THE RELATIONSHIP BETWEEN POVERTY AND RURAL LAND USE IN NONGOMA

BY

SIMON MBONGELENI MPANZA

Submitted to the Faculty of Arts in fulfilment of the requirements for the degree of **MASTER OF ARTS** in the Department of Geography at the University of Zululand (Umlazi Campus).

Supervisor : Professor E.M. Makhanya

January, 1996.

DECLARATION OF ORIGINALITY

I, Simon Mbongeleni Mpanza, hereby declare that the dissertation *The Relationship between Poverty and Rural Land Use in Nongoma* is the outcome of my research conducted during the years 1994 and 1995 under the supervision of Professor E.M. Makhanya.

Signed : SM Mpanza at Umlazi this

Twenty-eighth day of January 1996

ACKNOWLEDGEMENT

I am greatly indebted to the following persons for the various ways in which they contributed towards the success of this dissertation :

Professor E.M. Makhanya, my supervisor, for his remarkable guidance and encouragement. His patience will always be remembered.

Mr. S.H. Nkabinde, Nongoma District Officer, for his assistance with information pertaining to population. I also wish to thank the agricultural officers serving in the various wards of Nongoma.

The GIS version of the 1991 population census was obtained from the HSRC, and I am grateful to the HSRC for allowing me to use this data for my dissertation.

Mr. A. Buthelezi of the department of agricultural planning provided me with useful maps, while Mr. G. Zenda in the livestock husbandry division provided livestock statistics.

I am also thankful to Mr. R. Khumalo of the Department of Agriculture and Forestry in the SABC for the valuable discussions I had with him on agriculture in Nongoma.

Mr. Roy Hannington of the KFC at Umlazi for his assistance with maps of Nongoma district.

I was motivated and encouraged by my colleagues at the Nqabakazulu Comprehensive School in KwaMashu.

Finally my sincerest gratitude goes to my wife, Happy Edith and our loved children who, though I had to be without them for days or weeks, never failed to be a source of warmth and encouragement throughout the course of this study.

TABLE OF CONTENTS

CHAPTER 2

ECOLOGICAL FACTORS RELATED TO AGRICULTURAL LAND USE IN NONGOMA

CHAPTER 3

POVERTY IN NONGOMA

CHAPTER 4

RELATIONSHIP BETWEEN POVERTY AND RURAL LAND USE IN NONGOMA

CHAPTER 5

POVERTY AND SOCIAL RELATIONS OF PRODUCTION

CHAPTER 6

SUMMARY, EVALUATION AND CONCLUSION

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Nongoma is characterised by a rugged terrain with soils that are unsuitable for agriculture. The rainfall is insufficient and erratic, and the average temperatures are relatively high. There is scanty natural vegetation. For agriculture to thrive under these circumstances would require extensive irrigation.

Nongoma is inhabited by an ethnically homogeneous, traditional, conservative and patriarchal Zulu population. There is a preponderance of young people below the age of 18 years, which is associated with a high fertility rate. The economically active population is only 34.6 percent of the total population. Of this economically active population, about 55,5 percent consists of females. The number of potentially active full-time peasant farmers is small compared to the total population, and the dependency rate is high.

There is a high unemployment rate in Nongoma and many of the young males earn money through migrant labour. Within Nongoma the cash resources of most peasants are derived from meagre resources such as remittances, pensions, welfare payments, and petty commodity production. Such income is usually insufficient for household subsistence.

The present pattern of rural land use among the peasants in Nongoma resulted partly from the land and agricultural policies of the colonial and post-colonial governments. The two major farming systems identified among the peasants are crop raising and livestock grazing. Due to ecological and socio-economic constraints production in both these farming systems is at subsistence level.

The main hypotheses on which this dissertation is based are

that there is poverty in Nongoma, and that this poverty is directly related to the failure of agriculture to provide a livelihood for the inhabitants.

