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SMALLHOLDER FARMERS' PERCEPTIONS OF THE NORTHERN PROVINCE'S EXTENSION SERVICE: CASE STUDIES IN TWO VILLAGES IN THE NORTHERN PROVINCE OF SOUTH AFRICA

By

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ABSTRACT

SMALLHOLDER FARMERS' PERCEPTIONS OF THE NORTHERN PROVINCE'S EXTENSION SERVICE: CASE STUDIES IN TWO VILLAGES IN THE NORTHERN PROVINCE OF SOUTH AFRICA

By

Nicole Sheree Webster

The purpose of this qualitative case study was to identify the perceived needs of smallholder farmers in the Northern Province of South Africa in relation to the delivery of information and programs by the agricultural extension service. The objective of this study was to determine the extent to which the delivery of programs and information in the Northern Provincial agricultural extension system affects the productivity, economic inputs, and quality of life of smallholder farmers in two villages in the Northern Province.

Qualitative research, in particular, case studies, was deemed appropriate for investigating the perceptions of smallholder farmers. In-depth interviews were conducted with six smallholder farmers from two villages, who were chosen through purposive sampling. In addition, focus-group[discussions were held with key individuals in the Northern Province Department of Agriculture and extension system.

The findings revealed several issues that affected the quality of life of smallholder farmers in both villages. These farmers reported that they were not receiving informative and technical information needed to increase productivity throughout the farming seasons. The information they received from extension agents was outdated and

irrelevant to their basic farming needs. They perceived the attitude of their extension agents during their visits to be unsupportive and unaccommodating. This perception was supported by the frequent absences and nonchalant attitudes of the extension officers during field visits. Farmers also reported that the lack of communication and transportation of the extension officers was a major point of contention because it limited the scope of their work. Many farmers suggested that if the extension officers had access to landline phones, they would be able to assist the farmers in obtaining inputs. In one village, the farmers noted it would keep them in immediate contact with the nongovernmental organization in Pietersburg that funded their irrigation scheme. In addition, the farmers noted that the extension officers received minimal training and supervision during the course of their careers. This resulted in a lack of accountability and liability for the extension officers in the villages. The data indicated that the overall extension system needs to transform the training, delivery, and support of smallholder farmers throughout the Northern Province in order to improve their daily farming practices, thereby leading to an improvement in their quality of life.

Dedicated to

Wanda Collins, who served as my confidante and friend

throughout this arduous process, but was unable

to share in my joy.

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CHAPTER I

INTRODUCTION TO THE STUDY

Problem

The demand for food and expanding competition in the international market are causing many developing countries to reexamine their agricultural sectors. One such area is Sub-Saharan Africa, which has a history of self-sufficient agricultural production to meet the food needs of its population (Thobane, n.d.). Although this region has been self-sufficient in terms of agricultural production, a host of political, social, and economic problems have caused serious instabilities. In particular, South Africa has been plagued by poverty and the vulnerabilities brought on by apartheid (Van Rooyen & Botha, 1994).

As reported by Data Research Africa in 1996, South Africa has vast amounts of wealth relative to the country's average per capita gross domestic product, in contrast to the poverty-stricken households. An inability to satisfy residents' essential needs has stemmed from many factors, specifically the apartheid system. Apartheid created a system that affected the assets and dispossession of many rural households, which ultimately affected their rural agricultural livelihoods. It also created dual types of agricultural services for black and white farmers throughout the country (Hedden-Dunkenhorst & Mollel, 1999).

Historically, the types of agricultural services and information delivered to farmers throughout South Africa were shaped by the apartheid system. N. M. Mollel (personal communication, 2001) and E. M. Zwane (personal communication, 2001) both noted that apartheid created a dualistic extension system that served white and black farmers in two different manners. This situation has led to controversy about improving

the conditions of smallholder farmers within the context of agricultural productivity without regard to existing conditions, such as inappropriate technology, inadequate rainfall and water supplies, poor extension advice, and lack of credit and markets (Initiative for Development and Equity in African Agriculture [IDEAA], 1998a; May et al., 2000; N. M. Mollel, personal communication, 2001). Within the agricultural sector, organizations, higher educational institutions, and government have been involved in determining how to improve extension services for rural farmers.

Some organizations involved in this discussion have stated that rural extension's sole responsibility should be advising and training farmers, as suggested by Eastern Cape's Department of Agriculture, whereas the Northern Province's Department of Agriculture has suggested that rural development extension services should involve retraining extension officers and reorganizing the service itself (Barnes, 1999). Others have argued that the delivery mechanisms for agricultural extension have major flaws that must be addressed to revitalize smallholder farmers and agriculture in South Africa. Some have argued that imbalances created in the agricultural sector by past discriminatory government policies should be redressed (Stilwell, 1997). The overarching issue of concern of all parties is extension and its role in the development and sustainability of smallholder farmers.

In the Northern Province, the focus has been to improve the existing extension service, with emphasis on retraining and reorientation (N. M. Mollel, personal communication, 2001). The Northern Province is regarded as the poorest and least resourced province in South Africa. It spans 12.3 million hectares, which is about 10% of the South African soil. Of the province's population of 4.93 million people, nearly 88% are considered rural. Approximately 80% live below the poverty level

(Development Bank of South Africa, 1998). Only 87% of the population have access to land, ranging from .06 to 4.3 hectares in size, and lack the proper resources, credit, and markets for farming. According to Ntozake, smallholder farmers are overburdened with debts from government loans and unutilized plots with a sophisticated irrigation infrastructure that only government technicians can operate. Many people believe that, in order to improve conditions in the agricultural sector, extension staff need more training and development. Increased technical knowledge will help meet the needs of rural farmers and allow them to become more empowered (IDEAA, 1998b; Jiggins, 1997). By addressing the delivery mechanisms for agricultural extension for smallholder farmers, agriculture as a whole in South Africa can be revitalized, with a focus on allocations of fiscal and human resources and information services (*Small-Scale Farmers Association Report*, 1997).

Situational Problem

Several South African researchers interested in the development of smallholder farmers have argued that, for change to occur, there must be an acknowledgment and understanding of the apartheid system and how the entire service system affects the black smallholder farmer (*Development Report on Extension and Support Services*, 2000). Van Rooyen and Botha (1994) said that there must be an understanding of the relationship between white and black farmers in agricultural communities throughout South Africa. According to Feder, Willett, and Zijp (1999), provincial leaders and agricultural educators must recognize the lack of resources, trained staff, and infrastructure that has created limitations in their rural communities because they are responsible for deciding what role government should play in implementing and facilitating policies and laws that will affect black rural farmers.

In terms of research, there must be an increased interest in funding research in the area of agricultural extension in order to analyze the current situation and provide suggestions for the future (Townsend, 1997). Past inequities have limited the amount of research done in this area, and the current lack of funding has limited scholarship and development of extension services. An examination of problems in the rural agricultural community shows disproportionate resources, funding, and opportunities. This has spilled over into support services such as extension, causing the quality of those services to be inadequate for smallholder and subsistence farmers.

The problem that currently exists in the black rural agricultural extension sector is exemplified by the following concerns (N. M. Mollel, personal communication, 2001; Thobane, n.d.; Zijp, 1999):

1. Unqualified staff working with rural black farmers (smallholder farmers)
2. Limiting market restrictions and lack of credit
3. High ratios of extension staff to farmers
4. Lack of technical training for black extension staff
5. Limited resources
6. Limited accessibility of farmers to extension staff
7. Inadequate transmission of information to smallholder farmers
8. Lack of understanding of the contributions of smallholder farmers to the agricultural sector.
9. Lack of research on smallholder farmers

The above-mentioned factors have contributed to the low quality of life experienced by many smallholder farmers and have limited their economic contributions to agriculture. As pointed out in *South Africa White Policy Paper* (1999), a report on the

rationale for supporting rural infrastructure, there is evidence that, "given the right incentives and supported by adequate economic and social infrastructure, small-scale agriculture could make a significant contribution to growth, redistribution and employment" in the future.

Purpose of the Study

My purpose in this qualitative study was to identify the perceived needs of smallholder farmers in the Northern Province of South Africa in relation to the delivery of information and programs by the agricultural extension service. Kaplan and Maxwell (1994) argued that the goal of understanding a phenomenon from the point of view of the participants and its particular social and institutional context is largely lost when textual data are quantified. In this study, personal interviews with rural smallholder farmers provided a deeper understanding of the context of change in the delivery of agricultural extension services.

Importance of the Study

Given the agricultural development goals stated by the South African government, the Northern Provincial agricultural sector, private industry, and other agricultural industries, the extension service is of great importance to smallholder farming in South Africa. This study was designed to provide a baseline for examining the effectiveness of the extension service in serving the needs of smallholder farmers in South Africa's Northern Province. The findings will furnish useful information on extension issues that exist in a strong agricultural community such as the Northern Province. Information will be provided for the improvement of the overall extension service in meeting the needs of rural smallholder farmers. Further, the study will serve as

a guiding framework for establishing agricultural policies geared toward farmers and farm families in the homelands.

Historically, agricultural policies in the homelands and rural areas of the Northern Province were neither focused nor specific. This research will help by providing a clearer vision, greater accountability to farmers, and recommendations for an extension system that delivers a useful service to farmers (South African Department of Agriculture, 2000).

Agriculture will remain a primary source of income for the majority of people in South Africa because nearly 80% of the population live in rural areas and do not have access to major markets. The agricultural industry is these people's primary source of income and their major form of employment (IDEAA, 1998a). The role of agriculture in the lives of the people of South Africa's Northern Province extends beyond its immediate economic benefits. IDEAA noted that agriculture serves as "a major supplier of food and raw materials to the rest of the economy, while at the same time being a user of manufactured inputs (mainly of non-farm origin), consumer goods, . . . a custodian of scarce natural resources and a potential as a generator of foreign exchange." If agricultural issues related to the quality of life and sustainability in the Northern Province are not addressed, it could negatively affect millions of people, upsetting the family unit, culture, and economic balance of this major provincial area.

Policy and Politics

Given that nearly 31% of the surface area of the Northern Province accommodates approximately 89% of the black rural population, agriculture and farming are topics of concern for many policymakers. The farmers who reside in these former homeland areas are greatly affected by the policies and decisions of these officials. If the

officials are able to address the barriers and constraints of smallholder farming, it could shift the focus from national food self-sufficiency to household food security and sufficiency (South Africa White Policy Paper, 1999).

The quality of life of small-scale farmers is influenced by the agendas of national and local governments throughout the country. If they are given technical assistance and support through extension, smallholder farmers should also be able to produce more on the existing land and realize profitable returns (Eicher & Rukini, 1996).

At present, Northern Provincial smallholder farmers and others in the rural agricultural community believe that, due to past discriminatory practices and policies, extension programs and agricultural information in the Northern Province of South Africa have been scarce and outdated, extension staff are not well informed, and they are not included in major research studies (personal interviews with rural farmers, 2001). Major constraints are (a) unavailability of financial support, (b) unreliability of mechanization services, (c) lack of market information and facilities, (d) inadequate and poor maintenance of infrastructure, (e) low literacy levels, and (f) an aging farming community. These problems are being addressed by the present government through the new agricultural policy paper. Several of the guiding principles outlined in the Northern Provincial Agricultural Policy Paper that address the potential of extension in the development of rural farmers are as follows:

1.1 The important role of agriculture in the reconstruction and development of the Northern Transvaal's economy and in particular rural society will be recognized.

1.2 Agricultural support programmes and services will be designed with the purpose of improving the quality of life and productivity of farmers and farm workers.

1.3 National and particularly household food security are important and will be addressed through multidimensional strategies.

1.7 Affirmative action programmes will be focused on low-income South Africans who were previously denied access to opportunities in agriculture; will be equitable to ensure access to agricultural resources, credits and farmer-support services; will be based on merit and will be implemented in a transparent manner.

1.11 The needs of farmers, especially new entrants and small-scale farmers, will be met through the reorientation and training of trainers, extension and research workers.

Many local and national leaders have stressed the importance of small-scale farmers in the South African economic and cultural framework. These farmers are seen as the bread and butter of the community, and their existence is important to those who cannot afford the high-cost goods produced on commercial farms (Shackleton, Shackleton, & Cousins, 2000). Smallholder farmers constitute a valuable resource for the general community because of their potential to link agricultural business to the rural communities (Machete, Reardon, & Mead, 1997). With the growing trend to upgrade the quality of production of small-scale farmers through technological and current information, typically generated at agriculturally based schools, the possibilities for advancement are tremendous (E. M. Zwane, personal communication, 2001).

Higher Education and Research

Higher education institutions such as the University of the North (UNIN) that serve many black farmers have been greatly affected by apartheid. Disproportionate resources, funding, and infrastructure indirectly influence the type of technological information that is available and the ability to disseminate it to rural farmers. Research on the quality of life of black farmers in relation to agricultural information from educational institutions that deal with extension service could influence laws, increase funding, and enhance other resources used by both parties (*Small-Scale Farmers Association Report*, 2000).

This study provided an opportunity for people who have been silenced for years to have a voice (Lethsolo, 2001). In a report prepared for Data Research Africa, May et al. (1996) stated, "The focus of policy in South Africa now places greater emphasis on process, on empowering people to speak for themselves and the ways in which people are able to define their own solutions." This is in accord with the interest-convergence tenet of critical race theory, which states that white elites benefit from the advances of racism (Delgado & Stephancic, 2001). These respondents' first-hand accounts of the present situation can influence government policy and drive self-determination through their participation. The study findings can give a new perspective on program planning, development, and implementation in extension and provide valuable information for legislation pertaining to agriculture in the Northern Province of South Africa.

Research Questions

This study was designed to provide foundational information about the methods by which the agricultural extension system delivers education to black smallholder farmers in the Northern Province of South Africa. The following questions guided the collection of data for this study:

1. To what extent does the delivery of technical information and methods by the Northern Province extension system affect the productivity, economic inputs, and quality of life of smallholder farmers in the Northern Province of South Africa?
2. What are the barriers of the present extension system for smallholder farmers?
3. How do past and present government policies affect the educational delivery methods of the extension system for smallholder farmers in the Northern Province?
4. What is the effect of support services on the productivity and yields of farmers in the Northern Province?

5. How appropriate is the information provided by extension officers to smallholder farmers?

Assumptions and Limitations

Participants who could serve as key informants within selected communities were purposefully selected. Therefore, results of the study cannot be generalized to the entire smallholder farming population. Respondents participated voluntarily, and their responses were assumed to reflect their true feelings. The subjects' responses were based in the context of rural farm life in the Northern Province of South Africa. The research was conducted in only two villages in the Northern Province. The research reflects one particular time in an ever-changing region.

Definition of Terms

The following terms are defined in the context in which they are used in this dissertation.

Apartheid government. Apartheid was a systematic and highly functional government that advocated white domination while extending racial separation. Laws and policies that reinforced racial discrimination were institutionalized in South Africa beginning in the 1940s. Race laws touched every aspect of social life, including a prohibition of marriage between nonwhites and whites, and the sanctioning of "white-only" jobs. The Population Registration Act of 1950 required that all South Africans be racially classified into one of three categories: white, black (African), or colored (of mixed race). This practice extended into the planning of the "grand apartheid plan," emphasizing territorial separation and police repression.

Bantu. The word *Bantu* is used to describe and classify black Africans, excluding two ethnic groups, the Khoi (Hottentot) and the Sans (Bushman).

Change agents. Change agents are senior and middle-level officers in agricultural parastatals, government departments such as the Ministry of Agriculture, extension, universities, and nongovernmental organizations responsible for developing innovative ways of helping to improve productivity among smallholder farmers and for identifying and reviewing policies that hinder their development.

Extension services. Such services are provided by a loose network of public and private organizations that serve the agricultural needs of farmers throughout South Africa. These organizations may work independently of one another, but in several instances collaborations have been formed to meet the specific needs of farming communities. Due to the historical framework of farming, extension services can be classified into three distinct types: smallholder farming services, emerging-farmer services, and commercial farm services. Although these distinctions are apparent within the farming community, in actuality the service-delivery organizations work to meet the needs of all farmers.

Homeland areas. In 1951, the Bantu Authorities Act established a basis for ethnic government in African reserves, known as "homelands." These 10 homeland spatial areas were independent states to which Africans were assigned by the government, according to the record of origin (which frequently was inaccurate). All political rights, including voting, held by Africans were restricted to the designated homeland. The idea was that they would be citizens of the homeland, losing their citizenship in South Africa and any right of involvement with the South African Parliament, which held complete hegemony over the homelands. From 1976 to 1981, four of these homelands were

created, denationalizing 9 million South Africans. The homeland administration refused the nominal independence, maintaining pressure for political rights within the country as a whole. These displaced people did not have free entry into South Africa and needed a passport to cross the border.

Inputs. Inputs are the tangible and intangible tools that farmers use to enhance their farming ventures and increase their productivity. Credit services, technical and nontechnical information, supplies (including machinery and hand tools for farming, fertilizer, seeds, pesticides, and dip), and marketing information frame the typical South African context.

Institutional analysis. An understanding of an institution's role in a specified community and the role of each of the institution's stakeholders is gained through institutional analysis. Such an analysis specifies organizational strengths, weaknesses, and roles while distinctly defining the positions of the institution's stakeholders.

Institutions. Organizations such as government, universities, and private industry are the mainstream forms of institutions, but with the recent restructuring and thinking in South Africa, institutions now can be defined as "rules" that govern the behavior of individuals or people and organizations in public, private, and civil sectors (IDEAA, 1998a). For the purposes of this dissertation, the terms *institutions* and *organizations* are used interchangeably because they both govern the relationships among and between their members and nonmembers.

Northern Province Department of Agricultural Extension Services. This department is the governing agricultural agency in the Northern Province that is expected to perform and drive the following functions and processes (Department of Agriculture, 2001):

1. Administer the state's agricultural land in the province, oversee the land reform project, participate in land redistribution and land use, and plan and address land queries from the public.

2. Oversee resource conservation; control pests and noxious weeds; provide infrastructure like fencing, boreholes, and storerooms; and benefit the community through contribution of labor and material.

3. Lead the provincial agricultural policy development and oversee its implementation.

4. Empower small, emerging farmers who were denied access to land and support services in the past.

5. Promote technological packages that recognize the importance of indigenous technologies in the province.

6. Maintain an up-to-date database on agricultural statistics.

7. Ensure that agricultural resources in the province are optimally used.

Rural development. This is an evolutionary process that occurs within rural communities. It is multifaceted in nature and involves a participatory process that ultimately changes the behavior of community members over time and creates a sense of ownership for all who are involved.

Service-delivery organizations. These are organizations or institutions that provide a service to farmers in South Africa. Organizations that provide services to farmers range from technical and educational endeavors, to economic institutions, to input-supply organizations. All of them provide service in their own distinct manner and interact with farmers in ways they deem appropriate.

