entrepreneurs

This group shares certain constraints with other groups i.e. the communication breakdown with landowners, failing mechanisation and most importantly; access to credit. The general lack of access to capital does hamper any effort to improve mechanisation capacity. This type of farmer can also not offer land as security to the bank and had often run into debt in the past. However, this group does in general cultivate their 15ha as well as additional land.

Entrepreneurs complain that their contracts with different landowners are often misinterpreted: Where two landowners with contracts with the same cropper receive different shares, the cropper is often accused of wrongdoing, whilst the cropper would claim that these lands provided different yields, given an inherent variation in potential. Another significant concern is that their mechanisation is failing and funds for improving the situation are not available. This impacts on the potential yield, given that cultivation is most often sub-optimal.

Not only is access to credit a problem, but once loans are granted, the administrative process is often slow, impacting negatively on eventual profit. Many from this group obtain loans from the Landbank that are subject to the handing in of invoices to the co-operative. Orders have to be placed at the co-operative for inputs; invoices must then be obtained and subsequently provided to Landbank. The bank finally has to issue cheques to the co-operative. This process can take up to two weeks and longer, often leading to untimely cultivation practices. A related concern is that credit is often granted at a late stage in the season, when the optimal planting time has past. In many cases the 'window of planting opportunity' has closed by the time loans are available. Some farmers that obtained late credit persist to plant, even though the ultimate yield is affected negatively.

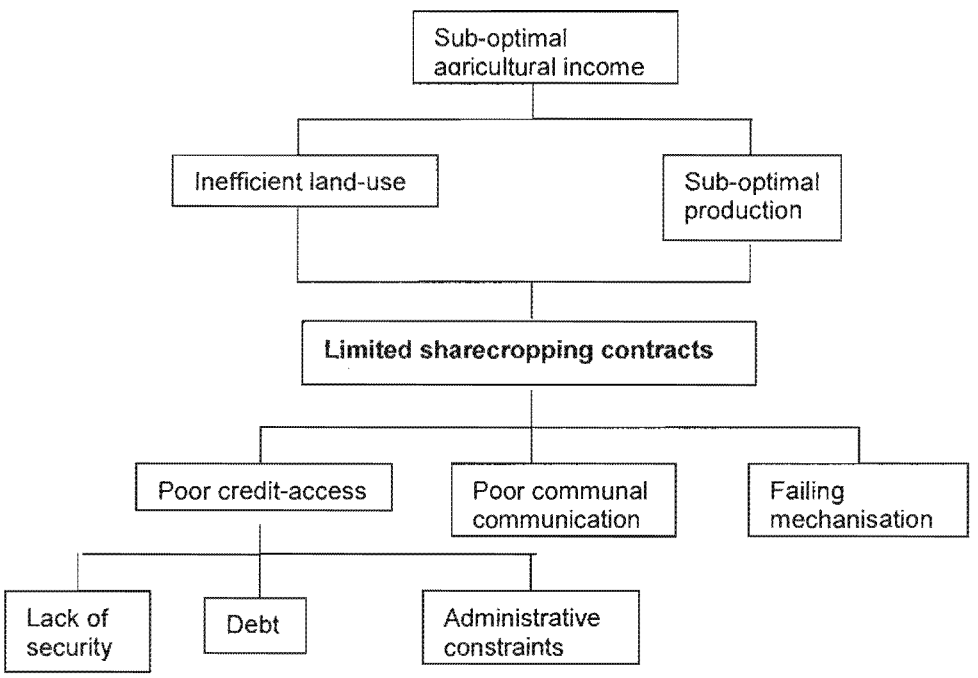

Figure 7.3: Problem tree for 'entrepreneurs'

7.2.1.2.4 Commercialising farmers

All active farmers (entrepreneurs and commercialising farmers) perceive relationships between themselves and landowners as damaged. However, this is more intense for commercialising farmers, as they are viewed with particular envy because of their higher financial status. That some landowners use contractors from outside the ward (including neighbouring white farmers) is especially painful to commercialising farmers: they are most anxious to increase their cultivated area, as they best understand the principles of economic efficiency and economies of scale.

These farmers with capacity to plough more land find that many landowners are avoiding sharecropping arrangements with them, because they fear being exploited. Many landowners would rather leave their land fallow than to 'enrich' a perceived exploitative farmer. Another constraint is that when sharecropping is agreed to, contracts are most often for the duration of a season only, making it difficult for farmers to invest in inputs for sustainable utilisation i.e. liming for a more favourable ph, creating a more optimal environment for production.

Also problematic is where a contract is agreed upon, but not honoured by the landowner. A farmer would for instance prepare an area to find that the owner cannot provide the inputs agreed upon. Irrespective of the farmers' ability to obtain finances and negotiate another agreement, the farmer is not compensated for his initial investment.

Sharecropping lands at a distant village (as does occur) also has economic implications in terms of transport costs and security. With fences being in a poor state, the subsequent lack of security enhances theft and the destruction of crops by stray animals. Inactive land right holders are not interested in the upkeep of infrastructure.

This most progressive group of farmers also suffers from the effects of failing mechanisation and many of them need to replace at least part of their mechanisation. Farmers also complain that their relationship with the co-operative is a concern. They feel that they are not always getting a fair price, due to poor grading of their yield. The relationship with the co-operative as an important partner in input and output marketing is most often not perceived as conducive to production.

A constraint that is of particular concern to this group is the impact of theft. Maize is often stolen as green maize and even as grain. This even takes place in a form of organised crime where large gangs hire transport from an unconcerned farmer, 'harvest' a targeted land during the night, thrash the maize cobs at an isolated place and sell the grain to the co-operative.

The ultimate result is that many farmers with more than one tractor plough less than 150 ha, rendering the enterprise's economics questionable.

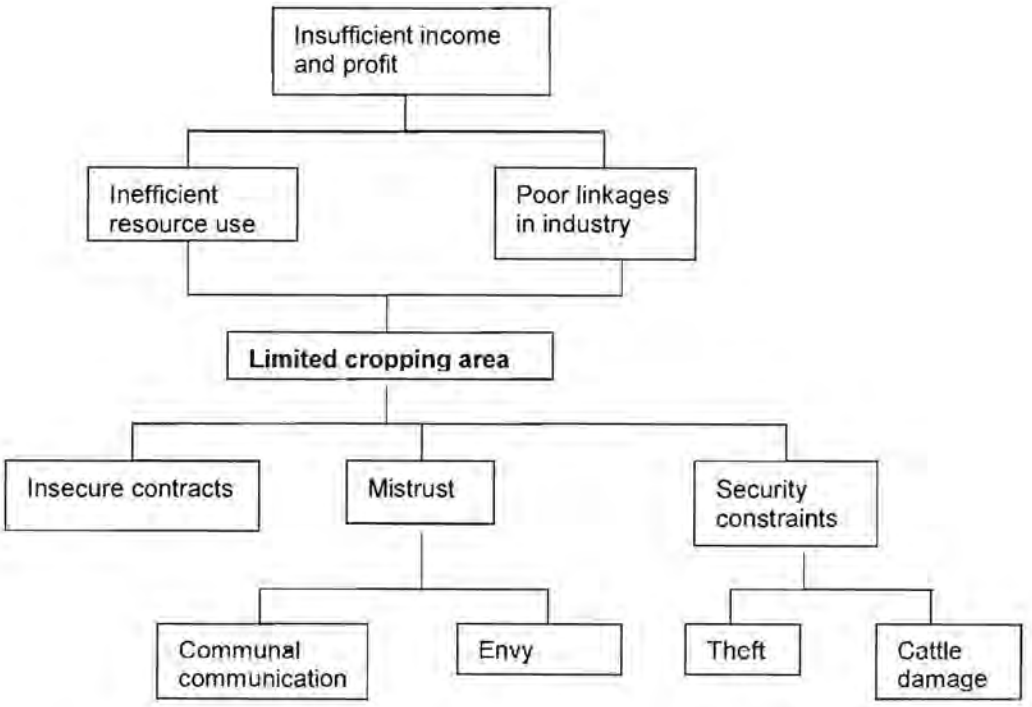

Figure 7.4: Problem tree for 'commercialising farmers'

The main constraint, 'cause' or root problems for the four farmer types entail fallow land; scarce mechanisation services; a lack of sharecropping contracts; and limited cropping areas respectively. These root problems are clearly related and deal to a significant extent with limited access to capital and with limited co-operation within the community. The ultimate result for the total community is large areas lying fallow and limited agricultural activity. This causes serious problems in terms of lack of income and in the case of poor landowners, leads to increasing poverty and even hunger. For more affluent farmers the obvious impacts are less income and less efficient mechanisation use. Economies of scale become important. The common denominator is ineffective and inefficient land utilisation.