The aim of the study was to examine the relationship between poverty and agricultural land use in Nongoma. The objectives being to determine causal relationships between poverty and agricultural land use. The dissertation is written on the knowledge that there are differences in the conceptualisation of poverty.

On the examination of peasant agriculture it was found that there were high population densities among the peasant areas in Nongoma. The average population density on arable land was about 26 people per ha of arable land, and the average size of land per peasant homestead was only 0,4 ha. When considering that the peasants do not have access to irrigation in this arid land, and considering that the major crop produced on this land was maize, a low yielding staple and field crop, it was evident that there was insufficient food produced from agriculture by each homestead.

Peasant agricultural activities in Nongoma contribute only a small fraction to household income. The failure of agriculture to provide a living for the peasants has resulted in general poverty.

The survival strategy of the peasants lies in cash income from diverse sources such as migrant remittances and petty commodity production. It has been found that there was social differentiation among the peasants in Nongoma, and that it was folly to treat them as a

homogeneous group for research purposes. Although their level of well-being differs according to their differing levels of access to land and off-farm income, it is evident that there is general poverty among the peasants.

IQOQO

UNongoma yindawo enezintaba kanti nenhlabathi yakhona ayiyinhle kwezolimo; ayinothile ngokwanele. Izimvula zakhona azanele kanti namazinga okushisa aphezulu kakhulu. Lezi zimo zenza zibe zinkulu izindleko zezolimo kubahlali nokungabantu abaziphilisa ngakho.

Lendawo yakwaNongoma yakhelwa ngabantu ikakhulukazi abampisholo abangaMaZulu ngobuzwe. Nakuba zikhona ezinye izinhlanga kepha zincane ngesibalo. Iningi kulendawo yintsha engaphansi kweminyaka eyishumi nesificaninwembili. Lokhu kukhombisa izinga eliphezulu lokuzala kulendawo. Labo abasezingeni lokusebenza babalelwe emaphesentini angamashumi amathathu nane nekhona nesithupha. Kulaba bantu amaphesenti angamashumi amahlanu nanhlanu nekhoma nesihlanu isibhuda. Kuyatholakala futhi ukuthi kukendawo liphezulu izinga lapho umuntu oyedwa ondla abantu abaningi ekhaya cishe abantu abayisishiyagalombili kuya phezulu.

Baningi ngokweqile abantu abanga sebenzi kwaNongoma. Lena yinkinga ekhungethe cishe lonke izwe laeMzansi neAfricka. Labo abanenhlanhla yomsebenzi basebenza emadolobheni amakhulu akude nasemakhaya Babuya kanye noma kabili emakhaya ngonyaka, noma bahambe unyaka wonke golokoqo.

Lokho okubuye kube yingqinamba ekuphathweni nasekukhulisweni kwabantwana emakhaya kulabo abanemizi. Lokhu kubeka umthwalo emahlombe abesifazane ababuye bangabinawo amanda okuthatha izinqumo ezithile ngaphandle kwabayeni babo. Kuyayikhinyabeza inqubekela phambili lokho lapho okudingeka ukuba owesifazane alinde izwe kubaba wekhaya anduba azibandakanye nanoma yini eyenziwayo hleze eyintuthuko emphakathini.

Abantu bakulendawo imali yokuziphilisa bayithola kulabo bomndeni abasebensa emadolobheni, izimpesheni zabadala nabagulayo kumbe abakhubazekile, kwezenhlalakahle (abafelokazi) kanye nokudayisa izintwana ezingatheni abazakha ngezandla. Nakuba kunjalo, lezi zizinda azikwazi ukugcina izidingo zonke zemindeni kulendawo.

Izindawo ikakhulukazi zokulima kulendawo zisabiwa ngendlela yokudaladala yombuso wohulumeni bamakholoni. Kulendawo zimbili izindlela zezolimo ezigqamile, izitshalo kanye nemfuyo. Ezitshalweni ummbila yiwona odla ubhedu kanti emfuyweni izinkomo zihamba phambili. Kepha ngenxa yesimo sendawo nesomnotho izitshalo nemfuyo yabo akubasizi ngokungako baze badinge olunye usizo njengalokhu sekubaliwe ngenhla.