Smallholder farmer. A smallholder is a traditional black farmer in South Africa, who holds between .05 and 5 hectares of land. Typically, such farmers perform agricultural work for an economic gain of less than 10% of their household income; engage in cash-crop farming for approximately 70% of their crops, with the rest for their own consumption; and rely on indigenous knowledge for most of their technical information (Mollel, 2000).

Summary

The current problem of smallholder farmers' receiving adequate information and service delivery from the government extension service in South Africa was introduced in this chapter. The context of the study, within the framework of past discriminatory laws of apartheid and current policies, was discussed. Additional information was provided to support the rationale for this situational analysis.

In this study I sought to identify the perceived needs of smallholder farmers in the Northern Province of South Africa in relation to the delivery of information and programs by extension services. Qualitative methods in the form of a case study were used in carrying out this descriptive study. Respondents from two villages, who were purposefully sampled and interviewed, included rural farmers, extension staff, and other officials working at UNIN and the Northern Province Department of Land and Agriculture.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

To appreciate South Africa, it is necessary to understand the country's history. Without this historical framework, it is hard to understand the role and plight of small-scale farmers in South Africa. Although the historical context is complex, it is important in understanding the Northern Province, small-scale farmers, and the extension service. The circumstances that have affected smallholder farmers developed through a series of discriminatory laws, regulations, and acts deemed necessary by an apartheid government. These laws brought about a divided extension system that resulted in limited resources, barriers to market, and a lack of credit for black farmers in rural areas.

As political changes began to occur in the country, many individuals thought that the extension system needed to be revitalized and restructured (*Small-Scale Farmers Association Report,* 1997). Chimedza pointed out the need to support the transformation of institutions for effective service delivery in the opening article in an IDEAA (1999) newsletter:

> Transforming institutions for effective service delivery to smallholder farmers is the theme running through most sections in this newsletter. The premise of the IDEAA Regional Programme is that smallholder farmers in Africa can only increase productivity when service-providing institutions become more responsive to their needs. In the past, a lot of resources were invested in smallholder agriculture, supporting delivery of such services as extension, marketing and credit. The smallholder farmer investments did not yield the expected results. The smallholder farmer in most of Africa has become less productive and poorer in real terms in the last couple of decades. Much of the rural households are food insecure and lack some of the basic requirements for livelihood security. The answer to Africa's smallholder problems has eluded many.

The foregoing statement supports my premise that transformation and change must happen within the delivery service of agricultural extension in order to change the quality of life for smallholder farmers and their families.

The review of literature is organized into four conceptual areas. These are smallholder farming, economic stability and poverty, agricultural extension in South Africa, land reform and redistribution, and the current agricultural extension situation in the Northern Province.

Smallholder Farming in South Africa

History

The agricultural situation that exists in South Africa arose from the political ideology that black farmers' opportunities should be limited because they were creating "unfair" competition for their white counterparts (Harley & Fotheringham, 1999). White farmers argued that, "because of labor shortages, they could not compete with their African counterparts who had lower costs" (*South Africa White Policy Paper,* 1999). This situation prompted the government to construct a system of agricultural extension that influenced success and failure through institutionalized laws. Those who were privileged to benefit from the government-supported system of credit, technology, and training were most likely to succeed (N. M. Mollel, personal communication, 2001). Those who were unable to fit into this stringent box were less likely to succeed. Laws such as the Group Areas Act (Act 40 of 1950) forced physical separation between the races by creating separate residential areas for people of different races. This led to forced removals of people living in "wrong" areas and ultimately forced blacks to move onto designated land, which exacerbated the situation (Harley & Fotheringham, 1999).

In 1913, a critical law was passed, the Natives' Land Act, which "formed the basis on which South Africa was divided" (R. Pillay, personal communication, 2001). In essence, this act divided South Africa into living areas for blacks and whites. Blacks were forced onto reserves, a mere 7% of the land, whereas whites had access to all other open areas. The intention of the law was "to swell the supply of African labor, which would obviously be increased by restricting their opportunities as independent producers" (Harley & Fotheringham, 1999). The restrictions on tenancy (i.e., hiring of land to Africans) were explicitly connected with this law. It increased the number of laborers tenfold because it forced many cash tenants and sharecroppers into labor tenancy. The influence of this law trickled down into other agricultural policies such as land-use patterns to prevent degradation, acts to increase the supply of cheap labor, and separate extension services to limit the quality of technological information from the universities (Harley & Fotheringham, 1999).

Current Situation

Small-scale farming in Southern Africa has been the economic staple for more than 10 million people residing on only 12% of the land. These people have been underrepresented in government, misrepresented within the larger society, and denied access to technological resources (Hedden-Dunkhorst & Mollel, 1999). They are both males and females, with an eclectic blend of farm sizes, farm holdings, and production yields. These smallholder farmers have endured the hardships of rural life while maintaining the fate of rural farming and agriculture. Through their plight, they have unknowingly created a self-sustaining system of services and employment. Within this system they improvised to provide food and shelter for their families and communities. As they created a system that worked for them, they competed within the larger context

of agriculture among white commercial farmers. Although these white farmers "received substantial support in the form of subsidies, grants and other aid for fencing, dams, houses, veterinary and horticultural advice, as well as subsidized rail rates, special credit facilities and tax relief" (Van Rooyen & Botha, 1994), small-scale farmers continued to surmount these barriers by using their resources, knowledge, and innovativeness.

The critical situation of small-scale farming in the Northern Province of South Africa has resulted from the dichotomy created by this dualistic system. Before the 1994 political dispensation, smallholder farming was safeguarded by the homeland governments and tribal authority councils. This safe haven brought about a system that granted preferential treatment to white farmers and left substandard conditions and resources to black farmers. This structure weakened the spirit of black farmers while strengthening the power and position of white farmers. It is critical to acknowledge this relationship between farmers and power because it formed the basis for the past and present extension system (Northern Province Department of Land and Agriculture, 2000; E. M. Zwane, personal communication, 2001).

Smallholder farming in the context of the Northern Province is unique in that more than 80% of the population live in rural areas and make a significant living from agriculture. More than 90% of these rural households are involved in agricultural activities (Hagmann, Chuma, Murwira, & Connolly, 1998), including both crop and livestock production. This integrated system of crop and livestock production has flourished for years and sustained many lives, but it is threatened by several economic and environmental factors. The drought of 1998 and the floods of 1999 severely damaged the land and caused people to consider other forms of sustenance. The downsizing and restructuring of the government and its input services such as extension

have negatively affected the quality and number of services provided to these marginalized farmers.

Although smallholder farmers vary in how they acquire knowledge and information, they are similar in their approach to extension, interactions with each other, and basic farming activities (Hedden-Dunkhorst & Mollel, 1999). One common characteristic is that smallholder households are involved in raising crops, or crops and livestock; these farming activities account for about 10% of the household income. At least one adult (over the age of 15) in the household is involved in farming. The average plot is .05 to 5 hectares.

Although it might seem that these characteristics would denote a homogeneous population, they have actually created an extremely heterogeneous agricultural community. Further, this marginalized group of farmers has had other experiences that have created a network of problems that ultimately have affected their livelihoods (*Small-Scale Farmers Association Report,* 1997). These problems include poorly maintained irrigation infrastructure, insufficient irrigation water pumps, poor irrigation practices, limited knowledge of what alternative crops to cultivate, poor access to agri-support services (extension, mechanization, credit, inputs, and so on), poor access to market information, insufficient farmland, rivalry among political organizations affecting farmers and their organizations, and uncertainty about the future costs of irrigation water and electricity with the removal of subsidies (IDEAA, 2000; *Small-Scale Farmers Association Report,* 1997).

Economic Stability and Poverty

Nearly 16 million South Africans (72% of the population) live in poverty, with the highest incidences in rural areas and female headed households. Nearly 70% of those

living in poverty are from rural areas. "Poverty in rural areas is associated with agricultural policies which persistently marginalized small-scale black farmers as their access to resources such as land, credit and technical know-how was curtailed" (Machete & Mollel, 2000). Food insecurity and poverty are highly correlated, and this association must be addressed when speaking of black small-scale farmers. For example, in 1993 it was estimated that only 26% of rural African households had access to land for cultivation and that regular wages were the primary source of income for only 32% of the poor. The central challenge for agriculture in alleviating poverty and ensuring food security for the rural population is therefore to contribute to improved livelihoods and employment through services such as extension.

Closer examination of poverty in South Africa's provinces shows that the highest poverty rates are in the Northern Province and Free State. This does not mean that poverty is widespread throughout the country, but that poverty is greatest in these provinces. In the Northern Province, about 62% of households or 70% of individuals are living in poverty (1995 figures). In that province, the poverty gap (2.9 million rand) is 21% of the provincial gross geographic product.

In general, rural households in South Africa can be described as having a "legacy of squandered assets and inappropriate production and investment strategies" (May et al., 1996, p. 21). These Bantustan areas are marked by unequal distributions of land, resources, markets, and credit, as well as distorted economic and social decisions. Specifically, in the Northern Province, the poverty rate is highest in the rural or Bantu areas. In contrast, Guateng Province, home to the economic and political seats of the country, evidences a higher level of human development, with 30% of households or 41% of individuals living in poverty and a poverty gap of 917 million rand.

To understand the situation of rural households in South Africa, particularly the Northern Province, it is important to consider indicators in addition to a human-development index. According to May et al. (1996), basic-need indicators provide a multidimensional perspective of many rural households. In rural South Africa, for instance, 21.9% of households fall in the lowest rank on a composite scale of the basic-needs indicators of housing, sanitation, water, and energy. Almost 45% are below the nutritional poverty line of 1,815 calories per adult per day, and almost 57% fall below the nutritional poverty line of 2,100 calories per adult.

The majority of the population represented in the above-cited statistics live in the former homeland areas in the Northern Province. Living conditions for the overwhelming majority of people in this area are below the poverty level, according to most comprehensive measures. Houses are poorly constructed due to the lack of available materials and resources, many people cannon obtain clean and usable water, and wood is used as the major energy source (E. M. Zwane, personal communication, 2001). Access to goods and services is inhibited by the lack of tarred roads and reliable transportation. Overall, the marginalized rural population, especially the smallholder farmers, in the Northern Province are destined for inequality and deprivation. Their quality of life is constrained because of a lack of policies and programs designed to address these issues. If efforts were made to improve the organizations providing these services, it could have an impact on rural farmers' lives.

Agricultural Extension in South Africa

Beginnings of Extension Work

Early extension work in South Africa constituted a basic tool in government programs and projects to bring about two significant changes in agriculture: to improve

agricultural production and to raise living standards in rural areas. Through the combined services of researchers, farmers, and farm organizations, programs were implemented to bring about changes in local communities (Bembridge, 1993). Extension was defined as a process of working with rural people in order to improve their standard of living. This process was carried out over time, and accomplished through various projects and activities. Although the overall goal was to improve the agricultural community as a whole, the needs of two agricultural sectors had to be addressed. Differences in these sectors caused difficulties in program delivery and implementation and gave rise to lengthy discussions about the effectiveness of extension.

Extension Services for White Farmers and the Commercial Farming Sector

In 1924, the first Division of Agriculture and Extension Education was developed under Colonel Hdu Toit. A year later he appointed the first 10 extension workers, with a goal to provide services to farmers through farmers' associations and show societies. At the outset, South African extension resembled the United States land-grant model, with extension agents at the university level under the guidance of subject-matter specialists. Throughout the 1920s and 1930s, their work was supported through demonstrations and films.

With advances in transportation, extension workers began to travel across the county in demonstration trains, delivering the latest developments in agriculture. Similar to the United States system, home economists delivered information to farmers' wives and showed them, through demonstrations, how to enhance their homes. Many individuals began to see the effects of this system and decided to reorganize into cooperative demonstrations because "seeing is believing" (Bembridge, 1998).

With the success of this program, the extension system began to offer formal courses for white extension staff at the University of Pretoria under the direction of Professor F. F. H. Kolbe. This system flourished and spread into many parts of South Africa, but it was not as advantageous for farmers in rural and homeland areas.

Extension Services in Rural and Developing Areas

Missionaries from the Netherlands and Britain laid the groundwork for extension in rural and homeland areas. Unlike their commercial counterparts, these agriculturalists did not have unlimited resources, organized manpower, or a supportive government. The development of extension arose from the need to improve agriculture in the Transkei area, which helped in the formation of the first agricultural school in 1905. The formative years, from 1913 to 1918, helped to establish a foundation and pave the way for more active steps toward agricultural development. In subsequent years, the extension service for blacks blossomed to include the other homelands, yet it encountered due to discriminatory legislative acts. Nevertheless, from 1919 until 1949, major advancements took place, such as the establishment of Fort Cox Agricultural College in Ciskei, to educate black farmers, and the Native Trust and Land Act No. 18 of 1936. There were several other accomplishments in the ensuing years, but the fact remained that there were two separate delivery systems to meet the needs of commercial and rural farmers (*South Africa White Policy Paper*, 1999). As the country moved toward abolishing apartheid, the need to change the extension system was evident.

The movement to revitalize and restructure the extension system began before the new government assumed control in 1994. Individuals working within the system realized that change had to take place in order for South Africa to compete in the global market. As noted in a paper on the assessment of changes in extension that were to

occur, "they would need to reorganize their infrastructure which disseminates valuable information to the agricultural community, i.e., Extension services." This transformation of services entailed a holistic approach that engaged the rural extension worker through communication, social processes, and leadership (Carey, 2001). If extension workers are able to participate more effectively with their clients, the rural farmers, they will be more productive conduits of information, ultimately improving the farmers' quality of life (Jiggins, 1997).

Comparison of the Two Extension Systems in South Africa

Extension in South Africa has been defined as a system that "bridges the gap between available technology and farmers' practices through the provision of technical advice, information and training" (Northern Province Department of Land and Agriculture, 2000). Although this was the case for commercial farmers, the efforts of extension services were intended to develop rural farmers within the constraints of the apartheid system by providing limited and unqualified services. An example of this was the Tomlinson Commission's recommendation to improve or rehabilitate schemes, with the object of stabilizing and developing agriculture in the present and former homelands. Whereas commercial farmers received inputs, credit, and other services to increase their agricultural yields and overall contributions to the South African gross domestic product, rural farmers were unable to receive any assistance or to make economic contributions (Bembridge, 1998).

The distinctions between the two separate extension systems of white commercial farmers and farmers in the homelands are noticeable (T. Prudence, personal communication, 2001). The former service comprised relatively small numbers of

generally well-qualified staff who usually were university graduates, current information, a low farmer-to-extension-staff ratio, and a technological understanding of the commercial farmer. The success of the "white" extension system was a result of quality inputs, as well as the homogeneity of the approximately 60,000 clients (*South Africa White Policy Paper,* 1999). This service was well focused and resourced, and the workers were well trained. Homeland extension agents, in contrast, usually lacked technical training, had large farmer-to-staff ratios, and had limited access to technical information, resources, and services privileged to white extension staff (Ficarelli & Hagerman, 2000). As a result, today most of these workers are well aware of the negligible influence they have on agriculture and the quality of life for farmers. Today, the extension system has been collapsed into one that is intended to meet the needs of all farmers, with a special focus on rural farmers.

The lack of extension services provided to rural or small-scale farmers in the Northern Province has been the focus of many discussions since the 1994 elections (E. M. Zwane, personal communication, 2001). Discussions have centered not only on inequalities in extension services, but also on other socio-political issues that encompass the entire extension system. Land reform and redistribution, infrastructure development, training and development, policy formulation, and funding are concerns that many stakeholders realize must be addressed in order to grasp the entire scope of the Northern Provincial extension system.

Restructuring Agriculture in the Northern Province

As Jiggins (1997) noted,

> In the current South African context, it is premature to settle on a uniform approach to the organization, management and funding of extension, and mistaken to expect that any one approach will be effective in meeting the diverse

> and, to an extent, divergent needs. An experimental approach, testing the most efficient and effective options to meet new policy goals, is strongly recommended.

For true organizational change to take place in South Africa, stakeholders will need to see the importance of agriculture in all farming sectors and move beyond a monolithic perspective. Emerging and small-scale farmers across the country have begun to receive full support. Postapartheid policies endorsed by the African National Congress in 1992, which provided land to new and existing farmers to ensure equity, have been implemented and enforced, albeit with some degree of resistance (Shackleton et al., 2000). Provincial governments have assumed multiple roles such as enforcer, educator, funder, and supporter to guarantee that small-scale farmers benefit from policies and programs (N. M. Mollel, personal communication, 2001). Coordinated efforts between organizations have begun to take the form of partnerships rather than being a chance occurrence. Attempts have been made to have partnerships become multidimensional, as evidenced by work through the RDP, which provides guidelines, funding, and organizational structure for rural land reform programs throughout the country (Land & Agricultural Policy Centre, 1996).

Land Reform and Redistribution

South Africa's land disputes parallel those of many other sub-Saharan countries that have been plagued by the social upheaval of land reform and redistribution. Zimbabwe in 1980, Kenya in 1963, and Ethiopia in 1974 all faced issues of land transfer after political uprisings. Policies that address the issue of land reform play an important role in addressing and alleviating the current issues regarding extension. Past policies implemented by the national government and other nongovernmental organizations have

helped shape the current path that extension has taken. Immiserisation was created among the black majority, and political and social prestige became associated with land.

South Africa, particularly the Northern Province, is in a precarious situation when it comes to the issue of land reform and reorganization because much of the population sits on white commercial land or in the former homeland area. Some of the things that South Africa can learn from the experiences of other countries that have dealt with land reform are as follows:

1. Authorities must avoid making unrealistic and extravagant promises regarding land, as the expectations bear a high political cost.

2. Success of a land-redistribution program depends on a strong political commitment and a transparent process involving all the relevant stakeholders.

3. Land redistribution must be implemented soon after agreement has been reached between parties. Otherwise, bureaucratic bungling and legal and financial constraints that bog down the implementation increase both the financial and political costs.

4. Individual small-scale commercial farmers can be as efficient as large-scale farmers if appropriate support and incentive measures are in place.

5. Land reform must be viewed as a part of an integrated rural development strategy and must not be undertaken in isolation from the development of rural infrastructures and social services.

de Villiers summed up the governmental attitude and action needed to make a significant difference in rural households by putting the issue in the context of sustainability and economic contributions. Provincial government must place priority on agriculture as it relates to economics and politics. In the Northern Province, much of the

effort for land reorganization has moved beyond the Department of Agriculture and into the hands of nongovernmental grassroots organizations, allowing for universities to be included in the process.

Land-redistribution programs in the Northern Province have not had a successful track record, as indicated by the several agricultural programmers interviewed during the course of this research. These programs were seen as being disorganized and ineffective. The need for stronger leadership was a concern for many interviewees, and it was noted on several occasions that the programs' inability to meet the needs of the rural communities was troubling (E. Lethsolo, personal communication, 2001). In the Northern Province, land-redistribution programs were organized into workable categories to help the rural poor, emerging farmers, labor tenants, farm workers, and women. Because these groups resided in rural areas, the following additional guidelines were needed to ensure that the process was not impeded:

1. Restitution of land rights—Communities relocated due to apartheid legislation could claim restoration of their lost land by December 1999, at which time only 64,000 rural and urban claims had been submitted (5,500 in the Northern Province).