In the following figures the problem trees are transformed into objective trees. This is a methodological step that enables the description of the envisaged future situation, which should be achieved through a strategy in which the problems are solved. This step enables the identification of the objectives and their position in the hierarchy; to show the activity-ends linkages in the diagram or 'objective tree'. This is a required step and guides the logframe matrix, which is to follow.

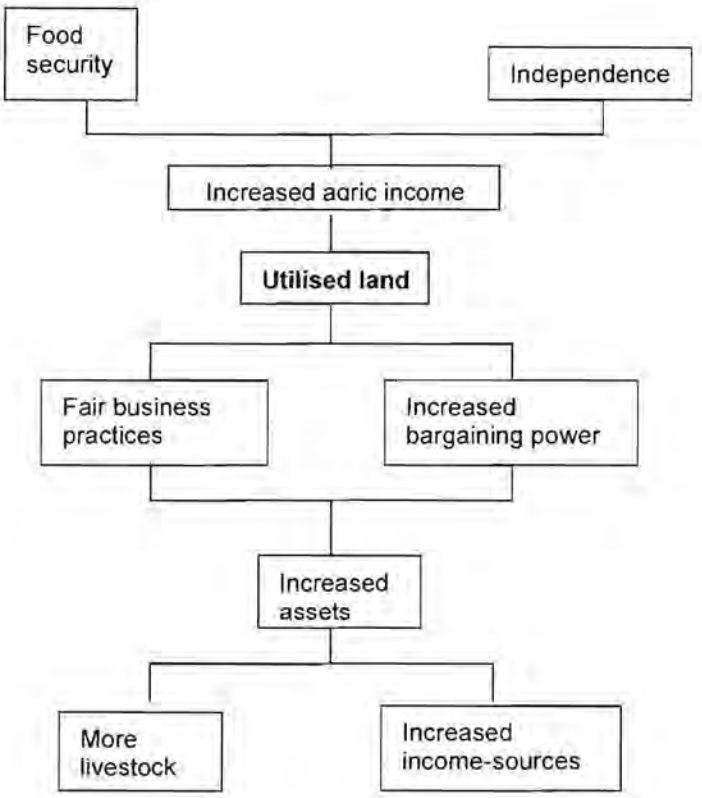

Figure 7.5: Objective tree for 'inactive-landowners'

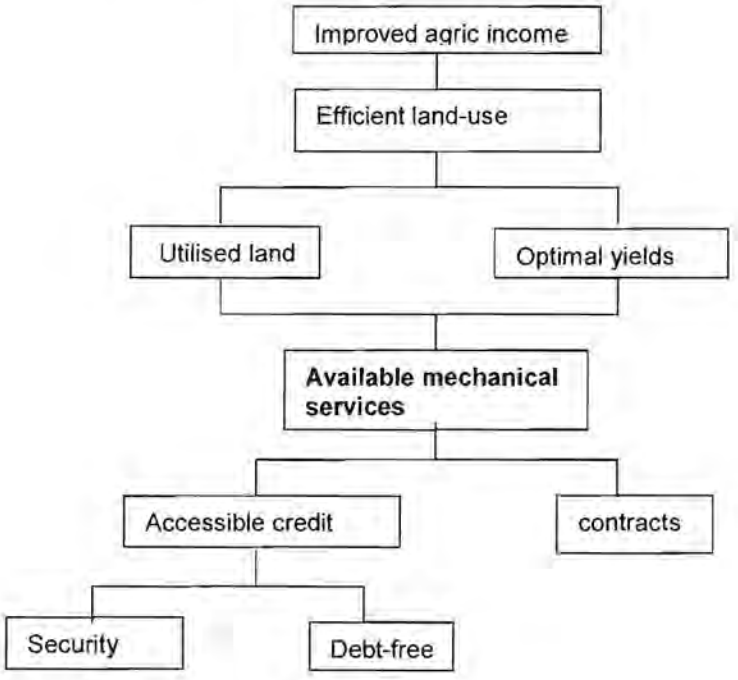

Figure 7.6: Objective tree for 'opportunists'

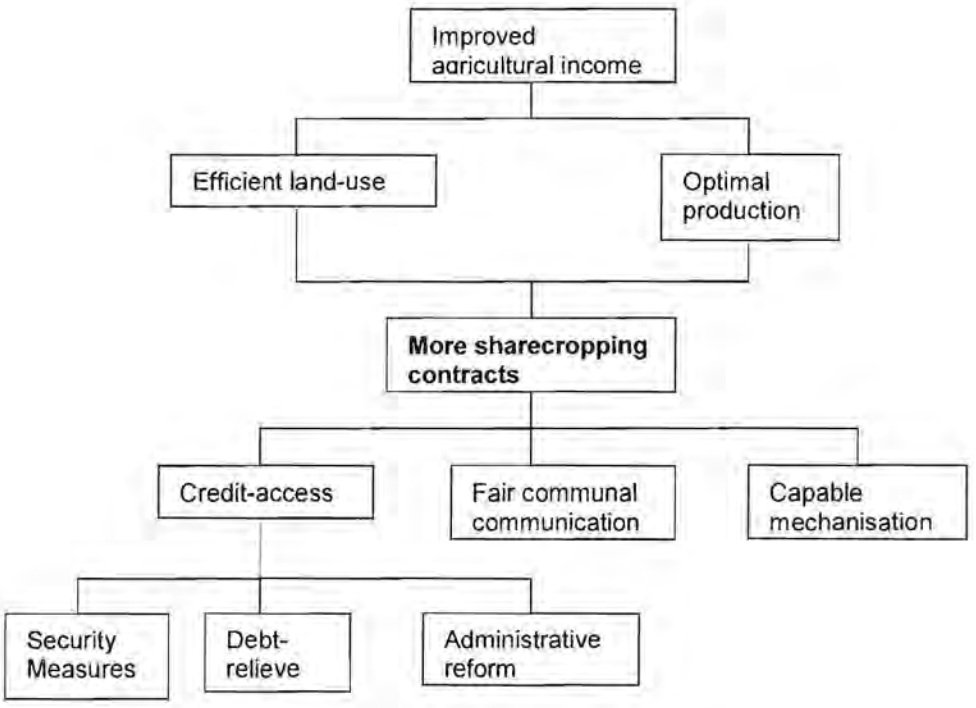

Figure 7.7: Objective tree for 'entrepreneurs'

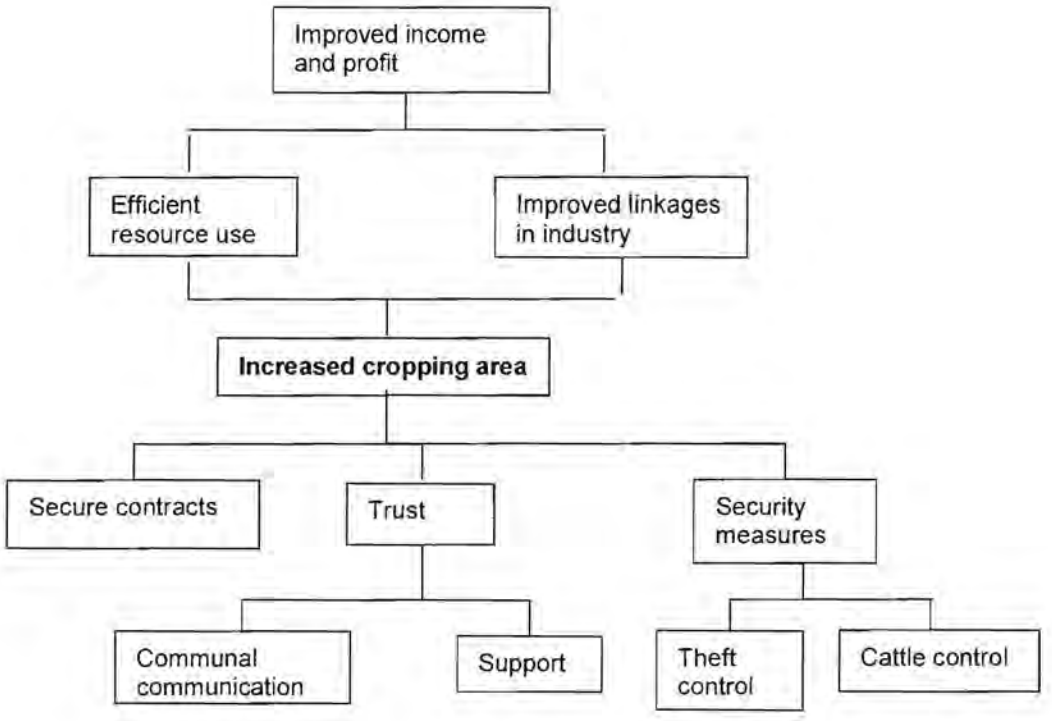

Figure 7.8: Objective tree for 'tree for 'commercialising farmers'

7.2.1.3 Project design - Logframes for farmer-types

This analysis deals with the four types in the Sheila typology. However, the main goal of all four groups could be described as obtaining improved livelihoods (for the two poorest types especially) and higher profit margins (for the two more affluent types). This is achievable through increasing sharecropping contracts and thus the area utilised. This is illustrated graphically in figures 7.5 – 7.8, where similarities are found, but unique features for development are isolated. The particular objectives and activities identified as required for each group are described through the LFA process and concluded with the logframes designed for each farmer type.