Ingqikithi yale dezetheshini isekuvezeni ukuthi kunobubha kwaNongoma futhi lobubuphofu (ububha) bubangelwa ukuhluleka kwezolimo ukuphilisa abantu endaweni.

Inhloso yalolucwaningo ukuthola ubudlelwano phakathi kobubha kanye nokusetshenziswa komhlaba ngakwezolimo endaweni yakwaNongoma. Injongo yona kube kungukuthola imbangala yobudlelwano phakathi kwalezi zinto zombili lolucwaningo lwenziwe kube kwaziwa kahle kamhlophe ukuthi ububha buchazwa ngezindlela eziningi kusetshenziswa izinto ezahlukene ezindaweni ezahlukene.

Ocwaningweni kutholakele ukuthi abantu baningi baminyene ezindaweni eziningi kwaNongoma. Abantu balapha abanayo indawo eyanele yokulima kanjalo futhi abanazo izinto zokuchelela ekubeni lendawo ayinazo izimvula ezanele. Lokhu kucacisa ngokusobala ukuthi labo bantu bathola isivuno esincane kakhulu. Lokhoke kwiyimbangela enkulu yobubha kubantu bendawo.

Kubuye kwatholakala futhi ocwaningweni ukuthi nakuba bayaqhubeka laba bantu nokumphonsa umbalane, bakhulumela izimpesheni, ezenhlala kahle nokudayisa izinto nje ezingasho lutho.

Nakuba abantu balendawo behlukene ngamazinga empilo afana namalungelo kwezomhlaba nakwezomnotho, kuliqiniso elingenakuphikwa ukuthi indawo yaKwaNongoma inobubha.

CHAPTER 1

CONCEPTUAL FRAMEWORK OF THE STUDY

1.1 Introduction

Low agricultural productivity and poverty plague missions of the world's population engaged in agriculture (Raymond, 1982). The rural population of the less developed countries constituting about sixty to ninety percent of these nations account for more than half of the world's population. As a rural labour force, these people are key potential resource for greater food production. In addition these poor people are in greater need of more and better food. Their low productivity is at the heart of the supply side of the world food problem.

In a rural community each farmer endeavours to provide everything he needs. Rural communities are, however, subjected to numerous natural hazards that often affect their agricultural production. Farmers thus need some support from the broader community in the pursuit of their tasks. Subsistence farming methods are primitive and often without government support, and this makes the subsistence farmer vulnerable to natural hazards. It is thus not surprising that the poorest communities are from this class of farmers. Tradition plays an important role in the way of life of these people. Their agricultural methods are so closely interwoven with the social and community structures that it is not easy for them to adopt new

innovations in agriculture.

The aim of this chapter is to clarify the relationship between poverty and rural land use, and thereby set the scene for the discussion of the topic.

1.2 Conceptualising rural poverty

The concept poverty is defined differently by various writers. The Heritage Illustrated English Dictionary defines "poverty" as the state or condition of being poor; a lack of means of providing needs/comfort and/or lack of something necessary or desirable. This definition is very loose, leaving it open to various interpretations. Van der Hoeven (1994) on the other hand defines poverty as the inability of an individual or family to command sufficient resources to satisfy basic needs. According to this definition the first task, in classifying an individual or family as poor, is to determine what it means for basic needs not to be satisfied. Iliffe states that poverty has "the inescapable connotation of physical want" (Iliffe, 1987 p.2). This definition requires an understanding of what items are included under the expression "physical want". The world Bank has linked poverty to food insecurity (World Bank, 1986); yet the explanation of food insecurity is itself a complicated task. In fact anyone who tries to define the concept poverty tends to introduce more questions than to provide answers. This is mainly because poverty is a dynamic concept that varies with time and space. A community, family or individual may be poor at a given time, yet not poor at another time. Similarly a community in a particular place may be declared poor, yet another community with

basically similar resources may not be classified as poor.