2. Traditional land tenure system—Land reform was to take place in the former homelands to secure more land for commercial farmers.

3. Application of policies—Specific policies have been implemented to assist with the actual transfer of land.

Actual implementation of the land reform policies has proven to be the most successful, but this has been on a limited basis. The method used was to implement land grants, which were formed by the Community Property Association (CPA). Qualifying households were then advised by graduate students from UNIN to form commercial

farming groups within the legal framework of the CPA to access 16,000 land grants and 15,000 rand (equivalent to US $1,500). In 2001, nearly 30 CPAs had been formed in the Northern Province, but they had poor production output. Many of the volunteers who worked with the program did not believe it was viable:

> They [the farmers] are just being greedy because they don't want to work on the land. They form these groups and then collect their checks and then wonder at the end of the day why don't I have something to show. They didn't take our advice on farming practices and said they weren't going to try it anyway—it was a waste of their time to learn something new from someone so young. (Staff volunteer for the RDP)

This attitude compelled many people who worked with the program to stop making rural farm visits and to give up on the rural population, a sign that the government must provide intervention and support. The extension service has the potential to support the provincial government in its quest to redistribute land and revitalize the economy. It will require training and development on the part of all agencies involved and a conscientious effort to work as partners, which has been a difficult task in the past.

For agriculture to be proven an important product to the economy, attitudes will need to shift toward the economic capability that agriculture promises for the entire country. Small-scale farmers can provide an important service in the field of agriculture by helping to reduce import costs and contributing toward food-price stability in rural areas. In addition, small-scale farmers hold a key to helping alleviate poverty and unemployment among many rural households (Ficarelli & Hagerman, 2000).

Provincial Restructuring

The shift of the provincial government to help small-scale farmers has been recognized in several policy papers and documents in the last 5 years. The government has seen the limitations of existing programs that have focused on groups and clusters of

farmers. Now the focus has shifted toward individual farmers and their needs, as evidenced by the following measures:

1. Increasing disadvantaged black people's access to rural land.

2. Facilitating the transfer of 15 million ha of rural land from the state and white commercial farmers to the new beneficiaries.

3. Improving food security and rural incomes from agricultural production.

4. Stimulating economic growth and development of rural areas through increased agricultural production.

5. Empowering beneficiaries of land grants by assisting their development into farming enterprises.

6. Supporting the restructuring of the dualistic agricultural sector into a range of farm-unit sizes.

In conclusion, the land-reform program will have to focus on reorganization and support of rural farmers. The lack of a commercial sector, markets, land, and resources has limited the capacity of these farmers. Training and support will have to be a strong component of the land-reform program, if it is to prove successful. In addition, the program will need to work closely with extension staff and personnel in rural areas to ensure that the baseline needs of rural farmers are being met. Bilateral agreements must remain a priority for all those in government and other institutions involved in the reorganization of the Northern Province. Rural farmers' absence from the commercial sector for more than 50 years has limited their technical knowledge and skills, thereby making them much more vulnerable to the pitfalls inherent in reorganization and redevelopment of agriculture (Participants of Train-the-Trainer Northern Provincial Extension Program, personal communication, 2001).

Current Agricultural Extension Situation in the Northern Province

Currently, the extension service in the Northern Province is a unit of the Department of Agriculture located in Pietersburg, the political center of the province. Logistically, it is housed at a central location, but is inaccessible to many farmers and extension workers who live outside the greater Pietersburg area. The unsupportive nature of the extension service has caused many rural farmers and extension workers to lose faith in the quality of assistance it can provide (Extension workers in the Northern Province, personal communication, 2001).

To receive support, farmers sometimes travel to Pietersburg or Louis Trichardt, cities that are several kilometers from their homes. To the average person, this may seem like a reasonable distance to travel, but for the rural farmer, the cost of such a journey can be prohibitive.

The extension service in the Northern Province is responsible for delivering technical agricultural information to more than 10,000 farmers, which is nearly 25% of the population. To meet these needs, the Department of Agriculture has decided to shift the focus from a top-down approach to a participatory, interactive approach between farmers and extension workers. The goal is to become a more integrated system and to meet the needs of emerging and smallholder farmers. The language of agricultural policies has been changed to reflect the new direction for the department. This is the framework within which the Department of Agriculture was working at the time of this study. The key general principles the Department developed around specific agricultural policy areas in the Northern Province are listed in Figure 2.1. Principles specific to the areas of agriculture, technology, research, extension, and training are highlighted in Figure 2.2.

- The important role of agriculture in the reconstruction and development of the Northern Transvaal's economy and particularly rural society will be recognized.

- Agricultural support programs and services will be designed with the purpose of improving the quality of life and productivity of farmers and farm workers.

- Government agricultural programs, including the rendering of services to farmers, will contribute to the independence and self-reliance of all participants in the agricultural sector.

- National and particularly household food security are important and will be addressed through multidimensional strategies.

- The department will maintain formal liaison with organized agricultural civil society, national and provincial departments, and other structures.

- Farming systems and the incentives by which they are driven should be based on sound principles and practices that are sustainable and environmentally, economically, socially, scientifically, and politically appropriate.

- Affirmative action programs will be focused on low-income South Africans who were previously denied access to opportunities in agriculture; will equitably ensure access to agricultural resources, credit, and farmer-support services; will be based on merit; and will be implemented in a transparent manner.

- Services to farmers will be rendered in an equitable manner, discouraging existing and potentially discriminatory practices, and allowing the benefits of development to be more widely distributed, taking into account that access to resources, scale of production, use of purchased inputs, and volume of marketable produce differ from farmer to farmer.

- Governmental programs will be scientifically and practically planned and executed in consultation with farmers and other stakeholders.

- The needs of farmers, especially new entrants and small-scale farmers, will be met through the reorientation and training of trainers, extension and research workers.

- Opportunities created by international trade will be maximized in the interests of the local agricultural industry.

- Priority will be given to policies and strategies to identify and protect the high-potential agricultural natural resources (especially soil, grazing land, and water of the Northern Transvaal Province).

Figure 2.1: General principles outlined by the Department of Agriculture regarding the reorganization of agriculture in the Northern Province. (Adapted from the Draft Policy Paper for Agricultural Reorganizational Development for the Northern Province of South Africa, 1999.)

- Researchers, extension workers, and farmers will be part of a dynamic, holistic system.

- Research programs, technology development, and appropriate facilities therefore will be planned in collaboration with other support services and farmers.

- Resource allocation to agricultural (and basic) research will be appropriately balanced and be based on farmers' priorities.

- Agricultural research, training, and extension will be recognized as a long-term investment and will be best achieved by cooperation between government, research institutions, farmer organizations, and the private sector.

- The funding of need-driven research, extension, and training will be the primary responsibility of government, with greater priority given to small-scale farming.

- The additional work burden and time constraints placed on women due to their domestic responsibilities will be accommodated and ameliorated in the design and delivery of services and infrastructure to resource-poor farmers.

- Agricultural extension will support farmers to make their own production and marketing decisions by providing appropriate information on a wide range of alternatives.

- The local knowledge of farmers will be recognized and validated, and applied research and technology development programs will complement the existing knowledge of farmers.

- Special efforts will be made to gain access to successful research elsewhere, particularly on the African continent.

- Extension and research staff will be accountable to clients through the inclusion of farmer organizations and emerging agricultural structures in decision-making processes.

Figure 2.2: Agriculture, research, training, and extension guidelines outlined by the Department of Agriculture toward the reorganization of agriculture in the Northern Province. (Adapted from the Draft Policy Paper for Agricultural Reorganizational Development for the Northern Province of South Africa, 1999.)

The Northern Province Department of Land and Agriculture's view on reorganization and redevelopment has moved to a holistic approach that incorporates industry, educational institutions, nongovernmental organizations, and the government.

It has expressed the importance of all components working together to benefit the entire country, but with an emphasis on the majority population (Northern Province Department of Land and Agriculture, 2000). Because rural farmers have been the most deprived, the implementation of policies and programs to help them is critical to their individual and collective success.

Smallholder farmers throughout the province have come to realize that rural development depends on the effective delivery of extension services. The needs of specific clients within the rural agricultural spectrum—farm workers, communities leasing land, and labor tenants—must be recognized. Although rural development and extension are different in nature, both are intended to meet the specific needs of clients in rural areas.

As experienced in several other sub-Saharan rural farming communities, extension's realization of its potential to meet the needs of farmers must include a set of indicators to measure success (IDEAA, 1998). Many have defined these indicators by examining improvements in decision-making skills, an increase in capacity building, positive changes in cropping, increased food production, and an increase in marketing skills (*Small-Scale Farmers Association Report,* 1997). These indicators have provided sound information on which to base continued training and reorganization in several other countries, such as Zimbabwe and Malawi, and could prove effective for South Africa.

Program Redevelopment

Some researchers and organizations have suggested that change in the delivery of extension services must come about through behavioral change. Change in this context is defined as movement beyond the linear model of transfer and knowledge theory toward

an understanding of farmers' needs. As Roling (1996) noted, "The mandate of science would no longer be satisfied by scientists themselves developing knowledge for people. Instead, a science mandate would include helping people to develop knowledge." A suggested perspective is the farming/livelihood system (awareness creation), which specifies targeting a system wider than farming and household systems, but includes socio-organizational and socio-cultural components (see Figure 2.3).

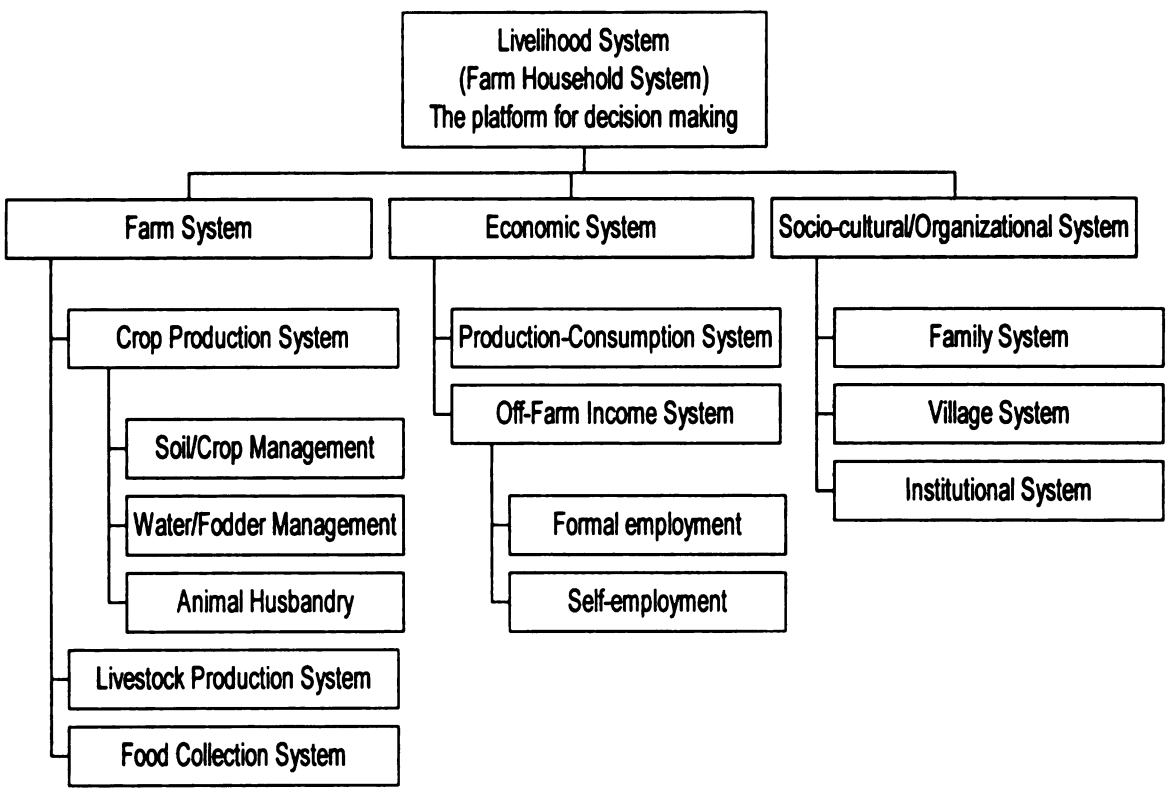

Figure 2.3: Livelihood system. (Adapted from the Northern Province Department of Land and Agriculture, 2000.)

This model for improvement incorporates the ideas of participation, collective action, empowerment, and institution building to generate change. This flows into a another supportive model known as the participatory extension approach, which suggests that, by including participatory technology, individuals such as extension staff and rural

farmers will engage in interactive participation, become empowered, and recognize indigenous knowledge and local institutions. This involvement must enable extension to work with rural farmers in the following capacities: (a) conduct problem and needs analyses; (b) strengthen local institutions; (c) plan agricultural activities at the community level; (d) evaluate, review, and share knowledge; (e) facilitate farmer-to-farmer extension; and (f) provide knowledge and options (Ficarelli & Hagerman, 1997). The divide that currently exists limits the work that can be done between rural farmers and extension staff.

A technical, social, and economic bridge is needed to span this divide and reach much of the rural population. Moving past sociopolitical issues will be pivotal to reaching rural households and farmers, implementing policies and goals, and achieving major objectives and goals. Current issues such as lack of credit, poor resources, lack of transportation and communication services, lack of training, and lack of regionally defined goals will cause the organization to move backwards and continue to perpetuate the dualistic nature of extension services between white and black farmers and among those classified as commercial, emerging, and rural.

Summary

The review of literature was organized into the following conceptual areas: smallholder farming, economic stability and poverty, agricultural extension in South Africa, land reform and redistribution, and the current agricultural extension situation in the Northern Province. There is a dearth of research on the perceptions of rural farmers in South Africa, due to the past discriminatory laws of apartheid. The information that was available concerned the background and events that have led to the current situation.

The need for formative information from farmers in the era of change and restructuring and the lack of precedents in the literature underscored the need for this study.

CHAPTER III

METHODOLOGY

Study Design

The Researcher's Paradigm

Denzin and Lincoln (1994) defined qualitative research as a study that can alleviate the imbalance found in quantitative research by providing information about the context of the study. This interpretive type of study, which provides "rich insight into human behavior," was appropriate for the present research on the perceptions of smallholder farmers in the Northern Province of South Africa.

As Guba and Lincoln (1994) noted, "All research is interpretive." Therefore, a researcher must identify his or her belief system from the outset. The "value-determined nature of inquiry" (Guba & Lincoln, 1994), found within the critical theory family, provides the researcher with distinct ontological, epistemological, and methodological beliefs, all of which help to guide the researcher to develop a sophisticated and informed study.

Critical theory mixes several sets of alternative paradigms into one larger "umbrella theme." This allows the researcher to methodically choose a paradigm to complement the research. This unique feature constitutes an epistemological difference from other paradigms.

In this particular case, the subjective epistemological belief was based on the fact that the researcher and those being studied were connected, a transactional linkage. This subjectivist situation creates value-mediated findings. My previous position as an extension agent enabled me to understand the values of those being investigated, thereby

"influencing the inquiry" (Guba & Lincoln, 1994). The interaction between the smallholder farmers and me created an association that is not found in other paradigms. The epistemological position also assumes that the knowledge gained is dependent on the interactions between the researcher and those being investigated. In other words, the information I gained was directly related to my interactions with the smallholder farmers, extension officers, and other resource persons involved in the study.

My ontological position was based in historical realism, specifically, that the present situation was created by cultural, social, economic, ethnic, and political factors. These dynamics required me to examine the extension system and smallholder farmers within the framework created by the previous and current political dispensations.

Case Study Research

My basis in critical theory necessitated that the research be performed as a "dialogue between the investigator and the subjects of the inquiry" (Guba & Lincoln, 1984). I carried out this transactional inquiry by conducting a case study that allowed me to embrace structures created by the past and to provide knowledge for the future.

Case studies are reports of research on a specific organization, program, or process (Creswell, 1998). They are unique because they must meet certain criteria not found in other traditions of inquiry. These distinguishable markers create bounded contextual situations that are event and/or program specific and are context situated within original settings. In addition, case studies provide a rich story that details the lived experiences of the studied group. This key marker is what makes the present research so valuable to rural agricultural communities throughout South Africa.

Historically, case studies have been a common form of research in qualitative inquiry (Stake, 1995). They provide an opportunity for the researcher to focus on a

particular "case," rather than the methods. Paying more attention to the case than the methods allowed me to conduct a more intensive and in-depth study. Within the South African context, I was able to "seek what is common and what is particular about the case" (Stoufer, 1941), the result of which was portraying something uncommon. This uncommon discovery can be approached only when the researcher works within the boundaries of the case's historical background and the physical setting; awareness of the political, economic, and legal contexts; and recognition of other studies on the issue. These criteria are often used to determine fulfilling case studies. If researchers are committed to these points, they will realize that their work is not for the advancement of science, but rather for the understanding of what is important about that case within its own context. Theorists and researchers who conduct quantitative research often miss this point.

The rounded approach to case studies allows researchers to enter into the "case," listen to the story, observe the events and relationships, and then write the story according to their lenses, but only within the given cultural, socioeconomic, and historical contexts. A rich description of the current situation is developed that enables researchers to work within the environment of the phenomenon and provides for experiences, stories, and examples to be woven into the research and integrated into the framework of the study. Lincoln and Guba (1985) made the point that "much qualitative research is based on a holistic view that social phenomena, human dilemmas, and the nature of cases are situational and influenced by happenings of many kinds." This holistic approach to understanding a phenomenon is what makes case studies unique. Given the complexities of the Northern Province, I determined that a holistic approach would embrace the

historical and political nature of extension education for these particular farmers and allow their story to be heard.

The nature of the research requires that the researcher ask critical questions that shape how the specific research methods are conceived and implemented throughout a study (Creswell, 1998). Although data collection is basic to all qualitative studies, in case studies the researcher must gather large amounts of data in order to develop a convincing and accurate story. Various modes of collecting data can be used in a case study, such as observations, interviews, documents, and artifacts. These are all central to qualitative research, but in terms of case studies, they are unique to the particular situation being researched. Case studies are known for their use of multiple methods of data collection in order to articulate the in-depth story. For the purposes of this study, I collected data from several sources within the selected communities in the Northern Province. Using a variety of data-collection strategies allowed me to gather information on the cultural nuances and experiences of others, while remaining flexible, practical, and ethical.