7.2.1.3.1 Project design for 'inactive landowners'

The goal of an intervention for the inactive landowners would entail income from their 15ha plots, leading to food security and self-sufficiency as opposed to dependence on the state. The purpose as described in the logframe would therefore be to increase the area at Sheila being utilised, specifically the land these inactive landowners have access too. In this manner an asset currently idle, could be made profitable, through income obtained from the land as a result of a cropping enterprise.

The main intervention strategy for this group would consequently be to improve relationships within the community (specifically between themselves and the croppers), to facilitate more and improved sharecropping contracts. For this to occur, other required interventions will include improving the organisation and capacity within the community to facilitate representation of all groups, capacity building and security. This process is described in the logframe in Table 7.1.

Table 7.1: Project design through a logframe for 'inactive landowners':

	Intervention Logic	**Objectively verifiable Indicators**	**Sources of Verification**	**Assumptions**
Goal	Food secure, self-sufficient households	Nutrition/health & employment data, Hh income	Publications, reports, CSS statistics	
Purpose	Land utilised for agric income	Contract #, area planted, yield data	Contract documents, reports, records	Community & role-players committed
Intermediate results	Rectify communal relationships Facilitate participative contract development	Regular group-interaction, study group activities, contract #'s, utilised area	Input & yield data, contracts, reports, study group minutes	Goodwill and trust can be developed Support & skills available
Activities	Organise & empower viable study-groups. Organise communal security system Establish alternative income-generating projects	Group formation process, constitution & goals, HCD schedule, planning process, resulting proposals & implementation	Minutes, programmes & schedules, project reports, proposals	Participant commitment to co-operation and project revival. Means & leadership available in community

7.2.1.3.2 Project design for 'opportunists'

The goal of an intervention for opportunists would, as for the inactive landowners, entail income from their 15ha plots, leading to agricultural income and improved livelihoods. The purpose as described in the logframe would be to increase the area of opportunists at Sheila being cultivated, to utilise the land asset currently providing no income.

The main intervention strategy for this group would consequently be to facilitate access to capital or credit, which would facilitate access to mechanical services. Other required interventions will include improving the relationships and organisation of the community to facilitate capacity building, security and increased profit. This process is described in the logframe in Table 7.2.

Table 7.2: Project design through a logframe for 'opportunists':

	Intervention Logic	**Objectively verifiable indicators**	**Sources of verification**	**Assumptions**
Goal	Improved livelihoods/profit	Nutrition/health data, jobs, Hh income, profit	Publications, reports, CSS statistics	
Purpose	Increased contracts: i.e. production	Contract #, area planted	Contract documents, reports, records	All stakeholders committed & involved
Intermediate results	Access to capital (credit) & mechanisation	Loans granted, inputs bought, # of working tractors, area ploughed	L/bank reports, Coop records, ward records, reports, yield data	Debt, security issues dealt with, viable links forged
Activities	Study group development & HCD Participative contract development	Programmes, training schedule, results, records	Programme and project reports, publications, constitution	Participant commitment to process & communal action. Leadership, support & skill available

7.2.1.3.3 Project design for 'entrepreneurs'

The goal for this group would entail improvement in agricultural income, through the grain-enterprise. The purpose for entrepreneurs is therefore to revive sharecropping contracts with inactive landowners. Key strategic interventions in this regard would include facilitation of access to capital and the closely linked improvement of mechanisation equipment. Other interventions this group requires are agreements with service providers, through improved linkages, as facilitated by a project approach.

An intervention actually applicable to all farmer types would be the restoration of landowner-cropper relationships within the community. Particular actions to be taken to achieve the goal and purpose of entrepreneurs would include a participative group process to explain the potential and particulars of sharecropping. This should be facilitated through the formation and empowerment of study groups for each group, each with its particular focus. The logframe for this group is provided in table 7.3

Table 7.3: Project design through a logframe for 'entrepreneurs':

	Intervention Logic	Objectively verifiable indicators	Sources of Verification	Assumptions
Goal	Improved agricultural income/profit	Yield data, Net farm profit, Hh income	Publications, reports, CSS statistics	HCD implemented & management sound
Purpose	Increased contracts: i.e. production	Contract #, hectares planted, active farmers	Contract documents, reports, records	Communal commitment, acceptable agreements
Intermediate results	Access to capital (credit) & functioning mechanisation	Loans granted, inputs bought, # of working tractors, area ploughed	L/bank reports, Coop records, Dept. records, reports	Debt, security issues dealt with & link established
Activities	Develop linkage with Coop, L/bank etc., organise participative contract development.	Agreements, proposals, Resources: loans, mech., contracts, groups	Written agreements, contracts, NWC, L/bank records	Commitment to cooperate; links viable, facilitation effective

7.2.1.3.4 Project design for 'commercialising farmers'

The goal for this group would be improvement in production efficiency; addressing the constraint of economies of scale. An increase in the area cultivated, towards a more economic optimum, would therefore be the purpose of this group in an intervention or project. Key strategic interventions in this regard would include improving the efficiency of resource use and the facilitation of effective linkages with other stakeholders in the agricultural industry. The aim of these interventions would be to facilitate cost-effective access to capital, services and resources, as facilitated by a project approach. An intervention also applicable to this farmer type would be the restoration of relationships within the community, particularly with landowners. A participative group process to discuss the sharecropping process should lead to improved understanding. Landowners would appreciate the constraints of the enterprise and could be informed to question results from a position of knowledge. Communal agreement on a project, with scope and sub-projects for the four types in the Sheila typology, facilitating access to resources and services could be achieved. This should be facilitated through the formation and empowerment of study groups for each group, each with its particular focus. The logframe for the commercialising groups is provided in table 7.4

Table 7.4: Project design through a logframe for 'commercialising farmers':

	Intervention Logic	Objectively verifiable indicators	Sources of verification	Assumptions
Goal	Improved agricultural income and profit	Input & output data, net farm profit, agric income	Publications, reports, CSS statistics	Sound communication, security & management
Purpose	Increased cropping area: i.e. efficiency	Contract #, area planted, active farmer #	Contract documents, reports, records	All committed to process & HCD
Intermediate results	Develop linkages with key-stakeholders to facilitate access to resources & services & rectify relationships	Loans granted, inputs bought, agreement-contracts	L/bank, Coop & other reports, Dept. reports, transaction records	Relationship established between role-players through organised communication & credit arrangements
Activities	Study groups formed, HCD instituted, contracts developed, linkage agreements established	Programmes & minutes, input-output contracts, sharecropping contracts Resources: loans, mech., contracts, groups	Stakeholder reports, contract records	Acceptable & skilled leadership & facilitation

7.2.1.3.5 Concluding remarks

Much of the land previously cultivated at Sheila is currently lying fallow, generating no income. The results are low income and profit in the best cases and no income, poverty and hunger in the worst. Given the limiting tenure system, a viable manner in which to generate profit from this land is through sharecropping, facilitated through acceptable contracts between landowners and croppers. While each type in the Sheila typology should have a distinctive support-focus, the common goal is to increase the productive area and to obtain and enhance agricultural income through grain production.

The LFA results clearly indicate potential for reviving the project. However, specific actions must be initiated for the results, purpose and goal of the project to be realistically expected. This must include a participative planning process, with a focus on empowerment. The four types scientifically defined should form some form of study groups, each with its particular focus in the overall project, as a critical phase of institutionalising the project planning and implementation cycle. In these forums issues regarding contracts, responsibilities and rewards can be resolved, contracts can be initiated, and people can participate fully in the process of capacity building. This issue is crucial if a sustainable project is to be implemented.