Poverty has many facets and the poor are diverse. In rural communities, where people satisfy their basic needs through tilling the soil, some people may be classified as poor as a result of not being able to produce food from the soil (this could be so because of age, illness, etc). Other people may be classified as poor because they do not have land on which to produce food. The conceptualisation of poverty is further complicated by the fact that different communities have various notions of it.

From the above discussion it can be stated that there are generally two forms of poverty. The first type is absolute poverty, where the individual, family or community is in an real state of indigence. The second type is relative poverty, where the poverty of an individual, family or community is judged by comparison with other individuals, families or communities. The notion of poverty is thus complex, varying not only from community to community, but also from time to time.

1.3 The Changing nature of the concept Poverty

Of all the models of economic development, Wilkinsons (1973) ecological model illustrates the relationship between socio-economic change and poverty so well that it has been adopted in this dissertation to analyze the relationship between poverty and rural land use.

Wilkinson (1973) compares human populations to natural populations which tend to establish themselves in an *ecological equilibrium* situation. The concept of *cultural system in an equilibrium* situation is used to provide a theoretical limiting case for the study of the process of adjustment of the human population. The ideal human society is described as :

> "The picture of a stable, well-adapted society which we are concerned with, is of a society which has settled into a known and proven way of life which allows it to deal with all eventualities without innovation. It must have found solutions to all significant problems and have established itself in such a way that it does not have to face new and unprecedented situations" (Wilkinson, 1973, p.18).

Like all natural ecosystems, this ideal society can be disturbed by either an increase in population size, or a decrease in the resource base. The societies are adaptable to any of these changes, but only after a period of transition. Temporary situations of starvation are normal when the society was in transition. Such situations of starvation were not necessarily disturbing. The ideal society that Wilkinson refers to is evidently the primitive hunting, gathering, herding or cultivating societies, in which the over-exploitation of the natural environment was rare. What really caused disturbances of the state of equilibrium in such societies, according to Wilkinson, was contact with foreign cultures, especially European cultures.

When the Europeans colonised the third world Countries they vigorously exploited the natural environment and introduced foreign economic systems and ways of living. This caused a major disturbance in the way of life of the primitive societies. The concept of development was also introduced. The indigenous cultural systems

were thrown out of their equilibrium as they adapted to new and often strange ways of living. This was the evolution of poverty.

Many authors refer to the development of poverty with time. Iliffe (1987) states that poverty in South Africa developed during the late nineteenth century; while Seidman and Anang (1992) state that the poor in Africa have enjoyed less and less control over the spaces they inhabit and the resources they require since the 1970s. The changing conceptualisation of poverty in Britain is best described in the following quotation:

> "In the villages and towns of the fifteenth and early sixteenth centuries, poverty had not been regarded as a major social problem. It was limited in extent and generally the result of a particular misfortune - the death of a spouse or parent, sickness or injury - or else a phase in the life cycle, notably youth or old age ... By the end of the sixteenth century and still more by the mid seventeenth century, the poor were no longer the destitute victims of misfortune or old age, but a substantial proportion of the population living in constant danger of destitution, many of them full-time wage labourers. In both town and country a permanent proletariat had emerged, collectively designated 'the poor'" (Wrightson, 1982, p.141)

Poverty necessarily leads to a search for solutions to the problem. Most solutions are centred around the idea of increasing production of the resource base so as to satisfy the needs of society.

1.4 Poverty, Land Use and Development

Seers (1972) defines development as the reduction of poverty, unemployment and inequality. Development is also defined as an improvement in the quality of life. Rural development is initiated in different countries for many reasons, the most

common being the upliftment of the standard of living of the rural communities. The first priority in rural development is agriculture, because it provides a livelihood for the rural communities. Strategies of agricultural development (i.e. land use strategies) that will eventually lead to life development are formulated and implemented. Those strategies must be relevant to the needs of the rural people so that there is a rise in agricultural productivity coupled with a rise in *per capita* productivity.