Given the phenomenon that has been created through the delivery of extension education programs in the Northern Province, a case study was determined to be the best approach for conducting this study. This approach was appropriate because it allowed me to focus on a specific community within a particular period of time, as well as to embrace the cultural nuances and ethos within this area that have been affected by apartheid. Extension education and its relationship to black smallholder farmers was the critical phenomenon in this case study. As Stake (1995) stated, case studies are bounded by behavioral patterns useful in the concepts for specifying the case. My interest and concern was in hearing the voices of these small-scale farmers or, in Stake's words, in

hearing "the stories of those living the case." This study was not intended to build theory or explain an abstract construct, but to provide insight into the extension system and its relationship to black small-scale farmers in South Africa. As Stake said, a case study is conducted "mainly to provide insight into an issue or to redraw a generalization."

Historically, black small-scale farmers have been an afterthought in terms of support and enhancement through the agricultural communities in South Africa. Recent restructuring of the provincial government has made this an opportune time to conduct research that may provide valuable information to policymakers as well as stakeholders in agriculture. Information gained through this study can be used in planning and implementing policies at both the provincial and national levels. Given the lack of research in this area, the study may also serve as an impetus for others to examine the conditions of small-scale farmers in other parts of South Africa.

The Study Population

Two villages defined as dry and irrigated land areas in the Northern Province were selected for several reasons. First, due to the topography of the Northern Province, the chosen locations were accessible by local transportation and were within a 100-mile radius of the base site of Pietersburg. Pietersburg was chosen as the central point because it was the agricultural headquarters for the Northern Province and provided access to resource sites such as UNIN and the Northern Provincial Department of Agriculture. Second, people in both villages used the local language of Northern Sotho, so I did not have to obtain another translator or attempt to understand another ethnic group. Finally, the farmers in this area have been involved in university- and government-sponsored programs, which made them more accessible for study. My experience working in

extension programs and with farmers in the United States enhanced my credibility with the participants.

Because farmers and the extension organization would be investigated, the following selection criteria were used: Farmers understood pre- and postapartheid legislation as it pertained to agriculture, had plots before the political dispensation of 1994, had contact with extension staff/personnel within the past year, and would be able to understand and answer my questions in Sotho. Descriptive information from UNIN's Agricultural Economics Department was used to compile a list of areas that met these criteria. The list was divided into two categories, dry-land areas (lacked a major water source) and irrigation areas (a water source was in close proximity to plots/farms).

Next, target sites were identified from this list. This was accomplished by consulting with faculty and staff at UNIN, either directly or by telephone. Each person had worked on projects in these areas, which gave them direct contact with the farmers as well as the village chiefs and councilmen. One person, in particular, was responsible for implementing and directing programs in the irrigated communities. Another person served as interim dean for the Faculty of Agriculture, which gave him access to and knowledge of all of the selected communities. Efforts were made to include advisors from different departments and projects across the university.

Many sites were recommended, but the overwhelming majority of named areas were those that had received minimal funding and support from the government and were classified as extremely resource-poor communities. Final decisions about target sites were made by considering (a) accessibility of chiefs and the Tribal Authority Council, (b) the translator's understanding of the local language, (c) the farmers' willingness to participate in the study, (d) available resources for travel, (e) inclusion of one dry-land

site, (f) inclusion of one irrigated site, and (g) local involvement with the Agricultural Resource Development Corporation (ARDC) in the irrigated area.

At each of the two chosen sites, the following people were involved in the study: the Tribal Authority Council, the chief, the extension officer, and the farmers. The Tribal Authority Council was the gatekeeper for the entire community and served as the mouthpiece for all citizens. The Council was involved in the research by default because, without its approval, the research could not have been conducted. The approval process could have been prolonged, but the reputation of researchers and staff from UNIN helped the chief decide to approve the research.

The extension agents were the key individuals who provided access to the farmers. Their inclusion in the study was integral because they provided background information on both the community and the farmers, had knowledge of key concerns to farmers, and were able to articulate ideas and concepts in English. The extension agents had unique and somewhat different perspectives on the topic of the extension system. Although their role was as disseminators of agricultural information, they also had a primary role of connecting with the farmers. Most had done this over the past 10 years and were able to understand and explain the farmers' situation within the complex historical framework of the South African rural agricultural community. The perspectives of the extension agents were used to triangulate the data collected in interviews with the farmers, thereby enhancing the internal validity of the data (Miles & Huberman, 1994).

Site Selection and Recruitment

After the two target sites were selected, I asked two students and a faculty member with personal connections at one of the sites (the dry-land area) to accompany

me when I met with the tribal chief. At this initial meeting, the chief was not present, but his wife spoke on his behalf. My companions explained the nature of the research, the length of time needed in the community, and how the community would benefit from the research. They also explained that I was a graduate student from the United States and would be using a translator who was familiar with the local vernacular. At this time, the consent form was translated for the chief's wife, who could then explain it to the Council and the chief. We agreed that I would return in 3 weeks to meet with the extension officer and to begin interviews with selected farmers. This exact time frame was set because the village was beginning *koma*[1] and would not be accessible to outsiders. The "agricultural person"[2] would choose the farmers for the study from the Mamaila community, located within the greater area of Sekgosese. Chief Mamaila's wife agreed to tell her husband as well as the headmen, who would then deliver my request to the agricultural person.

At the second village, Straydkraal, the tribal council had been informed by a faculty member in the Agricultural Economics Department at UNIN that I would be conducting research in the area. I was not formally introduced, but through a site visit for a related project, I met the extension officer and several farmers. At that time, I explained the nature of my research and asked for the extension officer's help. I gave him a consent form and set up times to meet with the farmers.

[1]The male rite-of-passage ceremony performed throughout the Northern Province and several parts of South Africa on boys ranging in age from 8 through 19. The complexity of the ceremony differed from one village to another, but typically involved the villages located in one Tribal Authority Council (T. Mudzani, personal communication, 2001).

[2]This was the term that the chief's wife and many other locals used in referring to the agricultural extension agent.

Before I began the data collection, I made two visits to each of the locations to familiarize myself with the area, the people, and their cultural practices.[3] These meetings were instrumental in helping me develop a relationship with the extension officers before the farmer interviews and to make informal visits to several agriculturally based organizations in the area. At the time of the final site visits, the extension officers and I scheduled dates for the farmer interviews. We agreed that an hour would be allocated per farmer because it was preparation time for summer crops and many of the farmers did not have time to devote to lengthy interviews.

Originally, the plan had been to meet with each farmer for 1.5 hours, but both of the extension officers and some of the farmers had reservations about this idea. So to maximize the time spent with farmers, it was agreed that I would also follow them in their plots to see for myself the extent of the issues they faced. At each of the sites, many of the interviews took longer than an hour because of the rich experiences the farmers wanted to share. When I visited their plots, the farmers became more descriptive with their explanations and shared more of their time.

On-Site Data Collection

Interviews were conducted in locations that were comfortable and accessible to the farmers and extension officers. In the Sekgosese area of Soekmekaar, interviews took place at the extension officer's office, as well as at the individual plots of the selected farmers. In Straydkraal, the interviews were conducted at the office of the extension officer in the Mooiplaas and Straydkraal A&B wards. In both locations, the farmers had travel times of fewer than 30 minutes, which was less than a 1-mile walk.

[3]In some areas the infrastructure was poor, and I had to determine where and how I would interview the participants. In addition, I had to determine whether local protocol had to be followed before I could meet with the farmers, i.e., eating with families and visiting plots.

Sekgosese Area (Dry-Land Farming Site)

This mountainous area was the site of interviews conducted with farmers who had difficulties in obtaining water for their plots. Many farmers had greater access to water during the summer months (September through December). Two sets of interviews were conducted with three farmers who were selected by the extension officer of the Mamaila ward.

Straydkraal Area (Irrigated Farming Site)

The Straydkraal area was considered an irrigated farming area because of the number of irrigation schemes that were in place. In this particular village, there were three irrigation schemes housed under the ARDC, with subsequent funding and support from UNIN and the Institute of Water Irrigation. All of the farmers who were interviewed had experienced farming conditions under a communal irrigation scheme. (See Appendix A for maps of the study areas.)

In each village, participants were read an informed consent form (Appendix B) before the interviews began. In addition, the Sotho translator outlined the details of the consent form so that everyone understood the nature of their role in the research. I explained that confidentiality would be maintained and that all participants had the right to withdraw from participating at any time. At that time, many farmers expressed concern about what would happen to the information after it was collected because several agencies had conducted research there, but farmers never saw the results. I explained that I would return to discuss their responses, and at that time they would be able to provide me with feedback for corrections or deletions.

Before the interviews, the translator and I coordinated the sequence of questions and wording that would be understood in the Northern Sotho language. This was done to

ensure that the questions being asked were linguistically appropriate and comprehensible to all participants.

All interviews were audiotaped to ensure correct translation. Before the interviews began, all participants were asked if they agreed to have their answers tape recorded. Once they agreed, the interview process started with an official prayer or opening in Sotho, a customary practice observed at all meetings and gatherings in the village. The interview began with demographic questions about the farmers' plots, family, age, and so on. Then the translator began to ask specific questions listed on the guided question list (see Appendix C). Content areas specified in the guided questions were closely monitored; however, the interview format was loosely structured to encourage spontaneity and reflection in responses. The translator prompted me when she thought the questions needed to be reworded to ensure full understanding by the participants.

At the conclusion of the interviews, participants were thanked for their time and asked if they had any questions. One participant expressed reluctance to answer the questions because

> People are always coming in here to interview us. They just come in and get our answers, then go back to their offices at those places [universities] and don't tell us anything. We don't know what they are writing or saying because they never come back to share with us. We are tired of that. Hopefully you will not be like that. You will come back and share with us and tell us what you have found so that we may improve our own communities. We can use the information to share with the extension officer and others who are supposed to be helping us.

Other concerns expressed by the participants were duly noted and kept with the interview transcripts. They will be shared at a later time.

Data Management

Both sites and participants were coded to protect their identities. In addition, sites were coded to reflect their farming characteristics, i.e., dry-land farming and irrigation farming. Any supporting information from the two sites that had identifiable markers was removed.

Interview tapes were kept in a locked, private file at UNIN until they were transcribed. A professional stenographer/translator transcribed four Sotho tapes, and I transcribed the remaining English ones. Once all interviews were transcribed, transcripts were returned to the participants for review during the second site visit. This was because a translator was needed for clarification and explanation at all times.

Respondent Codes

Following the respondent code key helped guide me during the classification and constant comparative procedures. The first letter and number in the code indicated the respondent (F1 = Farmer 1, F2 = Farmer 2, F3 = Farmer 3). The next four letters indicated the village site (STRA = Straydkraal, SEKO = Sekgosese). The letters EW stand for extension worker, and the initials NW stand for me, the interviewer.

Data-Analysis Framework

Case studies require that extensive amounts of data be collected in order to build a rich story and to make general statements about relationships among categories of data. Only through a well-organized process can a researcher manage the large volumes of information. According to Creswell (1998), many forms of data analysis are used by researchers in the same field. Because of the lack of research on this particular topic and the inaccessibility of work that has been done in South Africa, I relied on methods used

in other forms of extension research to retell the story of smallholder farmers in the Northern Province.

Because much of the work in extension relies on the participatory approach, I used a database system that includes several techniques that are used for recording, interviewing, and observing in developing countries. These techniques are as follows:

1. Data were collected via tape recordings and transcribed onto notepads for the participants' viewing. Data were also transcribed into notebooks for the consultants and me. Written documents were then separated by subject themes and color-coded in files or folders. Finally, data were separated into coded themes.

Interviews were tape recorded and color coded according to site location. Observations of rural farmers were kept in a journal, with sections separated by tabs according to site location. Observations of extension staff were organized according to formal/informal meetings, planning meetings, and site visits. Site maps of each location (farmers and university) were kept, along with pictures and newspaper clippings relevant to the study. After each session, notes were transcribed into NoteKeeper (a computer software package for researchers).[4]

2. Data were organized into themes that had been formed by the research. NoteKeeper notes, journals, and site maps were analyzed to generate themes. In this study, themes included extension education, farmers' perceptions, agricultural policies, delivery of extension, and extension programming pre- and postapartheid. Pictures, articles, and film were grouped into separate categories to facilitate the process.

3. The participants and the researcher filtered out unnecessary and irrelevant information through secondary interviews and triangulation. Information was placed in a

[4]I worked with translators on all information in Sotho.

small-scale matrix, which was a first step in answering the overall research questions and helped me explain and understand the data. In determining what information was irrelevant, I had to determine whether it was useful and central to the study.

4. A report was written for stakeholders and the general public. The dissertation describes the methods by which extension education is delivered and its impact on the quality of life of smallholder farmers in Pietersburg, South Africa.

Data-Analysis Procedures

During the course of the fieldwork, I constantly developed categories from the data, using the constant-comparative process (Lincoln & Guba, 1985). The constant-comparative method allowed me to break down the information collected from the farmer interviews into manageable topics. My rationale for using this method was that theory regarding institutional change and its effect on smallholder farmers in South Africa is lacking.

I subjected the coded interviews and transcripts to content and constant-comparative analysis. Lincoln and Guba (1985) described content analysis as a conventional method of analyzing data. The analysis process comprised four stages: (a) comparing incidents applicable to each category, (b) integrating categories, (c) delimiting the theory, and (d) writing the theory. Guided by the content areas found in the interview guide, I was able to create an intuitive category domain list. Data were then reviewed and "unitized" into manageable bits of information. I first recorded and coded the units and then assigned them to categories based on my reasoning regarding a best fit.

Comparisons were made within each unit and across categories, using the guidelines set forth by Lincoln and Guba (1985). This process allowed me to make comparisons that began to delineate the properties of units falling into each category.

Several interesting and challenging aspects arose during the course of this process, which led me to "memo writing"[5] (Lincoln & Guba, 1985). Memo writing during the coding process allowed me to describe my thoughts on the various categories that were taking shape. I was able to capture differing as well as consistent thoughts about the entire process by writing these memos. In addition, I was able to adhere to Lincoln and Guba's format of creating usable and useful definitions of the properties of the category. After this, assigning units to categories shifted from an intuitive "look-alike/feel-alike" match to a "prepositional rule-guided judgment" (Lincoln & Guba, 1985, p. 342).

In the second phase of the constant-comparative method, the researcher begins to integrate the categories and their properties (Lincoln & Guba, 1985). The main emphasis was to test the individual categories as well as the individual units. In this phase, the focus shifted from comparison of units within categories to comparison of newly identified basic properties of a particular category. Clear direction and clarity was provided by this two-edged test (Lincoln & Guba, 1985), which ultimately led to the category-integration process.

The design and make-up of this study determined how the data were processed and analyzed. Several aspects of the design influenced the data analysis:

1. After the topic was formulated, data analysis began.
2. Data analysis happened at the inception of data collection.

[5]During the entire research process I kept a research journal that included notes and other valuable pieces of information.

3. Data collection and analysis happened in a nonlinear fashion.

4. Multisite design encompassed both collection and processing of data.

5. Data collection and analysis was a continuous process.

As a result, theory developed on its own through the "distinct integrative advantage" described by Lincoln and Guba (1985).

The next phase of the analysis process, delimiting the theory, involved developing efficient categories from the remaining ones. This was systematically done by fine-tuning and revising the categories. By this point in the research, there was more clarification of the category properties; as a result, the new data fit into the categories with fewer restrictions and complications. Because I had clearer direction and clarity with the data and realized that the data-collection process was continuous, the final data collection targeted areas of ambiguity and saturated categories, and moved toward closure of the study.

Qualitative researchers differ in the way they report their findings (Lincoln & Guba, 1985; Miles & Huberman, 1994). These differences could be due to the ambiguity that exists in the various qualitative formats, or it could be attributed to the well-known inductive nature of qualitative research. Given the nature of this case study, I made informed choices, maximized opportunities for gathering data without jeopardizing people's values, and paced my research within the local situation so as not to seem obtrusive. These combined aspects led to a results section guided by the following principles: trustworthiness, the study's original purpose, and epistemological consistency.

In summary, the constant-comparative method as described by Lincoln and Guba (1985) and the tenets of critical race theory guided me to present the data in a case study

format. The process involved describing the case in detail, providing categorical aggregation of the data, establishing patterns and correspondences among the categories, and finally developing naturalistic generalizations from the complete analysis of the data.

External Reviewers

Throughout the analysis process, three external reviewers were used to ensure validity, in accordance with the constant-comparative method as described by Lincoln and Guba (1985). Robbie Steward, an educational psychologist in the Department of Educational Psychology at Michigan State University, was chosen because of her expertise in interviewing, attention to detail, and experience in working with case studies. In addition, Professor Mollel from UNIN assisted in the comparative process. He served as an advisor because of his cultural connection with the community, as well as his work in both of the villages that served as research sites. His assistance during the research helped me understand the cultural nuances in the Northern Province. John Graham, Assistant Dean of Research at Delaware State University, also provided assistance due to his previous work with historically black colleges in sub-Saharan Africa and with disadvantage communities.

Quality Criteria

Qualitative researchers must strive to determine whether they have gathered the most revealing pieces of information for their study. This inquisitive process, similar in structure to the positivist paradigm, is distinguished by the overarching question of "How do I know that my study is believable, accurate, and right?" (Creswell, 1998). This question pertains to the trustworthiness of the study and can be answered according to four criteria: credibility, transferability, dependability, and conformability (Guba &

Lincoln, 1984). These criteria are similar to those found in the positivist paradigm, but they probe much deeper into the multivocal discourse that is prominent in many qualitative studies and help researchers remain consistently epistemological. The criteria are discussed in the following paragraphs.

Validity and Credibility

A qualitative criterion for judging the quality of the conclusions reached in a study is known as validity. The most widely used criterion in checking validity is credibility, which concerns the consistency between the participants' responses and the researcher's reconstruction of those responses. Credibility depends on the apparent accuracy of the data, as well as the steps taken to increase reliability (Husen & Postlethwaite, 1985). In a qualitative study, the researcher describes the precautions taken to ensure accuracy of the observations, whereas in quantitative research the data and findings are presented to the reader at face value. Credibility in the qualitative genre cannot stand alone but depends on the researcher's organization and presentation of the data. In this study, credibility was increased because of my work as an extension officers. Although this work was not in South Africa, it gave me a common ground to refer to when talking to farmers. This experience improved my knowledge of the culture of the farmers and extension workers and ultimately increased my ability to build trust with the study participants (Lincoln & Guba, 1985). Ensuring credibility added to the richness and depth of this study and allowed me to remain confident as to the reliability of the taped conversations with the farmers and extension workers.

Triangulation also was used to ensure credibility in this study. Triangulation "makes use of multiple and different sources, methods, investigators, and theories to provide corroborating evidence" (Ely et al., 1991; see also Erlandson et al., 1993; Glesne

& Peshkin, 1992; Lincoln & Guba, 1985; Merriam, 1998; Miles & Huberman, 1994; Patton, 1980, 1990). Information I gathered from the Dean of the Faculty of Agriculture at UNIN, department heads in the extension system, lecturers, and agriculture-based nongovernmental organizations provided me with multiple perspectives on answering the research questions.

Peer debriefing was used to provide an external check on my research. As Creswell (2000) noted, this individual "asks the hard questions about methods, meanings and interpretations; and provides the researcher with the opportunity for catharsis by sympathetically listening to the researcher's feelings" (p. xx). A Sotho graduate student at UNIN provided me with honest reality checks throughout the research process.