A condition for effective implementation of the project must entail the crucial intervention of dealing with restoration of landowner-cropper relationships in the community. Without a relationship of trust, addressing contractual failures, general land access in the area is not possible. A linked strategic intervention is to empower and capacitate all four types in the Sheila typology. During this human capacity development process the complex crop enterprise can be made clear to those not directly involved, to create understanding. Crucially, community responsibility for security can also be developed. All groups must become part of the project revival process. This process should besides the obvious element of empowerment, facilitate transparency, to improve relationships. The resultant improved trust, capacity and organisation within the community should create a strong bargaining forum.

The approach for each farmer type should differ, through strategic interventions that complement each other and the overall goal of increased productive land through more, improved contracts. Key is improved access to capital, particularly for active farmers. This, as well as the closely linked improved mechanisation services can be facilitated through agreements with service providers, i.e. effective linkages. These should include local service providers and marketing agencies. Particularly the NWC and Landbank should be approached. Committees representing farmers and service providers should be institutionalised to develop feasible and mutually acceptable proposals that facilitates farmer access to capital, input and output markets. Such institutional agreements should be financially rewarding for all stakeholders. Given the potential of the area in terms of human and physical resources, this is certainly possible. Mutually acceptable sharecropping contracts between land right holders and croppers will also require written agreements or contracts. Developing binding documents demands a preceding capacity building process. As previous sharecropping agreements resulted in many misunderstandings, it is necessary to give ample attention to this manner. Active farmers during

consultation proposed the use of a third trusted party as an arbiter to explain the difficulties of the cropping enterprise to landowners. This could be investigated.

Another related and very important participative activity would be to deal with security. Theft is one of the main constraints identified and security must become a community priority. A type of awareness campaign in the area should therefore take place, culminating in all types taking responsibility for the security of the enterprise. Selected members of the community should be capacitated to form a security team, responsible for patrolling the cropping area.

The final action would be to develop a comprehensive agreement with all relevant stakeholders regarding provision of all services and resources. This must clearly spell out the responsibilities of all stakeholders, including the various farmer types. It should also describe institutional arrangements. All preceding actions must be dealt with, including group formation and a capacity development program. This procedure clearly entails a comprehensive project proposal that can be evaluated in terms of potential impact.

The engagement with the Sheila community dealt primarily with redesigning the project, to ensure survival and engagement of those inactive and to enhance the production of the active groups. However, once this process is successfully implemented, the inactive groups in particular, should be engaged in a process to investigate further opportunities generated through the revival of the project. Once the benefits of increased production, yields and income are realised, inactive landowners could for instance develop a subsequent proposal for an alternative project. This group, as well as the opportunists should utilise the benefits obtained from their improved financial position, in appropriate ventures, fitting their resources. Empowering these homogeneous groups must initially entail the development of organisations with bargaining power, crucial for continued participation and a sense of purpose. This would create an sound environment for interactive training, organisation and co-operation.

The success of the project intervention is dependent on certain conditions. The broader community must accept the project particulars as developed by the various groups, resulting in a limited number of farmers cultivating on behalf of many landowners. All parties must be committed to the process as well as the study group formation, capacity development process and security measures. Volunteers must be forthcoming to fulfil various functions. A certain amount of goodwill must exist in the community while the agreements reached between stakeholders will also demand a high level of acceptability within the area. All this depends to a large extent on the successful institutionalisation of the project cycle within the community, to ensure the sustainability of the project. It is at this point that many initiatives fail; as the theoretical strategy is not implemented vigorously in practise.

In summation, this logical framework analysis described a set of activities to deal with the constraints and opportunities in crop farming in the Sheila area. This effectiveness analysis describes the goals, purposes and envisaged activities for each farmer type, guiding the development of a comprehensive project proposal. This proposal effectively entails a revived project approach, dealing with the two

hypotheses of the study: diversity is dealt with and integration through a project approach is addressed to facilitate cost reduction.

Particulars of how these activities should be handled and will impact on institutions, the enabling environment, the stakeholders (in terms of financial, economic and social impacts) as well as the indirect impacts of this proposed project, are described in the following sections of this chapter.

7.2.2 Institutional impact

7.2.2.1 Strategy:

The proposed intervention or project is to an extent similar to the capital-intensive projects used previously, with the aim to facilitate food self-sufficiency. However, while the aim should still be increased production, the focus should shift somewhat from capital-intensive methods and technology towards participation and HCD. Although the use of capital and a relatively intensive production system is still foreseen, the main focus would be to empower selected participants to act independently. Profit oriented agricultural production should certainly remain the goal – for all stakeholders involved. Initial support or even subsidisation of farmers might be warranted, but all stakeholders should ultimately be able to be profitably involved in the project. A main objective would therefore be to commit specific service providers to the project. While part of the initial focus will be on capacitating selected farmers to engage more land, a concurrent empowerment process of all four types, as organised in study groups will be dealt with. With regard to the design criteria established in chapter two, co-ordination, linkages, and through these; cost saving and value adding is to be addressed. Participation and HCD should be non-negotiable criteria for the project. With this strategy the criteria of dealing with diversity, sustainability and social realities are also recognised.

7.2.2.2 Organisation:

Although central facilitation of services and inputs is again foreseen, this should not entail simple provision. More individual choice and action must be facilitated. A production co-operative, electing a management committee representing all farmer groups as well as service providers and other role-players must be institutionalised. This body with real responsibilities, facilitating production through sharecroppers (not contractors of the project), represents a viable organisational structure. The main difference with the previous project would be that the farmers themselves would take more responsibility. This approach of co-operative management and central services to individual holdings can still effectively combine state, private and co-operative capital in financing and management of a project and subsequently individual holdings. In terms of the developed design criteria, the criteria of optimal linkages are in this way addressed.

The organisation of the study groups for farmer types as well as the central project management committee is crucial to the success and particularly the sustainability of the project. It is only when the

commitment of a critical mass or number of participants is achieved and sustained that progress is inevitable. Of great importance is to allow for optimal individual farmer decision-making. In this mode, the farmer can choose the intensity and cost of production. He bargains with landowners for the area that he could cultivate and utilises inputs according to his yield targets, in correspondence with the capacity building process engaged in. It is therefore vital that study groups should focus on providing relevant information and skills training to capacitate farmers to make informed decisions.

7.2.2.3 Support services:

Support services that are foreseen include infrastructure, technical, administrative and financial assistance. In exploratory discussions, the NWC has indicated that they would commit the services of a seconded manager to such a project, so facilitate efficient technical support (input facilitation, marketing services) and liaison. The existing infrastructure in terms of stores, an office, roads etc., can again be utilised and only minor repairs are required. The proximity of Sheila to Lichtenburg, where the main offices of NWC are situated, is beneficial.

The NWDACE could also provide key support personnel, especially in terms of extension and research. In this manner 'on farm' demonstrations and trials could be facilitated to guide farmers in decision-making. Technology transfer can also be facilitated. These personnel should also play a key role in facilitating the linkages between farmers, the state and private sector stakeholders. The Landbank as primary provider of credit has also expressed interest in the project and could possibly become an active stakeholder in terms of supporting project farmers.

7.2.2.4 Extension, training and access to information:

The main role of the NWDACE would be to facilitate capacity development, in co-operation with other stakeholders. The NWC, Landbank and Grain SA have expressed interest in such a project and it is foreseen that these institutions could be helpful in exposing farmers to information, technology and provision of training. Research and demonstration activities should be priority. These actions should be facilitated through the management committee, study groups, mentor farmers and departmental personnel.

Previous evaluations (Bembridge, et. al., 1982) also argued for an on-farm research focus, particularly continued evaluation of the production process to identify possible improvements. These should concentrate on low cost technology and low external input requirements, given the availability of capital. Ways to minimise losses and the incorporation of multipurpose crops are priorities. Especially for the inactive landowners and opportunists, off farm activities could add value close to the production source and also create links with the broader economy. These activities could conceivably facilitate employment and serve as 'safety net'. Buffering through diversification can play an important role in creating self-sufficiency. Marketing possibilities also require attention, as they are driving forces for any commercial venture.

Managerial aptitude is the most important ingredient in farming efficiency (Bembridge *et. al.*, 1982; Stilwell, 1985). It is crucial that through a well-organised training programme, based on participatory determined priorities, farmers are empowered in sound decision-making. If the linkages between the various stakeholders are effective, farmers should have access to vital information in terms of input and output prices, practices, etc. This combined with a thorough empowerment programme (HCD) would eventually allow farmers to make informed decisions regarding their enterprise.