Agricultural development is an integral part of general social and economic development involving a movement from subsistence to commercial production. Mosher (1971) argues that agriculture consists of four functional components, of which farming with its inputs and outputs is first. In the second place, he states, there are the commercial supporting services which supply inputs and credit; the third component involves the institutional agricultural support services like research, extension, training, quality control etc.; the final component being the agricultural milieu, which is a combination of factors which affect agriculture.

The popular view of traditional agricultural systems is that, it is made up of peasants who have been farming in the same way for centuries. The implication therefore is that rural communities are bound by customs and are, therefore, incapable of making changes that would raise the productivity and efficiency of their efforts.

The decision of an individual to adopt or reject an innovation in agriculture is not

made instantaneously. It is a long term process which consists of a series of actions and decisions which are usually made after multiple contact with various communication channels (King, 1985). To a large extent the resistance to change lies in resistance to communication (Mace, 1953). The major barriers causing resistance to communication are cognitive as well as attitudinal. The important point arising from attitude research is that it is possible to change attitudes by effective communication.

In terms of the participatory method, the essential aspect of development is the in-depth consultation with the inhabitants about their needs and wants before any action is taken. Those who are involved in the scheme of bringing about development in the area must share in the decision making from the start of the development programme. Once the agreement has been reached with the community as to what is needed, it is equally important that inhabitants participate in whatever innovations are undertaken. The idea is that inhabitants should regard such innovations as their own. The community should feel that it is contributing to the improvement of conditions in their own community and are not simply dependent on the charity of others. The role of community does not stop at the choice and implementation of agricultural development model but carries on to the implementation as well as maintenance phases. The community plays a vital role in the whole development process.

Development policy which attempts to address the issues of supporting the rural well-being of rural communities, has to take cognisance of the interlocking

concepts of food security as well as rural income. These may be usefully linked to, what Sen (1989) called, the entitlement approach which analyzed famine and poverty.

Governments can play a vital role in rural land use and development. Nafziger (1989) argues that governments in a wide variety of developing nations have succeeded in reducing poverty, increasing equality and meeting basic human needs for the overwhelming majority of their populations.

According to KwaZulu White Paper on Development Policy, agricultural development is concerned with developing the human resources engaged in the agricultural sector rather than merely increasing agricultural production *per se*.

It is in relation to these development theories and policies that the study of rural land use and poverty is made in this dissertation. Notwithstanding the differences on the conceptualisation of poverty, there is some agreement on the measurement of rural poverty.

1.5 Measurement of Rural Poverty

The criteria for measuring rural poverty agreed upon by many writers, and which are utilised in this dissertation, are : income, expenditures, employment, assets, household living conditions and a variety of non-traditional measures. Although discussed individually hereunder, the different criteria are usually so interrelated

that it is difficult to isolate the causative factor to rural poverty. For instance, although people may be earning an income, they may still be poor if the wages they receive are lower than their expenditure.

1.5.1 Income or earnings

Income can be used as an indicator of poverty because of its reliability in actually reflecting the level of poverty. In the modern world where there is so much reliance on a variety of marketable commodities for livelihood, income is a primary determinant of economic welfare. Income levels are thus a reasonable indicator of levels of living even for the rural communities.

In terms of income, Truman (1980) found that about twenty percent of Black families in South Africa were at the poverty level at the beginning of the 1970's.

1.5.2 Expenditure

The household expenditure on goods and services can also be used to measure poverty. As it would be expected, the expenditure of the low income groups is low. The greater portion of this expenditure is on food items, with a smaller percentage spent on the more luxurious items.