In addition to peer debriefing, I used member checks to ensure credibility. Due to the language barrier, participants were given verbal feedback on their responses from the previous interview. They were then able to provide me with immediate verification of their responses during the second interview. Confidentiality was maintained by coding both participants and sites.

The highly detailed and informative interviews provided me with insight into the world of the farmers as well as the extension system in a linear fashion. This temporal process helped me produce reliable data based on proper selection and technical quality of my recordings as well as the accuracy of the transcripts. Ensuring reliability guided this process as it kept me grounded and aware of the observed phenomena.

Transferability

Unlike external validity, transferability means that the individual reading the study takes responsibility for making generalizations and decisions about the study. This

person has been provided with a template of rich experiences, detail, and data that have emerged from interviews and focus groups.

Because this study was designed to investigate the attitudes and perceptions of farmers from critical smallholder areas in the Northern Province of South Africa, I decided to sample purposively (Lincoln & Guba, 1985). Study sites were targeted not only during the preselection stage, but also during consultations with key persons in the Northern Province agricultural community. Lincoln and Guba said this consecutive fashion of sampling allows for adjustments and focusing throughout the entire process.

Dependability and Confirmability

The final components of trustworthiness are dependability and confirmability, both of which are supported by two important factors, member checks and the paper trail of memo writing. Confirmability was supported in this research because both the process and the product of the study were externally audited (Lincoln & Guba, 1985). Lincoln and Guba defined confirmability and dependeability as necessary and positive aspects that occur during the research process within an evolving and fluid inquiry.

Limitations

Two major limitations were identified at the outset of this study. One was that the selection of sites might be skewed to areas that had received previous funding and support from the South African governmenet and UNIN, thereby tainting people's responses so that they did not refledt the true situation. Another area of concern was the fact that I was dealing with only two chosen locations in the Northern Province. Thus, the study would reflect only the issues and concerns of farmers in those particular areas

and not throughout the entire province. In additioni to these two limitations, I also took into consideration ethical concerns.

Ethical considerations are shared across all genres of research; however, in each tradcition the researcher should observe certain particulars. The high exposure rate in studies of this nature reveals individuals' personal issues and puts people in vulnerable and uncomfortable situations. In addition, disclosure of information and documents can put people in situations that risk their positions or respesct within a community.

Within the context of the Northern Province, there has been a lack of research done by black South Africans. This has creatd a situation in which people are cautious of outsiders who now want to study the agricultural community. Being aware of this situation helped prepare me for framers' possible resistance to participation. I kept in mind that many of the people with whom I would be interacting had been forced into a social situation that had left them vulnerable to others' ideologies and beliefs. Thus, to remain ethically sound, I took the following steps:

1. I gained entry into the community from a respected community member, the Dean of Extension Education at UNIN.

2. I paced my research according to the local situation so as not to seem obtrusive.

3. I protected participants' anonymity and gained their consent to participate in the study.

4. I maximized opportunities for gathering data without jeopardizing people's values.

5. I observed local customs when visiting rural farms. For example, I interacted with both male and female farmers, which required different dress codes and social actions.

6. I respected the norms of reciprocity.

I did not assume that my being aware of the above-mentioned issues would ensure the success of the research. However, it possibly alleviated some of the limitations and difficulties I might otherwise have encountered.

CHAPTER IV

FINDINGS

Introduction

My purpose in this qualitative study was to identify the perceived needs of smallholder farmers in the Northern Province of South Africa in relation to the delivery of information and programs by agricultural extension services. This chapter contains findings that were synthesized from the information collected during interviews, focus groups, and observations. The results are presented in five major sections. The first section is a composite description of the respondents in the two selected research areas, Sekgosese and Straydkraal. Then the general findings related to the research questions are presented. The next two sections are case studies of the two areas and include descriptive information concerning the respondents' perceptions of the needs of farmers in the areas. The final section is a comparison of responses from the two villages.

The two case studies contain the respondents' own statements, which are used to illustrate their perceptions of reality. In line with critical race theory, this method was considered the best way to convey the message within the context of power and race in South Africa.

Demographic Information

The initial plan was to select as subjects for this study farmers who fit into one of the following two categories: (a) farmers who lived in an irrigated area, defined as an area that had an irrigation scheme to meet the agricultural needs of plots and farms; and (b) farmers who lived in a nonirrigated village, defined as an area that depended on local water sources for irrigation purposes. It was important to have this mix of farmers to

ensure an equal representation of the predominant farming types in this area of the country.

The mix of respondents was according to plan because of the interactions I had with the local extension agents and other key stakeholders in these areas before the research began. The number of respondents from each area was equally distributed between the two villages. I believe the positive interactions these farmers had had with other researchers, their linkage with UNIN, and the initial acceptance by the extension officers influenced their decision to participate.

All of the respondents in this study shared the belief that they were part of a system of people who had mutual experiences. One respondent told me at my initial visit, "It is good to have someone like you here. . . . You can tell them up there in Pietersburg what we are going through—what we must live through every day. We are suffering, but we are making it." Other researchers had visited these villages, but not necessarily to talk with the farmers. Many had come only to examine programs or projects and not specifically the farmers. The farmers thought their role in the field of sustainable agriculture was not valued because they were not educated or in positions of power. One farmer said, "We need to tell our story so they know what we are doing. As long as you share the results with us, we will tell you what you want to know."

A profile of the respondents shows that, of the 6 smallholder farmers who participated in the study, 5 were males and 1 was female. Five were married, and 1 was widowed; all of them had children. The farmers were all over the age of 30 and had a mean household size of about 9.4 people. The mean number of children in their households was about 5.7. Farmers in both villages had an average plot size of 2.1 hectares and produced a variety of crops in both the winter and summer. Summer crops

comprised maize, cotton, and wheat, whereas winter crops included tomatoes, mangoes, bananas, spinach, and butternut squash. In addition to these crops, some farmers had begun to plant and grow saplings for sale in the local community. Families used the money they earned from this enterprise to help with extra expenses such as school fees and the staple food called pap.

Respondents from both villages reported that they had been farming in their respective areas for an average of 7.83 years. They defined farming as an activity that produced an agricultural yield for either their family or the community. All farmers practiced mixed cropping and reported they did this to supplement their incomes. In Sekgosese, 2 farmers grew vegetables and fruit only, and 1 also raised livestock and poultry. In Straydkraal, 1 farmer each grew maize and cotton, maize and wheat, and livestock and poultry. A comparison of the demographic characteristics of farmers from both villages is shown in Table 4.1.

Table 4.1: Demographic characteristics of respondents in Sekgosese and Straydkraal.

Characteristic	Village	
	Sekgosese	Straydkraal
Gender		
Male	3	2
Female	0	1
Marital Status		
Married	3	2
Widowed	0	1
Mean number of children	5.17	6.23
Mean number in household	8.20	10.67
Mean number of years farming	7.15	8.51
Type of farming practice		
Vegetables/fruit only	2	0
Livestock/poultry	1	1
Maize and cotton	0	1
Maize and wheat	0	1

Findings Related to the Research Questions

Farmers had an opportunity to express their views on the local extension system, which they did by sharing experiences and stories during my site visits. The following are perceptions of the extension service as expressed by farmers from two villages in the Northern Province, Sekgosese and Straydkraal. Each account is unique, yet the stories overlap with respect to certain details and experiences of the rural smallholder farmers.

> Research Question 1: To what extent does the delivery of technical information and methods by the Northern Province extension system affect the productivity, economic inputs, and quality of life of smallholder farmers in the Northern Province of South Africa?

Rural farmers in both villages had similar experiences; thus, their responses were similar. Farmers in each area expressed concerns related to the type of information delivered by the extension agents, as well as how that information affected their overall productivity and quality of life. It was obvious that many of these farmers' issues were not isolated to their specific villages, but crossed geographical boundaries.

The greatest concerns that farmers expressed were related to lack of communication, transportation, and supervision of the extension worker, as well as barriers that limited economic and social mobility and growth and lack of access to markets. They understood that these factors limited the quality of service they received from the extension workers and saw them as barriers that rural extension workers had to face in their positions. Two extension agents from the train-the-trainer sessions reflected on one of these issues and how it related to their work with rural farmers.

> **EW1**: I don't have access to a computer but would like one in the office, as well as a telephone [land line]. I must use a cellular phone for all professional business calls. Also, I don't have transportation. I must use public transportation, which is costly. During the apartheid era, some extension officers were given government cars [GG2], but I was not fortunate to receive one. None of the five other extension officers in the Sekgosese area have cars, even if they have two or more wards, such as myself.

EW2: Transportation is a problem. The reason that extension is failing is because [there is] no communication and transportation. You must go to the supervisor if you want transportation or use your own phone if you need to make important calls. Petrol costs R400 to 500 a month. I have my own car, but that doesn't necessarily improve the standards of my job, not effectively. If we had a government car and had an allowance for petrol and maintenance, it would be better.

Rural farmers also mentioned lack of transportation, as evidenced by the following:

F1SEKO: It is a problem for communities and farmers because of lack of transportation. We don't have the money to pay for a car or petrol. My salary goes towards transportation, which I must depend on daily.

In addition to these views, the farmers felt a strong need for extension officers to be held responsible and accountable to a higher authority. More often than not, they expressed that the extension officer was not doing an effective job because he was not reporting to an immediate supervisor. Although this seemed to be a consistent problem in both areas, the farmers in the irrigated area were more adamant about this being a continuous problem:

F1STRA: They don't have anyone to report to—no supervisors, no accountability. They report to Sheelot, which is located far away. Supervisors should take the time to come here to visit the extension officer [in the field]. The extension officer is reluctant to do work, and it aggravates us [the farmers].

Farmers in the dry-land area (Sekgosese) voiced this same sentiment, but not with as much conviction because the extension officer made a conscientious effort to visit the farmers and share with them information from the Department of Agriculture and other agricultural agencies. This served as adequate justification for his not having direct daily contact with a supervisor. In addition, the Head of Region's office was located within 5 miles of the village, which created a sense of security for the agricultural community. Farmers were aware of the services the office provided and its role in the productivity of the extension officer.

Research Question 2: What are the barriers of the present extension system for smallholder farmers?

Farmers mentioned several barriers that they faced, which led to a diminished quality of life. On the subject of crops and postproduction, they stated there was a lack of technical information on crops other than their staple harvest, limited information on cooperatives, and inadequate information on how to improve postharvest facilities. Concerning the delivery of information, farmers said there was a lack of training and support of extension staff. Other barriers they mentioned were the inadequate transportation services available to extension staff to deliver information, inadequate roads, limited access to markets in the surrounding areas and within the cities, and limited access to cooperatives to purchase inputs.

Research Question 3: How do past and present government policies affect the educational delivery methods of the extension system for smallholder farmers in the Northern Province?

Farmers said that, although there had been discrepancies and inequalities in the extension system of the past, they thought the white extension staff were more attentive and personable than the current black staff when delivering information. These extension staff were given access to resources and inputs and influenced the type of information they delivered to the rural farmers. Policies that limited the educational opportunities for blacks also affected the type of information that extension officers were able to deliver to the rural farming communities. The farmers noted that, although this was the case, they thought the black extension officers lacked the enthusiasm that many of the white extension officers had shown them. The policies implemented during the time of the dual extension system created lax attitudes among many rural extension officers, limited access to information and educational opportunities, and overall inadequate services for rural smallholder farmers.

Research Question 4: What is the effect of support services on the productivity and yields of farmers in the Northern Province?

Farmers suggested in the interviews that the information they received from the extension officers was redundant and dated. Much of the information they needed for the maintenance of their crops had been passed down from season to season, so in essence the extension officers were not delivering new information. Additional support services were not available unless the farmers themselves coordinated them. Farmers wanted current information on how to expand their plots and crops, construct postharvest facilities, and create cooperatives.

Farmers in the irrigated area were in a unique situation in that they needed support services that met the needs of their irrigation plots. Before funds from the parastatal organization ARDC were curtailed, farmers had received sufficient support. Now, however, they needed assistance in repairing pipes and transformers, which were crucial to the current farming season. Throughout the interviews, the farmers mentioned that the extension officer was not helpful and had not taken the time to find out the proper agency to provide them with on-going support.

Research Question 5: How appropriate is the information provided by extension officers to smallholder farmers?

Farmers expressed a general need for the information they received from the extension officers, but some noted that the information was outdated and redundant. Many noted that the officers demonstrated proper techniques, yet these may not have been the most appropriate methods to use. They also told me that, because the extension officers did not receive frequent training, they lacked much of the current and advanced information taught to the white extension officers. Much of the information given to

farmers was the same as they had been using for several years, and it had not helped increase the smallholder farmers' productivity and yields.

Case Study 1: Straydkraal Irrigation Scheme (Irrigated Area)

Demographics

The Straydkraal Irrigation Scheme is located between the two major cities of Pietersburg and Louis Trichardt. It was initially funded as an irrigation scheme because of the extremely dry and inclement weather found in this area. Agricultural plots managed by individuals receive water through a community pump connected to an irrigation scheme. Its location makes it convenient for water to be drawn from the Arabie-Olilfants River, located fewer than 3 miles from the main community.

The irrigation scheme is in the former homeland of Bophuthatswana, which can best be described as isolated and remote. It is accessed by unpaved, gravel goads, which makes transportation awkward and unreliable. Pietersburg is the nearest large commercial center, but communications with that city are relatively poor. Local markets are randomly located around the area; they serve as major points of commerce for many families, due to the lack of transportation. Farmers must travel to town to purchase goods related to their agricultural needs.

The area is divided into three subsections, commonly referred to as Straydkraal A, Straydkraal B, and Mooiplaas. Overall, 256 farmers carry out sprinkler irrigation schemes on 338 hectares. Approximately 1,000 families rely on the scheme to some extent. Land can be classified as semi-arid with limited vegetation. Crops grown in this area include maize in the summer and vegetables and wheat in the winter. The farmers are elderly and are eager to interest their children and grandchildren in the land but cannot compete with the attractive salaries and lifestyles possible in the urban centers.

Constraints on Productivity

Several constraints limit agricultural productivity and growth in the Straydkraal area. Some are related to a lack of resources, yet others can be attributed to the economic and political structure of the former homeland. All of these constraints have led to the low yields, productivity, and agricultural growth in this area. The following is a list of constraints identified by farmers during an agricultural assessment project done by GTZ South Africa, a German nongovernmental organization that is responsible for developing former homeland areas throughout South Africa: worn-out tractors, lack of government commitment, low prices and market problems, lack of water, pump breakdowns, lack of credit, few marketing opportunities, poor demand, and high transaction costs.

In addition to the above-mentioned limitations, farmers identified several key opportunities in their community, which makes it unique in relation to other irrigation schemes:

1. With the aid of extension staff, farmers have negotiated a deal with NTK,[1] which will provide 10 tractors over the plowing period.

2. Increased production by the scheme as a whole should follow from better timing and increased plowed area if the committees can address the issue of a support system for farmers who have difficulty raising the cash for tractor services.

3. The local chief is keen to see farmer-run maize milling for local sale to keep the milling profits in the community and encourage local artisans.

4. Decision making seems to rely heavily on extension advice and could benefit from capacity building on committees and in the community as a whole. Proposals for addressing entrepreneurial capacity building locally are under consideration.

[1]A former cooperative, located in Pietersburg, that gave financial and technical assistance to farmers in rural areas.

These farmers have considerable tenacity and are making the best of the irrigation scheme under the present extension system. They understand the complexities of farming under these types of conditions and are willing to sacrifice to make the best of the current situation. Weak local demand, variable prices, transportation logistics, and transportation costs all contribute to the difficult situation for many farmers. Poor demand and high transaction costs tend to reduce returns from farming and subsequently the resources available for farming. This trend exacerbates the downward production spiral that has been occurring over the past 5 years. The long history of changing institutional arrangements also contributes to farmers' lacking confidence in development agencies and failing to adopt cooperative attitudes. It is in this context that the farmers shared their perspectives about the current extension system in the Northern Province.

Straydkraal had received major funding from NTK, an organization set up during the apartheid regime that gave people a false sense of hope after the 1994 elections. The NTK was responsible for the downfall of many farmers because they relied on the handouts this organization provided. Once the services were discontinued, farmers found themselves defenseless, without the technical training or knowledge to use the products they had been accustomed to using.

Findings

As a result of past inequities and circumstances, farmers had experienced a low quality of life. Through my interviews with them, I was able to discover some of the issues they were currently facing. From more than 2 months of interviews with farmers and the extension worker, I identified the following issues of concern: quality of services postapartheid, lack of communication and transportation, lack of supervision and training

for the extension officer, and barriers to agricultural productivity. These issues are discussed in the following pages.

Quality of services postapartheid. Farmers expressed the need for a better system of extension services because what was currently being done would not sustain their livelihood. Their reference point was the type of service they had received during the apartheid era. Although apartheid was a repressive system for these particular farmers, they were able to differentiate between what had worked then and what was not working at the present time.

> **NW**: During the apartheid era, did you receive more or less information from the extension officer?
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> **F1STRA**: Service was better then; when we asked for help, the government helped with funding, inputs, services—more than what they are doing now. Now, during the democratic time, no one is helping us to access funds, [and] the water pump is broken [and we need to make repairs]. During apartheid we only had one white extension technician who was running one section, but now it is divided and the service is poorer. During that time the extension officer changed every 2 years. Whites were much friendlier than the blacks. In most cases, blacks are jealous and angry. For example, if they come with the perception of helping others to help their livelihood they will not, because they will be succeeding in doing just that. So they just come to the office and collect a paycheck. We would be better if the government sent in a foreigner because they would have more respect for the people.
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> **F2STRA**: Services were better because white farmers compelled extension officers to be in the field. Now they [extension officers] don't have anyone to report to; they stay in their offices and [work]. In 1999, farmers came here and did a trial study to plant groundnuts. The extension officer participated because it was part of the university or government, but not because he was interested in the study and not because of his job. He feared he would be reported or exposed [if he didn't participate], but actually they [extension agents] don't go to the fields. . . . During the apartheid era, when there were white farmers in the area, the extension services were better.
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> **F3STRA**: Service was better then because whites were determined and hardworking [both farmers and extension officers]. Now, because of blacks [extension officer], they don't have the self-control like the whites. For example, an extension officer will come and tell the farmer to weed and plough for a better harvest. The farmers are saying it is in their right not to go to the field to see about their plot, unlike before. Farmers now don't care about their harvest.

> White farmers would rob [black] farmers of money back in those days. Let me give you an example. We would harvest with the agreement to take out goods to NTK to sell. You should receive R100/bag for 90 bags, but the whites would deduct money without telling the black farmers. They were deducting for fertilizer, seeds, input costs, and unnecessary services; they cheated us, but the service was good.