7.2.2.5 Input supply and mechanisation services:

Given the interest and capacity of NWC, this organisation is ideally placed to efficiently facilitate input and output marketing services from its Lichtenburg headquarters. The existing infrastructure at the primary co-operative at Sheila could be upgraded and used as depot, while the silos in the area should also become available. Active farmers should obtain membership of the primary co-operative and of NWC, empowering them and facilitating access to all the services the co-operative has to offer.

Production inputs, tractors, parts etc., could be supplied through the NWC, and then channelled through the primary co-operative. However, it is crucial that these arrangements do not constitute handouts. Again, although assistance to reduce costs should be facilitated by such an integration process, through the project approach, financial and economic viability should not be endangered and all parties should be able to gain a profit.

Design criteria that need specific attention in this regard are proper co-ordination, effective linkages and real participation by the farmers involved. Again, farmers should be empowered to make their own decisions and no broad 'package' should be universally provided to all farmers. In this manner technological consideration will match the social realities of individual farmers, fulfilling an important project design criteria. It must be possible for an individual farmer to use a unique arrangement that fits his particular enterprise and status. If the foreseen linkages are managed properly so that they are effective and efficient, substantial cost saving could be achieved through this integration of stakeholders. In this way the project approach will be a viable model for farmer development.

7.2.2.6 Procedure:

7.2.2.6.1 Participant selection:

It is crucial that farmer groups are classified and formed on farming ability, experience, performance and interest. This should be a participatory process in which the study groups play a key role. All landowners that have land being used in the project should become part of the process. The study groups should determine the active farmers, to be endorsed by the management committee. This procedure should be agreed upon before the project is initiated.

Ideally the study groups should identify those particular farmers that will be actively engaged in the cropping enterprise, on behalf of all landowners. While the selected farmers will be primarily beneficiaries of the project, the landowners will gain directly from the yield resulting from their land. As members of the study groups, some of those not actively farming would probably be part of the production process. While many would be able to sell their labour on the project, other could become employees i.e. tractor drivers or security officers. As described in the previous section, this process should improve the livelihoods of landowners, which should ultimately lead to the development of alternative projects, through the gains from the cropping enterprise.

7.2.2.6.2 Tenure and land allocation:

All members of the community with access to land feel extremely strong about their land rights. As described repeatedly, this land represents an important part of their livelihoods. The proposed strategy of using sharecropping contracts to facilitate progressive farmers' access to land currently seems to be the only viable option, even if the tenure system is adapted towards individual ownership. Farmers or croppers should through the study groups, bargain with individual landowners for the land they require to function optimally, given their particular resources. Scale is a key variable and economies of scale play an extensive role in the viability of the project. This issue can be guided by support services, but will have to be agreed upon by the individual farmers and landowners.

7.2.2.6.3 Project committee and study group responsibilities:

The management committee should be representative of the four types of farmers identified in the study. This will ensure transparency and commitment. Other stakeholders that must be represented are the NWDACE through its support personnel, the NWC and the Landbank. Other stakeholders that could probably be involved are Grain-SA, neighbouring mentor farmers and the agricultural unions NAFU and NWAU. This committee should be primarily responsible for liaison and decision-making. It should be elected annually although re-election should be possible. This committee must be voluntary and members should not be paid a salary. The committee should receive training regarding effective organisational functioning. It is vitally important that this committee gains the respect of the community and especially the study groups. Farmers should have an equal vote in influencing priorities and other stakeholders should not misuse their position to dominate proceedings, as this will negatively impact on the sustainability of the project. Again the design criteria dealing with co-ordination, linkages and participation must be recognised.

7.2.2.7 Enabling environment:

This project is primarily about facilitation of integration of stakeholders to lower production costs. No major infrastructural adaptations are foreseen. Comprehensive infrastructure in terms of buildings is in place, but will require minor upgrading. The main complex at Sheila consists of various offices, a primary cooperative with a fuel depot, and various buildings for supplies. A training facility with living

quarters are in a poor condition and might be upgraded in future, although this is not an initial priority. No major new facilities need to be provided for project implementation. The layout of the lands as well as fencing of lands should be the responsibility of the farmers.

7.2.3 Farmer-level impact

This people-level impact includes all direct 'on the ground' impacts; i.e. project participants, non-participants, project agents and the community at large. In this evaluation, this impact will include a social, financial and economic impact determination of the role-players described.

7.2.3.1 Social impact

A dryland-cropping project at Sheila, with the main focus on maize production as proposed in this chapter, should have major beneficial social impacts. These should be qualified in terms of resource and income distribution. As government support and facilitation will be required, responsiveness to national policy objectives is also a consideration. Key considerations for government would include employment opportunities, regional growth dimensions, equity dynamics, gender issues, impact on social organisations, change in tenure, division of labour as well as quality of life improvement (Van Rooyen, et. al., 2002).

In terms of national priorities, such a project would fit the Strategic Plan for South African Agriculture perfectly. Most importantly it facilitates access to resources and services for a significant group of farmers, through linkages with the private sector. It constitutes significant potential in terms of entrance into a competitive market. If the conditions specified are followed, this proposed project should be a sustainable intervention from an environmental, social and economic viewpoint.

As the project has as purpose to increase the area cultivated, the foreseen increases in production, food security and profit should impact on employment in the area. Increased economic activity as a result of more agricultural enterprise, would impact on labour requirements, trade in agricultural commodities as well as on other rural activity. This would impact on the labour market as labour plays a key role in agricultural production in the area.

While the initial benefits would be expected to occur in the Sheila area, the success of the project would probably cause an expansion of the project to other parts of the 70 000ha area in Ditsobotla that is suitable for crop production. In terms of the input and output markets required, the regional agricultural network can be expected to deal with significant increases in activity.

As the approach proposed makes provision for diversity, through the facilitation of empowerment of the four types of farmers in the Sheila typology, there is ample reason to believe that all those involved in agriculture in the area should benefit from the project. Increased economic activity should also have a positive influence on expenditure and trade in the area. Although the focus is on those with an interest in agriculture, the newly established municipal councillors as a form of local government, as

well as the traditional leadership are to be involved in the process. As the security of the crops is a major strategic objective of the proposal, the broader community should also be involved and will be made part of the project. A priority is organisational or institutional arrangements, with as a main objective, to facilitate improved relationships. As argued, no change in tenure arrangements, except for a more streamlined and formalised contractual sharecropping is proposed. In this socially responsible way, the emotional and cultural value of land is recognised.

Through the project, distributional effects will most definitely be addressed: more land will be cultivated through the increase in sharecropping. Access to services and inputs could be effectively facilitated and through the project procedures, management practices would improve and production should increase significantly. Once this has been achieved, it is perceived that increased profit will lead to more disposable income and improvement in the quality of life. This will result from increased services, more food, better transport etc., and indirectly through better nutrition, health, the ability to pay for education, etc. The increase in available funds will probably have a positive influence on education levels, as households would be able to afford to provide children with a better education. While most of the farmers in the area believe that the maximum maize yield possible is between two and three tons per hectare, 4.2t/ha has actually been determined as achievable. Only 12% of the respondents felt that 4 tons per hectare was possible. Given the enabling environment that the proposal embodies, the enterprise results might have a much-needed positive impact on the confidence levels in the agricultural community.

7.2.3.2 Financial impact

As stated during the ex post analysis, financial analysis is focused on the business prospects of a project; dealing with profit being calculated at market prices to determine capacity for income at two levels; the farmer's and the agent (public and private sector) level. Prices used reflect the going price for inputs and outputs. The objective is to establish if direct costs (all associated production and capital costs) cover after tax income, creating an incentive to participate (Van Rooyen, 1986). In this analysis, basic enterprise input cost with corresponding yields, sales and household consumption figures were sourced at farmer level. Regarding financial analysis for the agents, cost estimates and the fiscal impact of the project must be determined. This included values of goods and services (investment and running cost) needed to initiate and maintain the project (Van Rooyen, 1986). These costs include those associated with infrastructure, financing, staff, training, marketing, storage, and the effect on the balance of payment. Output deals with estimated yields and sales.