Surveys on household expenditure are carried out to determine the average annual or monthly expenditure for meeting basic needs of the households. These surveys

involve the listing of all items that are needed by the households for meeting their basic needs such as food, clothing, transport, education, health, etc. From this listing the average amount needed by the household for meeting basic needs may be determined. Such a study was carried out in different areas of KwaZulu/Natal by the KwaZulu Finance and Investment Corporation in 1984 (May & Peters, 1984). Some economists call this average household expenditure the poverty datum line (PDL) as it marks the minimum level of income required to meet basic needs of the household (Marres & van der Wiel, 1975). The poverty datum line varies with household size, cost of living and other socio-economic factors. It therefore varies from area to area, as well as from time to time.

1.5.3 Employment

Employment is also an indicator of the level of poverty because where there is unemployment or where there is underemployment in agriculture, the buying power of the people is greatly reduced. All other things being equal, the incidence of poverty is increased where there is a high rate of unemployment or underemployment in agriculture.

1.5.4 Assets

The possession of assets indicate the ability to generate income. Among the rural communities, land is the major asset. Through land utilisation and the production of food, income can be generated. Landlessness is associated with low income

and poverty. The poverty-stricken people can also be identified by having assets of low value and by their lack of capital.

1.5.5 Household Living Conditions

Living conditions constitute useful and reliable poverty measurements. They also reflect the conditions of health of members of the household.

Living conditions include non-traditional measures of poverty such as access to various facilities and participation in political processes or community organisations. It is often realised that many poor people live in polluted and physically degraded environments. It becomes more expensive for them to clear such conditions. Usually the inhabitants are so poor that they do absolutely nothing to improve their own living conditions. Closely associated with living conditions is the state of health.

1.5.6 State of Health

Living conditions do affect the health of people in various ways, and there are diseases that are directly associated with poverty. Malnutrition, Kwashiorkor, typhoid, Cholera and tuberculosis are some the diseases resulting from lack of means of proper nutrition resulting from poverty. They may thus be used as indicators of the level of poverty.

1.5.7 Literacy rate

Although there has been a change in the level of education achieved by communities over time, a comparison of the literacy rate of different but contemporary communities does indicate their level of well-being. This criterion can thus also be used as a measure of the level of poverty.

1.6 Statement of the Problem

Nongoma district is situated on the Northern part of KwaZulu-Natal province. This district consists of three major tribal areas namely, Mandlakazi tribe under the Chieftainship of Inkosi Bhekintinta Zulu, Matheni tribe under Chief Nsikayezwe Zulu and Osuthu tribe under His Majesty the King and his head of Indunas, (Mthenjana).

It is a densely populated rural area. As in most of other rural areas in KwaZulu-Natal, Nongoma district has an imbalance male/female ratio with low figure for males. This is associated with migrant labour whereby most of the males are employed in the mining areas of South Africa.

The annual rainfall of KwaZulu-Natal ranges from 700 to 800 millimetres with four dry months and the mean annual temperatures are between 21 and 22 degrees celsius. The annual rainfall of the study area (Nongoma district) therefore ranges from 600 to 1000 millimetres.

Maize is the main crop raised in the study area. The production of this crop is however at subsistence level and furthermore it is characterised by low productivity. Livestock farming is also practised at a subsistence level. The animals they keep are not of good quality. As a result their livestock is vulnerable to diseases. Livestock is kept for various social activities ranging from lobola, ritual functions, to social status with the latter being the prime aim.

The productivity of crop and livestock farming in the study area is commonly affected by both physical and human factors. As a result there is general poverty among the inhabitants of the study area. The effects thereof are related to high rate of migrant labour resulting in females acting as *de facto* heads of families. Supplementary wages augment what has been obtained from agriculture.

The problem experienced at Nongoma is not only an individual one but a social problem. The Agricultural Extension Services is one of the most essential services available for the improvement of agricultural productivity and rural development generally. Yet there is only one extension officer serving a large number of farmers, which leads to poor communication. The area is further characterised by problems such as insufficient water storage system. These problems have led to unsuccessful production in both crops and livestock in the area.