This mention of good service should be considered in the context of factors associated with the apartheid system. Delgado (1998) referred to this as the materialist concept within the critical race theory. The farmers perceived that the treatment, information, and quality of service in the apartheid era were much better than what they were experiencing with the present extension service. The equitable service that small-scale farmers wish to receive will ultimately come from the extension officer and his relationship with the farmers. The interactions that extension officers have with farmers will depend on their personal relationships and the rapport they build. As one extension officer noted, the services of extension seemed better during apartheid:

> Extension officers were allocatd a vehicle during apartheid and could take the farmer to other farms, organizing tours to observe, and could visit other colleagues after communicating [clearing] with the head [supervisor]. Resources were adequately distributed. Now we need access to vehicles and phones—we could do everything from A to Z if this were possible; we could get instant verification, adequately and quickly.

Farmers' impression of the extension officer could influence their overall perception of the extension system. Further supporting the idea that services were of better quality during the apartheid era, one farmer commented, "Extension workers did their jobs back then; the whites were willing to work and help us out. Now, the blacks [extension workers] are jealous and don't do what they are supposed to do. They just don't care."

Lack of communication and transportation. Another category of concern that emerged in the interviews was the lack of communication and transportation that

extension agents faced in doing their job. Although the farmers did not drive, they realized that extension officers needed cars in order to perform their jobs effectively. The extension officer in Straydkraal commented,

> During the apartheid era we had access to cars. This doesn't imply that the current government doesn't have resources. They do, but they don't work directly with farmers. Presently they have cars, cars that are concentrated at the senior level. Also, supervisors should visit and link directly with extension technicians. He [supervisor] can work at the grassroots level like the extension officer.

Such comments were a constant refrain of many extension staff and farmers in the surrounding area. Extension workers noted that, in order for them to do their jobs effectively, they needed transportation and access to communication. It was not enough to have cellular phones and expect to be connected to a community of more than 500 farmers and their families.

> Transportation is a problem. The reason that extension is failing [is that there is no] communication and transportation. You must go to the supervisor if you want transportation or use your own phone if you need to make important calls. Petrol costs R400 to 500 a month. I have my own car, but that doesn't necessarily improve the standards of my job; [it's] not effective. If a government car would have allowance for petrol and maintenance, it would be better.

Likewise, farmers realized that, to stay connected with the extension worker, they needed a phone provided by the extension service. Although this would not solve most of the farmers' communication problems, it would alleviate the persistent unavailability and inaccessibility of the extension worker, as one farmer noted:

> F1STRA: Farming is a big enterprise that needs someone who is wise and enthusiastic, dedicated to the job. Sometimes the extension officer is not here. He doesn't show up if they [farmers] are here and doesn't report to farmers that he won't be in. He doesn't take the job seriously. He must collaborate with farmers at all times. Sometimes when I come to visit the extension officer, I come to find the gate locked.

An extension agent reported on what farmers had told him during one of his weekly meetings: "How are you supposed to meet with us, especially during the rainy

season or when we have broken pipes and machinery? You need transportation to take things to town in order to get them repaired." His response to this farmer and the entire situation was:

> We don't even have cars to do our jobs effectively. How are we supposed to meet our farmers and work with them? We cannot walk; it is too far. If farmers want our help, then we should be there to give it to them. We need money for petrol and cars.

This dialogue was supported by a subregional head, who stated, "There isn't any money to run transportation for extension officers. When the extension officer is far from the office, I help them to arrange transportation. The extension officer uses a taxi or public transportation. There are GG2 cars but no money to run them." He further pointed out what happened to the cars after the elections:

> From 1996 to 1998 we had a contract for the cars. In 1998 the contract ended, for an allotment of 90,000 km/month. Now we are only allotted a usage of 500 km/ month. We are limited by transportation because of maintenance and limited kilometers. We are limited in the scope of work because of lack of transportation. The chain of command for communication limits work here for the farmers.

This section provided a glimpse of the current situation and its initial effect on the rural farming community. Extension workers, from the top to the grassroots level, understand the need for communication and transportation, but this issue is not one that can easily be rectified. Subsidies that were common during the apartheid era are not an option today; as a result, the number of government cars available to extension workers is limited. They must rely on public transportation to move from one point to the next. In a region such as this, where the roads are untarred and the public transportation system is unreliable, it is difficult for an extension worker to reach his farmers. If he does come, many times he is late and has no legitimate excuse.

Lack of supervision and training for the extension officer. Another concern that was voiced in the interviews was the lack of supervision and training of the extension

officer. Farmers realized this was a problem, and it hindered the enthusiasm and care they received from the extension officer.

Farmers spoke indirectly of the lack of training the extension officers received. Their concern stemmed from the lack of supervision and commitment an extension officer received during the course of his tenure. His lack of enthusiasm, inability to show up on time, and lack of information left a negative impression of the extension worker and his job performance on farmers in this area. The farmers regarded this situation as a factor in the low productivity and yields they were experiencing. One farmer discussed the importance of training and supervision for the extension officer in his dialogue with me:

> **NW**: How many times has the extension officer visited you this year?
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> **F1STRA**: He rarely visits me in my plots [was very reserved with his answer].
>
> **NW**: What type of information does he discuss when he comes to visit?
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> **F1STRA**: When problems arise, someone (usually a farmer) must go to the extension officer. Then he comes to the field to identify the problem (like stalk borer or weeds).
>
> **NW**: Does he help by demonstration or by orally describing the information?
>
> **F1STRA**: He [extension officer] gives us information orally and then shows us how to do the tasks by hands-on demonstrations. He is very helpful and believes it is very important to have the extension officer so that he can guide farmers with his information and extension practices.
>
> **NW**: How would you feel if a new extension officer were brought to this area?
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> **F1STRA**: I would be happy if they replace him [laughs], especially if he will do a better job than this one. If they bring in a skilled person to help them it would be useful, but not a lazy person like the one we have now. Sometimes he takes off, leaves when he is needed the most. Farmers are unsure of certain things when it comes to planting. He disappoints them in these areas. Sometimes he is helpful. I can say that he is somewhat responsible. Sometimes the extension officer is not here; he doesn't show up if we are here and doesn't report to farmers that he won't be in. He doesn't take the job seriously.

Another farmer corroborated these comments in the following conversation:

NW: How many times has the extension officer visited you this year?

F3STRA: One to two times per week. In most cases, he comes once a week and will give reasons why he didn't come. Sometimes he complains about illnesses [woman in the background sucks her teeth in disgust].

NW: How long does the extension officer visit your plot?

F3STRA: [Responds adamantly] He doesn't spend enough time. He comes whenever he wants [and spends] approximately 2 hours when he comes. Because he works with many farmers, he must make many visits per day. He may make visits one day with many farmers and spend the rest of the day in the field.

NW: Do you feel the extension officer is doing a good job?

F3STRA: No, he is not very helpful. During the apartheid era when there were white farmers in the area, the extension services were better.

NW: What is the biggest problem with extension?

F3STRA: They don't have anyone to report to—no supervisors, no accountability. They report to Sheelot, which is located far away. Supervisors should take the time to come here to visit the extension officers [in the field]. The extension officers are reluctant to do work, and it aggravates the farmers. Farmers and extension officers should both be trained on all farming practices.

Farmer 2 expressed the same sentiments but went further in pointing out that the extension officer lacked training and direct supervision, in contrast to the situation under the previous government.

NW: How many times has the extension officer visited you this year?

F2STRA: He only visits during the planting season.

NW: How long does the extension officer visit your plot?

F2STRA: He comes for approximately 10 minutes because he has to visit many farmers. He gives quick advice and moves on. Sometimes he spends 3 hours in the plot, depending on the advice he is giving.

NW: Do you feel the extension officer is doing a good job?

F2STRA: Yes. There are some things he excels in and does a good job at, but then there are areas where they [extension officers] lack. They lack because of laziness and not due to lack of training.

NW: What is the biggest problem with extension?

F2STRA: Now, extension officers are reluctant to do their jobs because there is no one to report to, no supervisor to track progress [he looks around the room]. Supervisors don't care if they do their job or not—no rules or punishment [are] in place, like [with] the previous government. Blacks don't have self-control, no success like the whites. Extension officers should do their job; supervisors must get them motivated. If farmers were to provide information to extension officers, they don't listen. It would be better if it comes from the supervisor; they will take it better. [At this point he was very expressive with his hand gestures.]

Farmers expressed in informal conversations that they thought the extension officer did not care because sometimes he would come and give them the same technical information they already knew. One farmer thought the extension worker "should work with [them] after he and an assistant received some training; [now] they were only there to collect a paycheck at the end of the day." The lack of training and supervision of the extension officer indirectly affected the amount of information he was able to relay to the farmers. In essence, this constituted a barrier to agricultural productivity.

Barriers to agricultural productivity. Socioeconomic barriers faced by farmers in this area affected the overall productivity of communities as well as individual farm plots. Extension services had had an insignificant influence on productivity, as the farmers noted. They expressed concern about the type of information extension delivered and what this would ultimately mean to their quality of life.

NW: How do you purchase inputs for your plot?

F1STRA: We get free seeds from NTK because of the agreement to buy our harvest at the end of the season. We purchase maize and wheat from the NTK cooperative for the following: 25 kg/R55 (maize), 25 kg/R110 (wheat). The profit made from wheat was R19,000/50 tons between the years 1977-98, but after the floods we didn't plant wheat because of the damage done to the land. [At the time of the study, this area still had not recovered from the flood damage.] We

haven't planted at all this year because of the pump problems. [The pump needs to be fixed so that we can irrigate the land.]

NW: How many people are in your family?

F1STRA: [He counts on his fingers]: Six in total, four children and my wife. I am the only one working and must provide for everything—school uniforms (R1,000/year), school fees (R1,000/year). I have one child in high school, one in secondary school, and two haven't started.

NW: Is farming enough to sustain your family?

F1STRA: [He puts his hand on his head]: No, I am just focusing on farming to plant the whole area. I need more inputs, access to markets and credit facilities. . . . I am not willing to look elsewhere for work—just want to farm. . . . I need to improve production to assist my family. [Farming is expensive because] transportation costs R25 to Pietersburg [which is a tar road] and R22 to Marblehall [which is a gravel road].

Another farmer mentioned additional barriers, such as fixed prices and locked-in markets:

F2STRA: A problem farmers encountered was that, when planting, NTK might come in to buy the harvest with the knowledge that profit was from NTK. This was a problem because the price varied. NTK people would send money back to us after they picked up the harvest from our fields, and we may not receive the full value of the weight. The price was determined by the weight/kg bag. If you questioned the amount you received, they would automatically reduce the amount, saying that they had to deduct for transportation, inputs, and so on.

NW: Is farming enough to sustain your family?

F2STRA: If farming is productive, then I can sustain [my family]. But because farming is not productive now, I can't.

The marketability of products was another barrier faced by many farmers such as the one quoted below. He talked about his profit margin after selling wheat and maize and how the inputs were more costly than his overall return.

NW: What crops do you grow?

F3STRA: I plant maize and wheat. [There is] no profit on wheat locally because it isn't marketable.

NW: How much do the seeds for maize and wheat cost?

F3STRA: I buy maize at 50 rand for 70 kg [sold at local shops] and 75 rand for 75 kg at NTK. Cost of seeds is 150 rand for 50 kg; this is for wheat [from NTK]. I pay 67 rand for 25 kg of wheat [locally].

NW: Is that the only size that is sold?

F3STRA: 75 kg bags aren't sold typically.

NW: What do you do with your crops after harvest?

F3STRA: I sell 70 bags after harvest and keep 30 bags for home consumption.

NW: Is farming enough to sustain your family?

F3STRA: No, not at all. I am struggling a lot.

NW: Would you pay for extension services?

F3STRA: No, because arable land provides a small income from the productivity of 1.2 hectares. [Pauses] That wouldn't be enough, but if I had a large area, 5 hectares, I would produce.

Farmers' costs for agricultural inputs, maintenance, and transportation far outweighed their profit margin. They all asserted that farming did not cover their cost of sustaining a family and thought that extension should be able to provide more assistance in order to improve the quality of life for farmers in this area. Without the delivery of information from extension agents, farmers would not know the proper techniques and correct applications for their crops.

F1STRA: Extension officers are helpful; they give information on soil types and fertilizer, what type to use and application [how to use]. They take soil samples to the lab for analysis to check to see if they are capable of producing crops during the planting season. He reminds us of certain crops and types of crops to plant in particular seasons].

NW: What type of information does he discuss when he comes to visit?

F2STRA: For maize and wheat crops, he will identify deficiencies and diseases and give the names of pesticides to use and will also tell the names of pesticides and amounts to use.

NW: Does he help by demonstration or by orally describing the information?

F2STRA: He will show us how to apply the pesticide.

NW: What type of information does he discuss when he comes to visit?

F2STRA: He helps with planting dates, method of plowing, method of controlling weeds and spacing of crops, and how to use pesticides. . . . He is very helpful, especially in farming practices and crops, and ultimately improves the home because kids have something to eat at the end of the day.

Farmers also expressed a need for the extension service to have access to maintenance monies for the repair of irrigation equipment. They commented on how broken equipment was limiting their ability to farm during the current season and how it had caused various problems throughout the year. One farmer stated,

> We don't have a transformer. [Pointing toward the broken equipment]: This is what we must deal with all the time. They make promises to come and fix it, but they never come. You see [points again in the direction of the transformer], we can't even run the pump if this is broken. The extension officer said he would call someone to repair it for us, but he is a slacker. Ah, that one, he never does what he is supposed to do when it comes to these things. How can we farm without this?

Another farmer commented on how the transformer had been broken for 6 months due to theft and vandalism from neighboring farmers. If the transformer remained unrepaired, the farmers would have just one other transformer to use during the planting season, and this was not enough to draw water from the furrow to the plots.

These types of extension services must be improved and delivered in a more effective manner in order to enhance the overall quality of life for farmers and their families. Extension's role in farmers' quality of life is an integral part of the dialogue that must take place between the Department of Agriculture and rural farmers.

The themes that surfaced in my conversations with the farmers revealed the problems relative to their communities and villages. The farmers expressed these concerns from years of experience as farmers in these particular villages. Because these

smallholder farmers had worked in a marginalized rural community, they were able to indicate accurately the problems faced by the majority of farmers in this area.

Case Study 2: Sekgosese (Dry-Land Area)

Before I began the interviews, the village had gone through *koma,*[2] which prevented access to farmers. When I returned, I had a difficult time speaking to farmers because they were preparing for the winter harvest. The conversations were informative, yet they lacked the depth of the conversations I had with farmers in Straydkraal.

Demographics

Sekgosese is an isolated community in the Soekmekaar Tribal Leadership Council district. (See Appendix A for a map of the area.) Access to this mountainous village is limited due to untarred and gravel roads. Taxis move only when they are completely filled with passengers, making it difficult to travel on a regular schedule. The majority of farming in this area is mixed crop. The main products are spinach, butternut squash, and livestock.

The district is divided into four wards under the jurisdiction of a tribal chief. Mamaila is the name of the local chief, so the village adopted the unofficial name of Mamaila, but to the general public it is known as Sekgosese. Sekgosese was the most populous ward, which was broken into five sections, Hartebees, Midlewater, Hartebroesfontein, Lemondokop, and Vaalwater, My research took place in the Hartebees section of Sekgosese.

According to 1999 statistics, a total of 3,439 farm families were identified in four of the five sections (Hartebroesfontein had no farmers). Of that number, 1,799 raised

[2]A rite-of-passage ceremony for boys ages 9 through 18 that is conducted in rural areas of the Northern Province.

livestock only, 857 raised land crops only, and 783 raised land crops and livestock. The majority of families in Hartebees, the village in which I conducted the research, raised livestock in addition to land crops. Due to the remote location, water for farming was drawn from the river by hand mechanization or pumps that had been built by farmers. In one case, the farmer built his own dam to contain water needed for his plots.

Youths constituted a large proportion of the population of Sekgosese. The elderly population was dying off, increasing the size of the nonfarmer population. Most of the people who were not engaged in smallholder farming were employed as domestic workers or teachers, or worked on nearby commercial farms. Those not included in these activities drifted about the community performing odd jobs or engaging in menial labor.

All four of the sections in Sekgosese (excluding Hartebroesfontein) fell under the jurisdiction of the extension officer, which meant he was responsible for delivering information to farmers involved in livestock and crop production. Distances between the sections were extensive, which means the major mode of transportation was either foot or bicycle. Travel distances to the other three sections from the main office in Hartebees was as follows: 21 km to Lemondokop, 10 km to Midlewater, and 10 km to Vaalwater,

Most families in Hartebees had fewer than 2 hectares of land with their own infrastructure that they had either built or leased from someone else. In addition, the village had one community store, a primary and secondary school, an auto parts store, and a town hall. All of these businesses contributed to the economic development and growth of the village. Farmers did not have a cooperative or a storage facility for their goods, but they managed to store them in makeshift buildings. Overall, the farmers made do with the resources that were available to them in order to make ends meet.

Findings

Farmers from Sekgosese seemed to follow the same pattern of discussion as their counterparts from Straydkraal, but they also reflected on situations unique to their area. The findings from their interviews were categorized into the following areas of concern: lack of access to markets, lack of cooperatives and postharvest rot, and lack of support for the extension officer.

Lack of access to markets. Throughout my conversations with the farmers in this area, they constantly expressed the need for accessible markets for their products. They said it was not enough to have a local stand or corner market in their community. Farmers expressed that the quality and quantity of their produce were of a high enough standard to compete in major markets in Johannesburg and Pietersburg. These views have been supported by groups such as IDEAA, which have recognized the importance of smallholder farmers' gaining access to markets and facilities (IDEAA, 1998a).

> **F1SEKO**: My farm yields R20,000 in a good season and R5,000 during a bad season. Ten crates is the normal production amount, but last year we had a bad season. When was this? It was 1999/2000, because of floods. I market my products to the local community and in Johannesburg. I don't know how tomatoes are marketed because I send them to Johannesburg via someone else. I am not successful because they spoil before they reach Johannesburg. We don't have the proper facilities to keep the tomatoes before they leave. We need a refrigerator or a storage facility, but we don't have one. The only thing we can do is hope and pray that our tomatoes will be healthy enough to survive and be purchased.

An extension officer described this situation during a focus group meeting:

> OK, let's take this example. In Sekekune in 1999, farmers wanting to sell in Guateng Province, Jo'burg, [they] prepared their tomatoes and drove them there but were turned away because they didn't meet the quality standards. They didn't have the proper storage facilities to keep tomatoes good in a standard condition producible for the market. [The] cost is too high for a majority of these farmers. [They] can't compete in this market so they are back to square one.

Another farmer spoke of difficulty in reaching markets outside of town. He explained that the costs of transportation as well as inputs that are needed for productive farming are too high for his small venture:

NW: Where do you market your goods?

F2SEKO: I don't have transportation to market to Mketse, but I market to the community of Mamaila.

NW: How much do you pay for transportation to reach the local market?