7.2.3.2.1 Without project

The without project scenario in the Sheila area today differs only somewhat from that before the initial project was started in 1976. Land holdings are now mostly 15ha, while farmers that are more successful sharecrop areas of 30, 45 and more hectares, with a few individuals even cultivating 200 hectares. While between 50 and 60 farmers were active during the late 1990s this number has

dropped sharply and during the 2000/2001 season only 15 farmers were active in the Sheila area. This is representative of the scenario during the late 1970s. More than half the lands are currently lying fallow, mostly due to a lack of sharecropping contracts. Sharecropping still is the major form of agriculture, and this is the key to a revival of the area. The limited and declining number of active farmers is due to failing mechanisation, debt and security constraints. Average production during the past few years has been relatively low at 1.7t/ha. However, some of the commercially inclined farmers with fair cultivation practices achieved considerably higher production figures. The few commercialising and entrepreneur type farmers that remain active commonly achieve yields in excess of 2.0 ton/hectare for maize. Given the typology data described, a 'without project' financial analysis for the crop enterprise is described in table 7.5.

Table 7.5: 'Without project' financial analysis for maize for a Sheila typology during 2000:

Farmer type & number/type	Ha/ farmer	Input costs/ha*	Yield/ha (t/ha)	Total ton**	Price /ton	Income /ha	Profit/ha	Profit/loss /farmer
Inactive landowners (23)	2	900.00	0.5	23	809.71	404.86	-195.14	-390.29
Opportunists (46)	10	650.00	1.0	460	809.71	809.71	159.71	1597.10
Entrepreneurs (43)	25	850.00	1.75	1881.3	809.71	1416.99	566.99	14174.75
Commercialising (11)	50	1000.00	2.0	1100	809.71	1619.42	619.42	30971.00

*Input costs determined with help from provincial agricultural economists
**hectares planted x yield/ha x # of farmer type

Animal numbers have dropped significantly during the project's lifetime and the contribution per hectare dropped lower during the past few years, due to further degradation as well as shrinking available grazing. Most farmers state that except for a few animals that are kept near the homestead, their cattle enterprises were largely terminated or moved elsewhere, mainly due to security problems and declining communal land size. In the survey only 17% reported some income from livestock, but this was generally not significant, with high variation. Farmer's during recent discussions stated that the livestock enterprise at Sheila has decreased even further. The more affluent farmers have cattle at posts outside the ward.

Although livestock plays a part in many rural households, in most cases this does not constitute a production-oriented enterprise. The average cattle herd during the survey contained more than 40% male animals, highlighting the sub-optimal nature of the enterprise. This is aggravated by the lack of grazing land, especially in the light of recent extensive settlement of people. Indirectly resettlement also caused a reduction in stock numbers, as theft significantly increased during the past two years. A 'without project' financial analysis for the livestock enterprise is described in table 7.6.

Table 7.6: 'Without project' financial analysis for livestock for a Sheila typology, during 2000

	Livestock numbers*	Livestock costs*	Livestock income (p.a.)	Livestock profit	Total livestock#*
Inactive landowners	5	530.00	600	70.00	455
Opportunists	10	560.00	1300	740.00	250
Entrepreneurs	20	600.00	2000	1400.00	340
Commercialising	40	1800.00	6000	1200.00	340

Figure includes mostly cattle, but also some small stock, pigs and donkeys
*fodder, vaccination, dip, medicine, lick
#based on percentages of type in typology

7.2.3.2.2 Enterprise budget – farmer level analysis

For farmer level analysis, an enterprise budget was compiled. Average input cost (direct cost) data for the area, was obtained from the NWC, and combined into one figure. This figure does represent direct enterprise costs, i.e. fuel, labour, mechanisation, seed, etc. According to the typology established, the commercialising farmers comprise 11 and the entrepreneurs 35 % of the agricultural community at Sheila. This represents 54 individuals who according to the analysis could be effective farmers, if an environment conducive for production could be created. It is assumed that such an environment has been created and that this number of farmers, who could effectively farm, has been identified. Given the typology profile it is further assumed that entrepreneurs would achieve an average production of 2.5 ton/hectare and commercialising farmer 3 ton/hectare during the first season. Entrepreneurs have access to 100 ha each, while commercialising farmers have access to 200 ha each, for a total area of 6500 hectares. It is also assumed that satisfactory agreements with regard to sharecropping have been achieved with the inactive landowners and opportunists. According to NWC, a maize budget, aiming at a 3t/ha harvest would include the following costs:

Variable costs without top dressing (including seed, fertiliser, chemicals, insurance, fuel, etc.): 1078/ha
Variable costs with top dressing (including fertiliser, pesticide, herbicide, labour, etc.): R392/ha
Variable harvest costs (including fuel, repairs, labour, etc.): R134/ha
Therefore total enterprise costs: R1604/ha

This information is used in a basic financial analysis described in table 7.7.

Table 7.7: Financial analysis [in nominal values] of the different farmer types in the project.

Without project		With project								
Farmer type	**Gross income**	**Farmers**	**Ha**	**Ave yield (t/ha)**	**Maize price/ton**	**Income/ha**	**Prod cost/ha**	**Profit/Loss/ha**	**Gross income**	**Net benefit**
Inactive landowners	-8977	23	-	-	n/a				119 600	128 577
Opportunists	73 467	46	-	-	n/a				278 300	204 833
Entrepreneurs	609 515	43	4300	2.5	809.71	2024.28	1350	674.28	2 899 404	2 289 889
Commercialising	340 681	11	2200	3.0	809.71	2429.13	1604	825.13	1 815 286	1 474 605

The 'without project' gross income used in table 7.7 was derived from table 7.5, by multiplying the profit per farmer with the number of farmers. For the sake of useful comparison, the maize price used for the 'without' and 'with' scenarios was the same. Whilst the production cost for commercialising farmers was based on the data provided by NWC, the production costs of entrepreneurs was assumed to be somewhat lower, as this was a typical trend found throughout this analysis. Obviously, the budget compiled for the inactive landowners and opportunists differs from that of the active farmer types. The project model proposed is based on the assumption that these farmers will provide their available land to the entrepreneurs and commercialising farmers. Their income will be derived from fees for providing their land (most probably a tenth share of the harvest) as well as from income from labour. Labour income would be derived from assistance with maintenance and harvesting, as well as

from services in terms of security, etc. Inactive landowners will arguable earn 10% of a 2.8t/ha yield for their 15 ha. This will comprise an income of 10% of R34 000, or R3 400. At an average rate of R20 per day and employment for 90 days during the growing season, an additional income of R1 800 can be earned. This would entail a total income of R5 200.

Given the profile of the opportunists, it can be assumed that this type of farmer would negotiate slightly better conditions for providing his land to active farmers, for the sake of this argument 12.5% of the eventual harvest. This would entail R4 250 for his 15 ha unit. To complicate matters this type of farmer could engage in complicated arrangements with inactive landowners for use of their land, to be used by the active farmers. This process has been described in the initial section of the chapter. For the sake of this comparison it would however be sufficient to use a total income of R6 050 per farmer in this group.

This maize enterprise represented in table 7.2.7 therefore derives an assumed 'with project' agricultural income. These values are presented for the base year of 2002/03, when the project is assumed to commence. It can be deducted from table 7.2.7 that the revival of the project could have significant financial benefit, as a net benefit of R4.1 million is foreseen in terms of the enterprise budgets of the different farmer types. However, it is assumed that a collaborative project would lead to a 10% cut in input cost, through an assumed subsidisation by the NWC, as one of the main stakeholders in the project and the foreseen buyer of the product. This will lead to the total project income achieved by the farmers involved as described in table 7.2.7, to increase from R4.1 million to R5.9 million.

7.2.3.2.3 Project level analysis

This type of analysis provides information on the allocation of funds spent to create the environment (the project) in which the farmer will be operating. Project benefits and costs of the agent (i.e. NWC and NWDACE) must be quantified. All direct project benefits (yields, sales) and costs, i.e. running costs (salaries, etc.), investment costs and opportunity cost for capital (a realistic discount rate), must be determined. The main focus would be on investment, running and production costs. At this stage it is difficult to ascertain the value of such a project, as assumptions regarding these cost would be mostly speculative without engaging the relevant stakeholders. This would entail detailed negotiation to develop a collaboration contract. However, a rough calculation determining cost requirements and benefits of such a project is attempted.