F2SEKO: My transportation costs are R200 to R250, depending on the distance. I must also use the bus to buy inputs, [which costs] R20 for a roundtrip. I pay extra for luggage and bags, R5/bag.

NW: How much do you pay for seeds and other inputs?

F2SEKO: Well, one bag of manure is R85 to R90.

NW: Why is it a range of prices?

F2SEKO: Because different types determine the cost. I buy from the cooperatives [he had just purchased six bags] because it is less expensive than stores.

This farmer also mentioned a need for accessible markets in which to sell his goods. The village had a reasonable number of inhabitants who would be able to provide a steady flow of income.

NW: Where do you sell your products?

F2SEKO: I sell my products in the local community.

NW: What do you sell?

F2SEKO: Beetroot; there is no market for beetroot, but the federal service organization in the community will buy them for 4 rand per head. Last year, I planted 700 seedlings and this yielded R200 [in profit] because they were attacked by disease.

One farmer explained how he had tried to expand his scope of farming, but was unsuccessful due to circumstances beyond his control. This conversation stemmed from

a site visit to his garden, where he was showing me his new venture of growing green tomatoes. He was proud of them because he knew they would be marketable if he had the right market and support from the extension worker. He told me,

> I am unable to market green tomatoes . . . because I don't know how to prepare them, so I am unable to sell them to individuals. If I knew of a recipe then I would sell. . . . I also have another small venture—these seedlings of avocado, peach, mango, apple, papaya, guava, and orange trees—but I don't market these to the greater community either. I only sell them to the local community, the people in this village. They buy to plant in their own plots or small gardens. We need someone to show us how to market these things. The extension officer tries, but he is so busy with his work. We must get these out to the community.

During the course of one set of interviews, one farmer explained another type of marketing problem experienced by those who were involved in livestock production. This situation affected only a few farmers in the village, but it indirectly influenced the success of the entire farming community.

> Even the extension officer tries to help but has failed because the head of the Agricultural Department has not solved the problem. [This was seen as a problem that has to be addressed from the top down. The feeling was that if the government is not involved and interested in the issue, it will not be solved. The extension officer must have support from the government to handle this problem.] It is a problem throughout the entire Northern Province. Cattle are being sold to other white producers. It is a difficult situation because cattle are being sold to intensive breeding producers who can afford to push the price high at the local markets. Basically, what is happening is that they [white cattle buyers] come into our village and buy our quality cows for below market costs. Since they are our only buyers, we must sell [the cows] to them. They then sell the cows in the local markets for extremely high prices. We are not able to afford the meat [beef] from our own cattle. This is what is happening today, right now!

Many of these farmers told me of incidents of cattle thievery in the village and the lack of access to the white-dominated cattle-marketing industry, which had driven up the cost of meat in many of the local markets. If these farmers were able to sell their products in a cooperative, they could bypass the middleman and reestablish a sense of power and ownership in their own community.

Lack of cooperatives and postharvest rot. Two areas of concern for the farmers were the lack of cooperatives in their area and postharvest rot. Farmers seemed to lump these together as one problem because they expressed that if they could form a cooperative, they would not have the problem of postharvest rot. They would be able to market their goods in a timely manner and thus avoid spoilage. Farmers saw this as a constant problem for themselves and future generations. One farmer described the problem in the interview:

> NW: What types of issues are you facing right now?
>
> F1SEKO: We have many issues in this area. Postharvest rot is an issue because we have no place to sell our products. [We] need to bring a cooperative here for maize through the extension officer to help solve postharvest problems.
>
> NW: What could the extension officer do to help?
>
> F1SEKO: If I am unable to get information from the extension officer, I will try and learn on my own. I am even prepared to go to school to learn.
>
> NW: Will cooperatives help with the postharvest/marketing problem?
>
> F1SEKO: Yes, it will help with many things.
>
> NW: Like what? Give me an example.
>
> F1SEKO: If the extension officer was able to help us form a cooperative, then we would be able to move our food quickly. We could sell them at the cooperative, and others would be able to benefit. Other farmers could buy our products, and families in the community could buy things cheaper than at the stores in town.

Another farmer captured this feeling when he stated, "If there was a cooperative, I would participate."

By participation, farmers meant that they could purchase inputs such as seeds and fertilizer for their plots. Farmers understood that a cooperative would provide them with a less expensive option for purchasing inputs, create economic stability within the community, and provide them with a sense of ownership. Many of these farmers viewed

a cooperative as a catalyst for success because it would enable them to support their families and the community, a reward and an achievement in itself. Farmers expressed a need to use the extension worker as a source of information. They were aware that he could not give them the financial support they needed, but they preferred that he serve as a source of information about cooperatives and act as an on-going supporter of their venture.

During the course of my visits, the farmers asked me to bring information about cooperatives to our interviews. They assumed that my connection with UNIN and my role as a researcher made me privy to information their extension worker did not have. When I asked what type of information they wanted, they replied that in-depth information on cooperatives would give them insight into and greater understanding of what it would take to run this type of business. As one person stated, "The more information we have, the greater the success we have."

In addition to forming a cooperative, the issue of postharvest rot had become a concern to farmers. During the apartheid era, they had been provided with storage areas for harvested crops. Since the government had assumed control, however, locals who did not understand the concept of democracy had vandalized many of these facilities. As a result, farmers have had to deal with massive amounts of rot in their maize, which in turn has decreased their profits and overall household income. One farmer stated, "[There is a] need to bring a cooperative here for maize through the extension officer in order to help solve postharvest problems. . . . If [we are] unable to get information from the extension office, we will try and learn on our own."

Farmers thought that if the extension officer could provide them with the means to construct a postharvest facility, they would be in a better position to market their goods

in Johannesburg and Pietersburg. This, in turn, would increase their access to untapped markets for rural farmers and provide them with a sense of accomplishment and achievement.

Lack of training and support of extension officers. Due to the previous government's programs and projects in the dry-land area, farmers had grown accustomed to having extension officers who were trained and supervised. This situation drastically changed once the new government assumed office. Even the Head of Region commented on this scenario:

> I help extension officers when they need help, bring in outsiders to assist with workshops such as the one in Soifentein that focused on Community Action Development. It only worked with small gardens [plots], sewing, cooking, and crocheting. Farmers need extension to help them. If they don't see them daily/ weekly, then they will come directly to the Services Centre to seek assistance. They only come when they have problems. If they wait for the extension officer, then it will be too late, especially in livestock; [problems] come quickly. Training is no longer done because [government] transportation is not available. 1996-97 was the last time for official training; we were allotted 3,000/month/km, but after 6 months it was cut. . . . Because of this I can't visit officers daily. The problems [lack of training and supervision] can be changed by Heads. . . . Sometimes I think they don't really know the work of the extension officers and field staff. If money is allocated correctly, then the farmers and extension officers benefit. Extension work is nice because you share ideas, ideas not being used when you stay in the office.

Additional conversations with farmers revealed that support of the extension officer needed to be expanded into support for resources and inputs for the farmers. The following except from an interview demonstrates the farmers' thoughts on this issue.

> NW: What do you think is the biggest problem with the extension? Do you feel that extension has problems?
>
> F1SEKO: [Moment of silence] . . . The main problem is financial support. We don't have that.
>
> F2SEKO: [He cuts in] . . . We plow but don't know what to do with what we sow, let's say tomatoes. If they are many, you find that you can't supply the local people only. You have to take them somewhere. We don't know where to sell them. You have to take them very far, and it becomes costly for us.

NW: Did you explain this to the extension officer?

F1SEKO: [A brief sigh] . . . Yes, but he did nothing about it. If the government could at least provide a car to transport our crops to the markets, it would be very fine.

F2SEKO: I have the same problem as this farmer [sounding quite disgusted]—no transportation to take my crops to market.

NW: Does the extension officer have a car?

F1SEKO: [A quick response]: No.

NW: Is that a problem?

F1SEKO: Yes. . . . [He looks perturbed] . . . The problem is what we have already explained—that we don't have support [from the extension officer and the government]. The other thing is the tractor; the government does not do anything about it.

F2SEKO: Tractors. You have to pay about 300,000 rand per hectare.

F3SEKO: The government does not support us as farmers. There's no grazing, [and] there's a lot of stock [cattle] theft. That makes the farmers lose the spirit of farming [lose hope].

The lack of support for farmers in this area has affected not only their welfare, but their morale in general. It has been a challenge to keep the younger generation interested in farming, and this general attitude has not helped to make the field attractive. One farmer seemed to understand the barriers faced by the extension officer when he stated:

> [Smirks] . . . [The] extension officer is trying by all means to help them, but [has failed] because the government is unable to help them—failed to build dams because of lack of resources, tried to build fences but failed because of the government. . . . During the apartheid era, police came and destroyed many fences. Now [we are] asking the present government to repair fences, but they haven't come in to do this [although within the former homeland area, still affected by police raids during apartheid].

In general, there was no financial support for the extension officer to help the farmers. Infrastructure and farming resources had either been damaged or needed general

repairs, but the support currently was not available. Farmers spoke of how the situation was different during the era of apartheid.

> NW: During the apartheid era, did you receive more or less information from the EO?
>
> F2SEKO: [We had] more resources during the apartheid era; you can see from the infrastructure [points to the gates, posts, fences]. . . . This area served as a storeroom which the government installed.
>
> F3SEKO: During the apartheid era, the government repaired fences and inoculated cattle, but now the extension officer is struggling to make this happen [the EO was present during apartheid-era repairs].

During an interview at his plot, the youngest of the interviewed farmers explained how he had dealt with the lack of support in order to sustain his family.

> F3SEKO: I prepare the fields and harvest them by myself.
>
> NW: What do you do with your crops after harvest?
>
> F3SEKO: I don't take the products to market because it is too far. [Looks around] . . . Presently, I am looking at the community to see their wants; then I will begin to plant those products which they demand. I have four children, three of which are in school. It is tough to make it.
>
> NW: How do you do it?
>
> F3SEKO: I am a builder as well as a farmer [shows me where his house is across the field]. I built my own house, a five-room house costs 18,000 to 20,000 rand, of which 9,000 comes back to me and 9,000 is for labor. . . . It is a lengthy process. I may work on 10 per year. This money is for other costs for my family like school fees and uniforms for my children. . . . *Milies* is from farming.
>
> NW: How much does this cost and how long does it last?
>
> F3SEKO: It costs 120 to 180 rand per kg and only lasts one and a half months. I get my water from the river to use for irrigation [he was the only farmer who had clear access to water, unblocked by trees and vegetation].
>
> NW: How did you get a dam?
>
> F3SEKO: I only use one dam, which I built myself. . . . I sold a cow to build the dam.
>
> NW: How much did it cost?

F3SEKO: I collected 1,196 rand from [selling a] cow and then added my own money to subsidize costs [total building cost was R1,600].

NW: Why did you build a dam?

F3SEKO: Before the dam, I had to pump directly from the river to fields.

The foregoing comments demonstrate the need for the provincial government to find ways to enable the rural extension worker to help smallholder farmers so that they may experience a better quality of life. The training and technical support that the extension worker receives must segue into physical and emotional support for the farmers. Because the extension worker cannot provide financial support, he must be able to sustain farmers' morale through farm visits and provision of pertinent and timely information.

Comparison of Responses From the Two Sites

Recurring themes in the findings at both sites were the need for better training and supervision of extension officers, better access to markets, and better quality of services to farmers. Farmers at the two sites differed in their responses regarding the issues of forming cooperatives, dealing with postharvest rot, and lack of support of the extension officer by the government. These issues were unique to Sekgosese due to its remote location and the inability to move harvested crops out of the area during the rainy season. Limited tarred roads and inadequate transportation created a situation that inhibited the movement of farmers and the extension worker out of the village, which contributed to many of their problems. In addition, the inadequate transformation of power and structure to the staff in several agricultural organizations caused discrepancies in leadership and program delivery. Overall, the farmers had more than 20 years of experience in the field and saw that changes in extension needed to happen quickly in

order to give them a better quality of life. Now is the time for extension to put together a plan of action to fulfill their commitment to enhance the life of rural smallholder farmers.

CHAPTER V

SUMMARY, MAJOR FINDINGS, CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS, AND REFLECTIONS

Summary

My purpose in this qualitative study was to identify the perceived needs of smallholder farmers in the Northern Province of South Africa in relation to the delivery of information and programs by the agricultural extension service. The intention was to provide baseline information on the current extension system in the Northern Province. Through this qualitative study, smallholder farmers were able to provide valuable input with regard to the restructuring of the extension system, in the hope of ultimately meeting their needs.

This study was undertaken to address the changing times for rural smallholder farmers and the extension system in the Northern Province of South Africa. Six farmers from two villages in the Northern Province were purposefully selected to participate in the study. These villages represented the types of rural smallholder farming done in this area, dry-crop and irrigated farming. Others who contributed valuable information through focus groups were from various areas in the extension system.

At present, the extension system is not meeting the immediate needs of rural farmers in the Northern Province. Systematic laws, inadequate training and lack of supervision of extension officers, and insufficient communication and transportation services have led to a number of problems and inequities within the system. Recognizing the need to restructure the extension system, the South African government has enacted a series of laws and policies designed to enhance the quality of life for smallholder farmers. Smallholder farmers, extension staff, and others in extension have been involved with

this process and will continue to serve a vital role in bringing about changes in the future. The perception held by smallholder farmers was one of respect for the extension service, yet disappointment with the job the service has done thus far.

Major Findings

Five research questions were posed to guide the collection of data for this study. In the following paragraphs, each question is restated, along with a summary of the findings pertaining to that question.

> Research Question 1: To what extent does the delivery of technical information and methods by the Northern Province extension system affect the productivity, economic inputs, and quality of life of smallholder farmers in the Northern Province?

Farmers perceived that the extension system in the Northern Province has not been meeting their needs through the information delivered by the extension officers. Although information was delivered, often it did not meet the specific needs of the farmers or take into consideration their unique situations, such as untarred roads and drought damage. Farmers realized that, in order to improve their own lives, they would need to be proactive and help the extension officers in realizing and addressing their specific situations.

> Research Question 2. What are the barriers of the present extension system for smallholder farmers?

Farmers perceived both tangible and intangible barriers to the extension system. Resources and inputs needed for farming were not accessible and required economic stability, which was not feasible for the farmers. Past discriminatory laws and policies had influenced the process of gaining access to credit and the quality of services provided. Other barriers such as lack of transportation and poor roads were barriers that

the farmers perceived as being the responsibility of the provincial government. If the roads were repaired, it would improve the quality of extension services.

> Research Question 3. How do past and present government policies affect the educational delivery methods of the extension system for smallholder farmers in the Northern Province?

Because the farmers perceived the past laws and policies as barriers, they also realized that those laws and policies had limited the overall development of the rural farming community. Many of the laws restricted quality education and training for extension staff who worked with smallholder farmers, limiting their upward professional mobility and development. The resources needed for extension staff to work with smallholder farmers were unavailable or inadequate, thus preventing the success that had been achieved in the commercial farming sector. Extension officers were only able to deliver information they already knew or had learned in a training session more than 2 years before.

> Research Question 4. What is the effect of support services on the productivity and yields of farmers in the Northern Province?

Farmers had not had a productive yield in the past year due to inadequate support from the extension service as well as drought conditions. Farmers in the dry-land area perceived their productivity and yields to be extremely low because they were not able to store their goods and transport them to the major markets. This they saw as a result of the extension officer's lack of information on postharvest facilities and cooperatives. Large portions of their crops had been destroyed due to postharvest rot. In addition, farmers who were involved in livestock production experienced theft and loss of income due to the prices at which they had to sell cattle to white commercial farmers.

Farmers in the irrigated area perceived the support services provided by extension as weak because they suffered from theft and damage to their irrigation schemes.

Transformers and other equipment had been damaged, but the extension officer was not able to provide farmers with either financial support or tactical help to remedy this situation.

Research Question 5. How appropriate is the information provided by extension officers to smallholder farmers?

Generally speaking, the farmers thought the information provided by extension officers was appropriate for their immediate needs, but if they were to expand their farming ventures, they would need further information. Farmers understood that the information was dated and untimely, but they realized that the extension officer could work only with the resources he had at his disposal.

Conclusions

The findings from the study evidenced a consensus among smallholder farmers concerning the lack of information and training of extension officers and the impact of the Northern Province's extension service. Much of the information they received was dated and irrelevant to expansion of their plots. The training that extension officers did receive lacked content and input from the farmers. Also, many of the farmers needed information about gaining better access to inputs and markets and maintaining existing resources.

The extension system must be transformed in order for there to be a positive change in the lives of smallholder farmers. The goals and functions of the extension system must be geared to meeting the specific needs of smallholder farmers. The social dynamics and relationship of smallholder farmers to the rest of South Africa's farming structure must be taken into consideration. Extension staff must be considered a whole

unit, not separated and compartmentalized into sections that only meet the needs of viable farming communities.

Laws and policies that once served to discriminate against smallholder farmers should now be shifted to reflect their importance in the scheme of farming and economic stability for all of South Africa. Laws developed to meet the needs of smallholder farmers must take into account their perceptions and local situations. It is not enough to enact policies without knowing the true circumstances of smallholder farmers and the farming community because one greatly affects the other. Smallholder farmers' involvement in the local provinces will influence the decisions made by extension as they are seen as a vital part of rural farming communities.

This qualitative study of smallholder farmers exposed many issues with which they are dealing. Although the participants were from different areas of the province, they still shared similar experiences in farming and existence as rural farmers. Their perceptions of the current extension system revealed that there are problems within the system that directly relate to the success and sustainability of smallholder farmers throughout the Northern Province.

Implications

As a result of this study, smallholder farmers and the extension service in the Northern Province of South Africa can work toward a more holistic goal of meeting the needs of smallholder farmers and a new class of emerging farmers who face similar barriers. A holistic approach would include participatory involvement by the major farming sectors, researchers, agricultural organizations, academic institutions, and the provincial government.

Another outcome of this study could be a move toward the formation of outreach and grassroots programs within smallholder farmers' communities and tribal leadership councils. Through such programs, smallholder farmers would gain access to valuable resources and information with which to improve their situations. In addition, smallholder farmers would serve as proactive agents for change and add to the collective body of knowledge about their communities and farming lifestyles.

As smallholder farmers' exposure within mainstream farming is increased, they will have a better chance to be seen as viable economic contributors to the agricultural sector. Stakeholders and decision makers will begin to realize the importance of smallholder farmers to the gross domestic product of the Northern Province and of South Africa as a whole. The engagement of smallholder farmers in South African society can improve the understanding of these unique farmers and help in the development of appropriate literature and programs to address their needs. Then, as farmers begin to become a part of the system, they must contribute to other types of programs that affect rural farmers and farming communities.

Land-redistribution programs need to include the knowledge and technology of smallholder farmers in order to prepare projects and management appropriate to them. Smallholder farmers' needs should be considered as important and used in developing critical schemes that affect several rural areas in South Africa.