Most of the farmers that will take part in the project are entrepreneurs, for which an average yield of 2.5t/ha is predicted. The commercialising farmers, for which an average yield of 3t /ha is predicted, constitute 20% of the active farmers. An average yield of 2.6 t/ha is therefore assumed for the project as a whole. The maize price during recent years fluctuated significantly from more than R2000/ton to below R800/ton. An assumed average maize price of R810/ton is used in this analysis. The total project income achieved by the farmers involved is calculated as R5.9 million. In terms of running costs, it is assumed that the NWC, NWDACE and the community will each appoint a manager to be

responsible for the day to day management of the project, in close collaboration with the representative management committee described in the institutional analysis. The salaries of these three managers will constitute the running cost of the project. The investment costs of the project, which includes overhead and capital expenditure, infrastructure, equipment, demarcation, etc., will be relatively low, as described previously. However, the upgrading of the current infrastructure, basic equipment and a comprehensive HCD programme will constitute an annual investment of R2.75 million. The annual cost of providing capital, at a realistic discount rate, for the 54 active participants in the scheme will entail another R250 000. Incremental net benefit flow is subsequently calculated (see table 7.8) by subtracting all relevant costs from the net benefits:

Table 7.8: Financial analysis of the proposed revived Sheila project:

Total income	Running cost	investment cost	Loan cost	Total cost	net benefit	Real benefit	Real without	Incremental net benefit
5 937 004	750 000	2 750 000	250 000	3 750 000	2 187 004	2 187 004	1 032 640	1 154 364

This data must be available for a number of years to be able to determine an IRR and NPV. However, it can be assumed that a significant reduction in input costs is viable, and given the indication of net benefit established, it can be deducted that with sound management, the project could have a significant financial benefit. The incremental net benefit flow, calculated by subtracting all relevant costs from the net benefits would most probably be substantial.

7.2.3.2 Economic Impact: efficiency analysis

This analysis determines the economic efficiency of resource use and incentives with benefits and costs evaluated at prices that reflect the scarcity of inputs and outputs. It is used to determine whether the project is likely to contribute to the broader economy. As argued previously, shadow prices should be used in cost-benefit analysis only when the market prices of products and services clearly are distorted i.e. do not reflect their scarcity value or economic contributions. It has been established that market prices provide an accurate indication of the scarcity of products and services. It is further assumed that all inputs are bought under competitive 'free' market conditions while labour cost (wages) is also determined in a competitive market and also not shadow priced. As most of the land is currently lying fallow, the price of land was not included as a cost. During 2000 and 2001 the average world price of maize was $88.22 and $89.61 respectively. Import parity prices could be determined by adjusting these prices for transport and other relevant costs and for the exchange rate. Together with the cost of capital, this would signify the only variance from the financial analysis. For the purpose of this study, an in depth analysis is not attempted, but will have to be dealt with, once certain aspects related to costs and co-operation have been negotiated between stakeholders. This would provide the data relevant for such an analysis. It can therefore be concluded that this proposed project, signifying a reduction in cost, entails a profitable investment to all stakeholders envisaged, advantageous to the economy of the region and the province.

7.3 Indirect impact

All impacts stemming from linkages such as employment, scale effects etc., related to collection, value adding, distribution and supply of direct products, are indirect impacts. These impacts will result if the proposed project is planned, implemented and managed according to the model described in this study, and especially as they have been made practical in this chapter. Quantifiable and non-quantifiable (intangible) effects are involved. Intangible benefits are real and reflect true values although they do not lend themselves to valuation. However, because intangible benefits are a factor in project selection, it is important that they are specifically identified and described.

7.3.1 Spillover and linkage impacts

An argument of this study was that agriculture has strong contributions to make to the South African economy in terms of value added. In a study by Eckert, Liebenberg & Troskie (1997), it was established that for each R1 of additional demand for cereals, added value of R1.02 was generated, whilst 27 cents was contributed to government revenue. In general, agricultural production and multipliers make larger contributions to household incomes, in a more egalitarian way, than any other economic sector. These findings support the argument that a grain crop based project would enhance livelihoods in the Sheila area.

Ngqangweni, Kirsten & Delgado (1999) also found that agricultural growth linkages were particularly strong. A positive stimulus of R1 in household income (through for instance a policy or institutional change; i.e. a project), would lead to 35 cents of additional spending on farm non-tradables and 63 cents of additional income from spending on non-farm non-tradables. This entails a total multiplier effect of R1.98, of which 98 cents is the net extra growth from spending on demand-constrained items. Therefore, there is significant extra growth potential through boosting rural incomes, which in turn would stimulate demand for non-tradable goods and services. Under-employed resources would in this manner be brought into production, again providing a strong argument for reviving the project approach at Sheila.

Quantifiable or tangible spillover or linkage impacts of a project will therefore result through increased utilisation of input and output markets, increased spending as well as improved housing and health. The project will demand an increased supply of raw materials, especially fuel, mechanisation parts, seed and fertiliser. It would also require an effective market for goods and services. At least a portion of the higher profits will be invested in the community, through expenditure. This improved trade will affect various non-participants. This has been partially described in the section dealing with social impacts. However, the project would also result in various intangible or non-quantifiable spillovers. The project would most probably have a positive influence on the quality of life on the total typology of Sheila, as well as on those not directly involved in agriculture. As the procedures and technologies used at the project would have wider applicability, the project will also have a significant demonstrational value. It is likely that another spillover effect would be a more positive attitude towards agriculture and life in general, leading to less stress and improved confidence.

7.3.2 Environmental impact assessment

A reintroduction of the dryland-cropping project might lead to more extensive use of fertilisers that could have long-term negative effects on the soil. To incorporate this externality, physical effects on the soil would need to be monitored so that their economic impact could be estimated. Changes in the soil status as affected by fertiliser (which in the past has been used sparingly) as well as pesticide movement through soils are difficult to quantify. These are determined by several factors, such as specific soil characteristics (physical and chemical), properties of the soil, the climate, crop management practices, etc. It is well known that herbicides have a detrimental effect on soil microbes and continued, high levels of herbicide usage can negatively affect the soil capacity to support crop production. This aspect must be investigated to develop an appropriate counter-strategy. If the project is to be re-instituted and run according to optimal production practices, these impacts could be significant and a scientific effort must be made to generate information regarding such impacts, also in terms of their impact on the physical, biological, and economic diversity of the area.

With the *ex post* environmental impact assessment, it has been determined that no significant negative or positive impacts were evident. Given the soil structure and texture, the relative low fertiliser rates and the lack of erosion, the project had little significantly negative impact on the soil resource. However, given the increased agricultural activity that is foreseen if the project would become reality, soil degradation, entailing the loss of nutrients, could become an issue if sufficient effort is not made to adequately replenish these nutrients. These effects are mostly site specific, but would affect soil productivity. If these impacts do occur, they would be reflected in yield losses and must therefore be carefully monitored. It is proposed that regular soil surveys be undertaken to ensure that the soil status is kept within an acceptable range so that this resource remains available for sustainable utilisation.

In general soil erosion at the project area is negligible, mainly because of the topography, the stable soil structure and the absorbing soil texture, which limits significant water erosion. However, as the majority of soils have a low clay percentage, they are to some extent subject to wind erosion. Care has to be taken, especially during spring when strong north-westerly winds are often evident in the area. Given the fact that optimal planting occurs late in November and often takes place later, wind erosion should not be a significant problem and the cultivation process could be adapted to take this into account.

No other significant environmental impact is foreseen at the Sheila site, except that some loss of biodiversity could be expected due to land cultivation. Given the potential of the land and the need for it to support the local communities, this is a trade-off that has to be made. With regard to off-site effects, concerning individuals and communities downstream from where the project could take place, no significant impact can be distinguished. No downstream silting up of reservoirs or rivers or a reduction in water storage capacity is probable. In the same vein, no significant atmospheric or other pollution resulted from the agricultural activity is foreseen.

7.4 Application of the systemic impact analysis framework

This project assessment framework (as described comprehensively in the methodology chapter and used in the ex post situation dealt with in chapter six) takes the form of 11 questions. The answers illuminate the envisaged success level of a project with regard to the norms raised. Regarding the policy environment of the project, four macro-related questions are answered:

1 Do project objectives fit the goals of beneficiaries, financiers, stakeholders and government?

The main objective of all farmer groups would be to utilise the extensive land lying fallow through obtaining mechanisation services and negotiating sharecropping contracts to increase cropping areas. As this relates to access to services and resources, it conforms to the agricultural sector strategy. There is therefore a fit between the objectives of farmers and that of government. Potential implementing agents; the NWC, Landbank, Grain-SA and the NWDACE, have all publicly expressed their support of these objectives, as complemented by their policies and actions, illustrating an objective fit. The project offers an opportunity for all role-players to engage in development in a sustainable, co-ordinated manner. Within this scenario there is scope for stakeholders to have other objectives. It is acceptable that a profit motive exists for all stakeholders. However, it is imperative that these objectives are subordinate to the principle of development of the Sheila farmers.