Finally, development of and involvement in smallholder communities could affect the organization and mobilization of programs, services, and management. Smallholder farmers should be involved in the needs-identification process and play an integral role in program planning and implementation. This would enable services to be linked more

closely with smallholder farmers, provide greater accountability to farmers, and give farmers better access to services and inputs.

Recommendations

The following recommendations for practice and further research are made as a result of this study.

Recommendations for Practice

1. A clear vision of smallholder farmers and their role in the entire South African agricultural sector should be developed.

2. Smallholder farmers and representatives of educational institutions, nongovernmental organizations, and the provincial government should be included as participants in planning sessions of the extension system.

3. Participatory and continuous training should be provided for extension staff and officers who work with smallholder farmers and their communities.

4. Training in the areas of communication, conflict resolution, adult learning, facilitation, and action planning should be provided for all extension staff.

5. University agricultural extension education staff should be included in training sessions and staff-development programs for extension employees.

6. There should be a focus on needs-driven research and training for extension staff to meet the needs of farming communities.

7. Governmental subsidies should be provided by the provincial government to assist with transportation costs and telephones for extension staff (officers and supervisors) serving remote and rural areas.

8. Smallholder farmers and agricultural organizations should collaborate in developing business and funding plans for the maintenance of irrigation schemes.

9. The local agricultural university and local tribal leaders should collaborate to address the needs of smallholder farmers and to implement programs to meet those needs.

Recommendations for Further Research

1. Further research should be conducted on emerging farmers in the Northern Province and other provinces of South Africa.

2. A study should be done of the perceptions of smallholder farmers in the other eight provinces in South Africa.

3. Similar studies should be undertaken to assist in the formulation of government guidelines and policies that affect smallholder farmers.

Reflections

It is imperative that my beliefs and sensitivities on the topic of quality extension be set forth, along with those of the participants, because this research was premised on the critical-theorist assumption of transformation and power. This information assisted in identifying the unique lens through which I would view the study, as well as how values were embedded in the interview process.

Several experiences piqued my curiosity about this topic, which may illustrate some of my perspectives. Early in my graduate career, I had the opportunity to travel to South Africa and observe extension staff and their interactions with farmers. There was a tremendous difference between the services rendered to smallholder farmers and to commercial farmers. Smallholder farmers did not have the same access to or quality of services as did their commercial counterparts. As I asked rural farmers how they

received technical information and inputs, they were frank in speaking of imbalances within the extension system and how those inequities had affected their families for years.

As I considered ideas for a research topic, it became clear that, in order for change to occur at the grassroots level of extension in South Africa's Northern Province, the current system would need to be examined. From my conversations with advisors and others who had been involved in agricultural work in the Northern Province, it became apparent that research had been done within extension, but it lacked the depth of the main constituents of extension, smallholder farmers. I also noticed that research conducted with small-scale farmers in mind had failed to recognize apartheid's discriminatory policies and the need to reorganize and reorient extension staff. Failure to understand the complexities of apartheid, as well as its engrained presence in society, caused discomfort at the outset of the research.

After arriving in South Africa, I was able to relinquish my apprehensions about the apartheid system and its role in society. Interacting with individuals who lived on both sides of apartheid increased my appreciation; more important, my understanding of South Africa's history was enhanced. I was also able to see the effects of power and race on smallholder farmers.

During my time in South Africa, I traveled to remote and urban areas to talk with rural farmers in an attempt to understand their lives. These experiences allowed me to explore issues from my perspective as a woman and a Westerner. From these reflections, my identity as a critical theorist was formed. As a part of the critical-race-theory paradigm, I had to remain aware of the long-term effects of apartheid's power and racial

disparities on rural farmers. The visibility of power in South Africa had spread through institutions such as extension, creating a blurred process of information exchange.

I believe that the extension system in the Northern Province has the potential to meet the needs of rural farmers. Regardless of the political turmoil that once plagued the country, policymakers, politicians, extension staff, and rural farmers shared a vision for remaking the extension service. They shared their concerns about the new provincial government and how this would affect extension services for rural farmers. Many wondered what was going to happen in the rural areas as the focus had been shifted to redeveloping and restructuring extension. Although they expressed these concerns, they understood the complexities of the extension system, as well as the effect it would have on their overall quality of life.

Finally, I believe that the potential for change in the extension system stems from the dialogue and rich flow of information engendered by this type of study. Cursory and limited discussions stifle the exchange of information that is vital to effecting change.

APPENDICES

APPENDIX A

MAPS OF THE STUDY AREAS

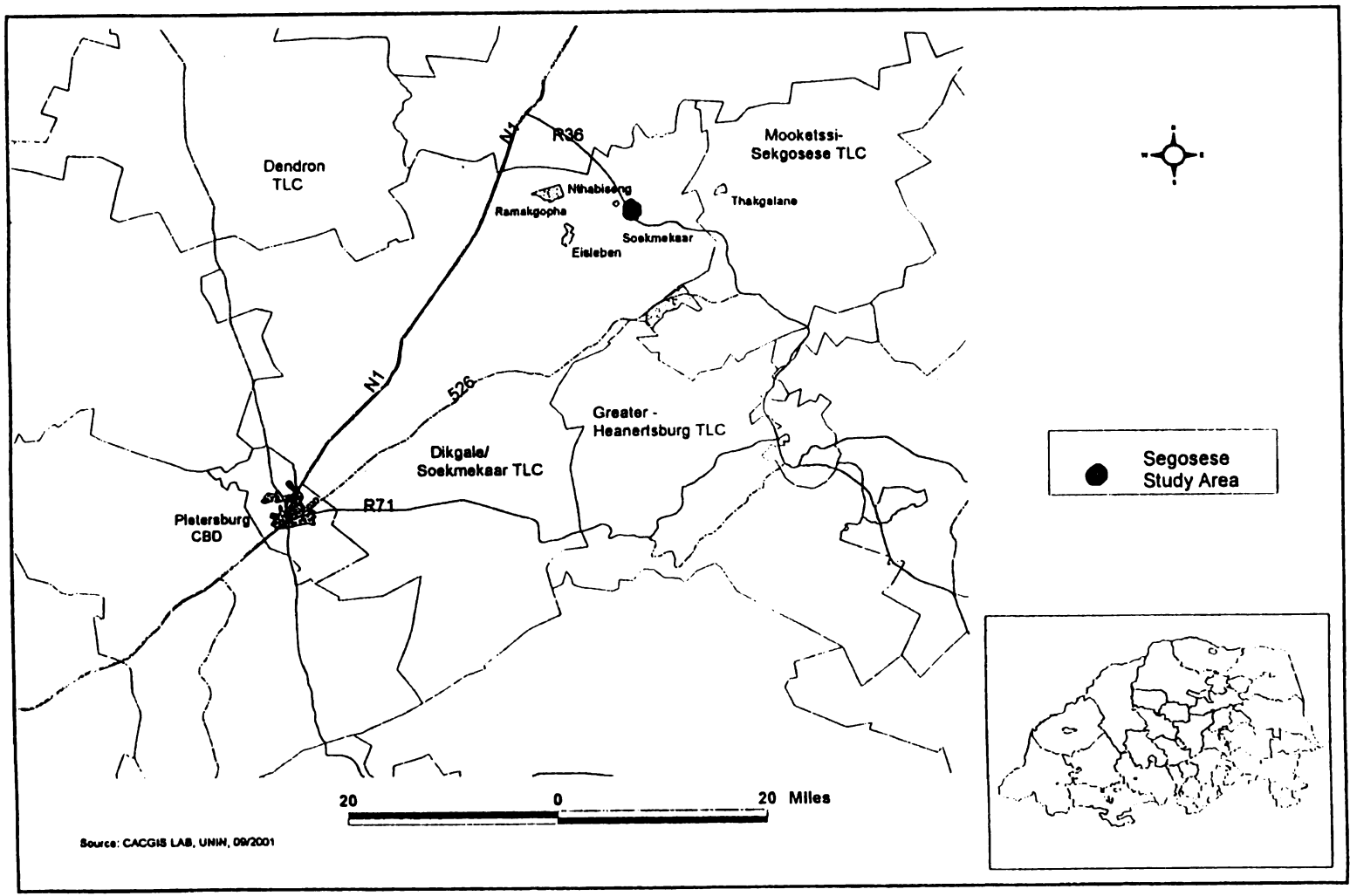


Figure A.1: Location of the Sekgosese study area in the Northern Province.

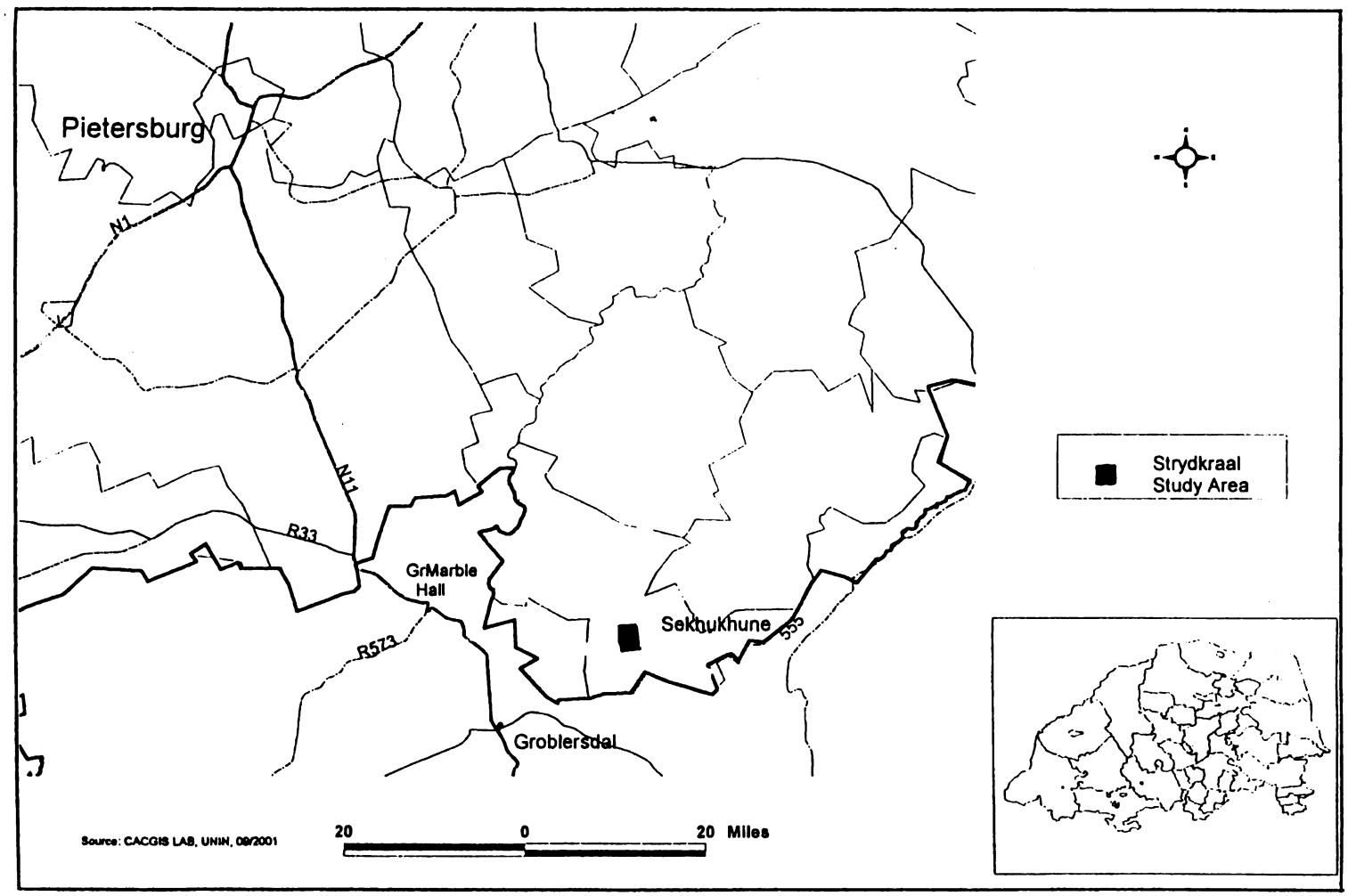


Figure A.2: Location of the Straydkraal study area in the Northern Province.

APPENDIX B

INTRODUCTORY LETTER AND CONSENT FORM

You are invited to participate in a research project entitled "Smallholder Farmers' Perceptions of the Northern Province's Extension Service: Case Studies in Two Villages in the Northern Province of South Africa." The research is being conducted by Nicole S. Webster, Ph.D. student in Agriculture and Natural Resources and Communication Systems, College of Agriculture, Michigan State University, East Lansing, Michigan.

You received and read the letter from Nicole S. Webster dated _____, which briefly described the purpose and procedure of the research. The letter included her name, address, and methods of communication in case you have any questions or concerns about the study. The study concerns the impact of the South African extension services on rural small-scale farmers in selected villages in the Northern Province.

The purpose of the study is to understand the perceptions of extension education programs from the view of small-scale farmers. The information gained from this study will provide the agricultural community, the Department of Agriculture, and agricultural schools with current data specific to the Northern Province of South Africa, so that programs and development projects will be more inclusive of the rural farming community. The study will also provide small-scale or subsistence farmers an opportunity to provide their perspectives on the extension service.

During this phase of the study, you will be asked 15 to 20 questions. If you agree to participate, you will be interviewed at least one time, for approximately an hour. You will be asked to reflect on your field experiences with extension agents in your particular area, your overall interactions with your extension officer, the number of years you have spent farming, contact time you spend with the extension officer, personal characteristics of the extension officer, and size and type of crop grown.

All written items that you share will be returned to you. The interviews will be recorded by hand, and you have the right not to answer any particular questions and to ask that your answers not be recorded at any given time. After the completion of the interview, you will have an opportunity to ask me questions regarding the research.

All data will be kept confidential, and your identity will not be disclosed in the final report. Your participation in this study is completely voluntary, and the information recorded will be kept in a locked file. You may choose to withdraw at any time without penalty. Your privacy will be protected to the maximum extent allowed by law.

If you have questions about the study, please contact:

Frank Brewer, Ph.D.
Michigan State University
410 Agriculture Hall
East Lansing, MI 48824
517-355-6580
email: brewerf@msu.edu

If you should have any questions regarding your role and rights as a subject, please contact:

David E. Wright, Ph.D.
University Committee on Research Involving Human Subjects
Michigan State University
246 Hannah Administration Building
East Lansing, MI 48824
517-355-2180

I have read the consent form and volunteer to participate in this study.

_____ _____

Signature Date

_____

Print Name

APPENDIX C

INTERVIEW QUESTIONS

Individual Farmer Interviews—Original Questions

1. What are the perceived barriers/limitations to the extension staff serving your educational needs?

2. How do past and present policies influence the delivery of educational programs to rural farmers?

3. How do past and present policies influence credit services?

4. How do past and present policies influence the acquisition of seeds and fertilizers?

5. How do past and present policies influence cooperatives?

6. How do past and present policies influence irrigation services?

7. How satisfied are farmers with extension information?

8. Is this satisfaction due to the type of information delivered or the delivery method?

9. How relevant is the information of extension staff?

10. Are extension programs delivered in a timely manner?

11. How affordable are the extension services?

12. Do extension programs allow you to provide feedback?

13. What opportunities are provided to you to participate in extension programs?

14. How often are extension programs delivered to you?

Individual Farmer Interviews—Revised Questions

1. What are the perceived barriers/limitations to the extension staff serving your educational needs?
2. How do past and present policies influence the delivery of educational programs to rural farmers?
3. How do past and present policies influence credit services?
4. How do past and present policies influence the acquisition of seeds and fertilizers?
5. How do past and present policies influence cooperatives?
6. How do past and present policies influence irrigation services?
7. How satisfied are farmers with extension information?
8. Is this satisfaction due to the type of information delivered or the delivery method?
9. How relevant is the information of extension staff?
10. Are extension programs delivered in a timely manner?
11. How affordable are the extension services?
12. Do extension programs allow you to provide feedback?
13. What opportunities are provided to you to participate in extension programs?
14. How often are extension programs delivered to you?
15. How often does the extension officer visit you in your plots?
16. How long have you been farming in this area?
17. What crops are you currently farming?
18. How much do you yield in a season?
19. Where do you market your goods?
20. How many people are in your immediate family?
21. Would you pay for extension services in the future?

22. Were the services better during the apartheid era?

23. Is there anything else you would like to add that I haven't asked you?

Focus Group Questions—Extension Officers

1. How often do you participate in training sessions that help in your job performance?

2. How relevant is the information you deliver to smallholder farmers?

3. How affordable are the extension services provided to smallholder farmers?

4. How satisfied to you think rural farmers are with the information they receive from extension services?

5. How often are extension programs delivered to rural farmers?

6. What do you perceive as barriers/limitations to your delivering educational information to rural farmers?

7. Have past or present extension policies played a role in the delivery of extension programs to smallholder farmers?

APPENDIX D

APPROVAL LETTER FROM THE UNIVERSITY COMMITTEE ON RESEARCH INVOLVING HUMAN SUBJECTS

MICHIGAN STATE
UNIVERSITY

September 7, 2001

TO: Frank L. BREWER
49 Agriculture Hall

RE: **IRB# 01-394** CATEGORY: EXEMPT 1-C, 1-D, 1-E

APPROVAL DATE: August 30, 2001

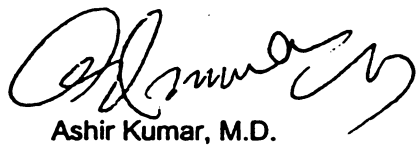
TITLE: THE PERCEPTIONS OF EXTENSION EDUCATION PROGRAMS WITHIN SELECTED NORTHERN PROVINCIAL RURAL COMMUNITIES IN SOUTH AFRICA

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the **UCRIHS approved this project.**

RENEWALS: UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Projects continuing beyond one year must be renewed with the green renewal form. A maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for a complete review.
REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.
PROBLEMS/CHANGES: Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of further assistance, please contact us at (517) 355-2180 or via email: UCRIHS@msu.edu. Please note that all UCRIHS forms are located on the web: http://www.msu.edu/user/ucrihs

Sincerely,



Ashir Kumar, M.D.
UCRIHS Chair

APPENDIX E

CORRESPONDENCE

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FACULTY OF AGRICULTURE

March 28, 2001

Nicole Webster
Michigan State University
Department of Extension Education
Fax: 517 353 4981

Dear Nicole

VISIT TO UNIVERSITY OF THE NORTH

Reference is made to your faxed letter of March 9, 2001 and our telephone conversation thereafter. We welcome you to do your research in the Northern Province and possibly assist teaching one course to my Masters students in Agricultural Extension.

We will organize your accommodation at the University guest house outside campus (32kms away) and you'll have to organize your own transport. The guest house charges about R750,00 per month.

Office space may be a problem but we will try to find space that you'll share with someone in the department. Failure to acquire space will mean that much of your work will be done in the library or at home.

We look forward to working with you in June.

Sincerely

N M Mollel

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