2 Does the project correspond with national, regional and organisational policy?

As mentioned under question one, national and provincial agricultural policies have as a key strategic intervention, the facilitation of access to services and goods. In chapter 5.5.1 provincial policies are specifically described as food security, access to services, competitiveness and accessible markets. The proposed project deals with these issues and is an opportunity to test a scientifically determined model for small farmer support. The policies of the other stakeholders involved, all have as a priority provision of services to resource poor farmers and broadening their involvement in the sector.

3 Does it fit the existing programmes of the organisation/s involved and is infrastructure available?

The project approach is not new to any of the stakeholders, but this proposal deviates significantly from previous efforts. The proposed level of farmer participation is although non-negotiable, a change from previous engagements in development. While most of the elements proposed are not foreign to stakeholders, having all of them institutionalised in one project will be unique. Given the need for an appropriate model of support to resource poor farmers, the conducive environment established, and the expressed desire of stakeholders in the industry to facilitate agricultural development, this project would fit the programmes of stakeholders. The infrastructural requirements can be met, as willingness to extend resources has been evident, while existing infrastructure could still be used or upgraded.

4 Is there indication of government/market failure and how will it affect the project

Although small farmers in theory have access to all the services that the commercial sector has, in practice there are still great disparities. As described, the resource poor sector is in fact less supported than during the previous dispensation, due to the termination of most projects and

programmes. This lack of practical support se can be viewed as government and market failures, as access to markets and services are in fact constrained. This could be addressed through the project.

Following these policy level questions, seven micro level questions are addressed:

5 Who would be the appropriate institution to finance the project?

A combination of private and public financing is proposed for the project. In terms of pubic sector involvement, the provincial Department of Agriculture has a significant role to play, especially in providing technical support (capacity building, technology transfer). It is not proposed that a management function is provided for through public funding. This function would be better provided by the NWC that has expressed interest in such an option. As described, a transparent participatory management system involving all role-players, including farmers is proposed. Although NWC could finance input costs to an extent, the Landbank and the Department of Land Affairs could contribute in financing the project. Involvement of the Grain industry and Seed Suppliers has been discussed in stakeholder deliberations. Therefore, the public fund should provide services (indirect funding), whilst the private sector should finance the project, in collaboration with the Landbank, as public partner.

6 Participation is crucial: Do beneficiaries support the project (own it) and take responsibility?

Farmers in the area have for the past four years discussed the possibilities of revitalising the project and made efforts to organise a collective for input supply. This has been relatively unsuccessful in terms of effectively linking key stakeholders. However, beneficiaries do fully support the concept completely as the many initiatives indicate. Leader farmers do also recognise some of the key failures of previous attempts, specifically the unrealistic level of input-subsidisation, the management provided and the low level of participation. Many want to play a more active role in a new approach. What is a hindrance is that there is political undercurrent in the area. Both the headmen (traditional leadership) and the councillors (political leadership) inadvertently are creating factions in their efforts to revive agriculture. Facilitation of development is often used to gain power. This proposed project should avoid such politics and ensure that all groups are involved and no particular group favoured. This particular community appreciates the principle of being responsible for their own destiny and are aware that focus will not be on handouts but rather on facilitating access. The fact that farmers must take responsibility should be an important part of the HCD process and is accepted in the community.

7 Are benefits predominantly shared in the target group and unintended costs compensated?

As a number of stakeholders are involved, no single party will easily be allowed to gain inappropriately through the project. The government, through the NWDACE should play the role of facilitator and as such, should also act as a watchdog in ensuring that no stakeholder exploits the project for its own gain.

8 Is the project financially affordable?

It has been established that the project potentially can increase profits significantly, provided that certain criteria are met. These include a satisfactory level of social cohesion and security, participation

of active farmers as well as landowners in the management of the project, the integration of stakeholders to the benefit of all concerned and a sound HCD programme to ensure efficient management. This is an achievable ambition, according to all concerned. The NWC has expressed interest in the project, as has the Landbank. In terms of technical support the NWDACE will also be willing to invest in the project. Neighbouring commercial farmers have also expressed interest in developing relations with the developing farmers in the vicinity. In short, the environment is favourable for this development.

9 Is it economically beneficial?

One of the hypothesis of the study deals with integration of stakeholders to lower costs. Within the proposed project scenario, it is precisely this integration that should enhance efficiency. This process is envisaged to create an efficient input and output market. The institutional and capacity building programme envisaged should also impact favourably on the efficiency of farmers and the project as a whole, whilst the involvement of private sector stakeholders would also enhance efficiency, to ensure that their investment bears fruit. Critical would again be the successful institutionalisation of the project cycle.

10 Is the project sustainable (economically, socially, and environmentally)?

The fact that participation is a non-negotiable principle of this proposal enhances the social sustainability of the project. With recognition of diversity and innovations that recognise these differences, sustainability will be enhanced. Ccommunication will enhance trust and security, vital elements required for sustainability. If the project proponents can 'sell' the concept to the community and ensure broad participation, this could be achieved. This area is not overly prone to environmental disturbance, but monitoring, particularly of the soil resource, should be an aspect dealt with.

11 Is it the best alternative i. e. is it the optimal solution to the identified problems?

In this study a strong argument has been put forward that farmer development must be based on scientifically evaluated principles. Through this study it has been established that

I: Agriculture has a key role in the transformation of the area and its economic development.
II: A focus on access and participation is required and should be facilitated
III: A facilitating policy and conducive environment is required.
IV: A prerequisite is quantifying rural diversity to facilitate development.
V: HCD and access can be facilitated through integration to mitigate high cost.

These were further refined into project design criteria dealing with technological adaptations being reconcilable with the social development stage of the community, economic diversity between farmers, the effectiveness of linkages and the emphasis on participation and empowerment. Given the evidence presented in the study and particularly in this section, it is argued with conviction that the redesign of the project, based on these criteria, is the best alternative for the farmers of Sheila.

7.5 Conclusions

Given constraints in access to land (resulting from limitations in sharecropping arrangements), credit, mechanisation and agricultural skills, the project approach represents a high potential development model, if the design criteria developed in this study are incorporated in project planning, implementation and management of the Sheila project. Participative processes also led to identification of constraints in social aspects of cultivation, i.e. security and communal relationships. The goal of all groups is to obtain improved livelihoods (for the two poorest types especially) and higher profits (for the two more affluent types). This is achievable through increased sharecropping and thus an increase in the area utilised.

Inactive landowners, the most vulnerable group, have limited access to resources and capital leading to outright poverty and hunger. Opportunists are constrained by mechanisation services which are extremely scarce. Many in this group have also built up considerable debt, limiting access to credit. Entrepreneurs suffer under the communication breakdown, failing mechanisation and access to credit. Commercialising farmers are most anxious to increase their land to enhance efficiency but short-term contracts render it difficult for these farmers to invest in sustainable production.

Intervention strategies were identified and described through LFA. These are improved access to capital and mechanisation, and improved relationships and community organisation to facilitate representation and security. While there are similarities with previous projects, this proposal emphasises participation and HCD. Central facilitation of services and inputs is foreseen, but individual choice must be facilitated. All stakeholders should ultimately be profitably involved. Farmers must be selected on ability, track record and commitment through empowerment of participative, homogeneous study groups. A management committee should be representative of all stakeholders to ensure transparency.

Addressing the concerns of farmer types in this typology would not ensure a successful project and improved livelihoods of all those concerned. Facilitating lower transaction costs through integration would also not guarantee this, nor would a combination of both these issues. However, if these issues are dealt with and a conducive development environment exists, enhanced productivity, profitability and growth should result. Such a project constitutes a major step forward in terms of entrance into a competitive market, as it facilitates support and guidance of committed farmers into the industry. Expected increases in production, food security and profit should impact on employment, trade etc, improving livelihoods. A portion of the higher profits will be invested in the community, through expenditure. This improved trade will impact on various non-participants.

This systemic assessment framework highlighted the potential of the project: objectives of farmers and stakeholders are reconcilable – all parties can gain significantly. The project corresponds with policy and is an opportunity to test a support strategy based on the criteria of recognising social realities, diversity, linkages, institutionalised participation and empowerment. Disparities in access to services are addressed. The project should increase profits if efficient management is provided and should contribute to financial and economic well being of farmers, and broader society. Lastly, the level of participation advocated enhances both the social and the economic sustainability of the project.