1.7 Aims and Objectives of the Study

The aim of this study is to examine the relationship between poverty and

agricultural land use in Nongoma. In this endeavour the dissertation focuses on both the physical and human factors related to agricultural land use. The objectives of the research are to establish causal relationships between poverty and agricultural land use.

1.8 Hypotheses to be Tested

The main hypotheses on which this dissertation is based are that there is poverty in Nongoma, and that this poverty is directly related to the failure of agriculture to provide a livelihood for the inhabitants.

1.9 Research Methods

Various research methods were adopted in this study. Among others, both structured and unstructured interviews were be personally conducted by the author. A lot of time was also spent with the villagers in an effort to engage them in the research. This is how the ideas of formulating the questions in the questionnaires were generated. A lot of information was also gathered from the villagers during this participatory process. Since the author was born and bred in the study area, no significant problems were experienced during the interviews.

Data was collected also from information sources such as the Department of Agriculture and Forestry at Ulundi and Nongoma. Magistrate offices at Nongoma were of great assistance in providing official information on the district.

Information pertaining to soils, climate and other physical resources for agriculture in the study area was obtained from relevant literature.

The data was analysed using a combination of the following statistical packages : Statistical Package for the Social Sciences (SPSS), Quattro Pro and Harvad Graphics. The 1991 population statistics were analysed by the Atlas GIS programme.

1.10 Value of the Study

Most research on agricultural land use in the subsistence agricultural areas of South Africa appeared in the mid 1980's. The approach was more on a regional or local level. The studies are too numerous to comment upon individually in this proposal. It can be mentioned, however, that one group of researchers tended to concentrate on the inefficiency of the indigenous farmers, while the other emphasised overpopulation as a prohibiting factor in agricultural development. One common factor among these writers was their notion that with improvement of these two conditions it was possible to improve agriculture within the framework of the Bantustan concept. A few writers became more sceptical of the notion that agricultural development in the Bantustans could take place without drastic restructuring of the Bantustans. Among these were Nattrass (1981), Nattrass & Nattrass (1990) and Davenport (1990) who presented detailed accounts of the imbalances created by the system of Apartheid in the economic development of South Africa.

Past research has tended to be top-down in approach. This resulted in a number of misconceptions about the factors affecting rural communities. A new trend in research is participatory action research. This idea in this research methodology is to involve the researched communities in the research process. By this method the researched are given the opportunity to articulate their views on the problems to be reached, the collection of the data, as well as on the desired solutions. This methodology is based on the understanding that the researched communities know their problems better than the researcher, however experienced the researcher might be. By following this methodology the researcher learns from the researched about the problems of the community, while his expertise enables the participating communities to get a deeper understanding of their problems. In other words the communities become empowered in the process.

During the period 1992-1993 a team of researchers undertook research in the Eastern Transvaal in which this methodology was partly used. The results of this research revealed a number of "hidden" features of the problems of the rural communities (Levin & Weiner, 1994). Participatory research is termed "participatory action research" by some of its proponents who view the end results of the research as action taken collectively to effect social change (Whyte (ed), 1991). The researcher incorporated this method of inquiry during his research.

It is acknowledged that the problems of rural land use and poverty are so unique for each area that generalisations are not very useful in providing solutions (Levin & Weiner, 1994; Seidman and Anang, 1992). This research provides site-specific

data for Nongoma. It is hoped that the research will provide vital information that could be used in the development of the district of Nongoma. This is especially so because very little, if any, research has been conducted specifically on this district.

1.11 Conclusion

Now that the theoretical framework for this research has been outlined, the next chapter discusses the ecological conditions which characterise Nongoma District. This will be followed by an examination of the level of poverty in Nongoma (Chapter 3). Chapter 4 will discuss the social relations of production in order to identify the factors associated with poverty. Chapter 5 will evaluate the findings and Chapter 6 will provide a summary and conclusion.

CHAPTER 2

ECOLOGICAL FACTORS RELATED TO AGRICULTURAL LAND USE IN NONGOMA

2.1 Geographical location

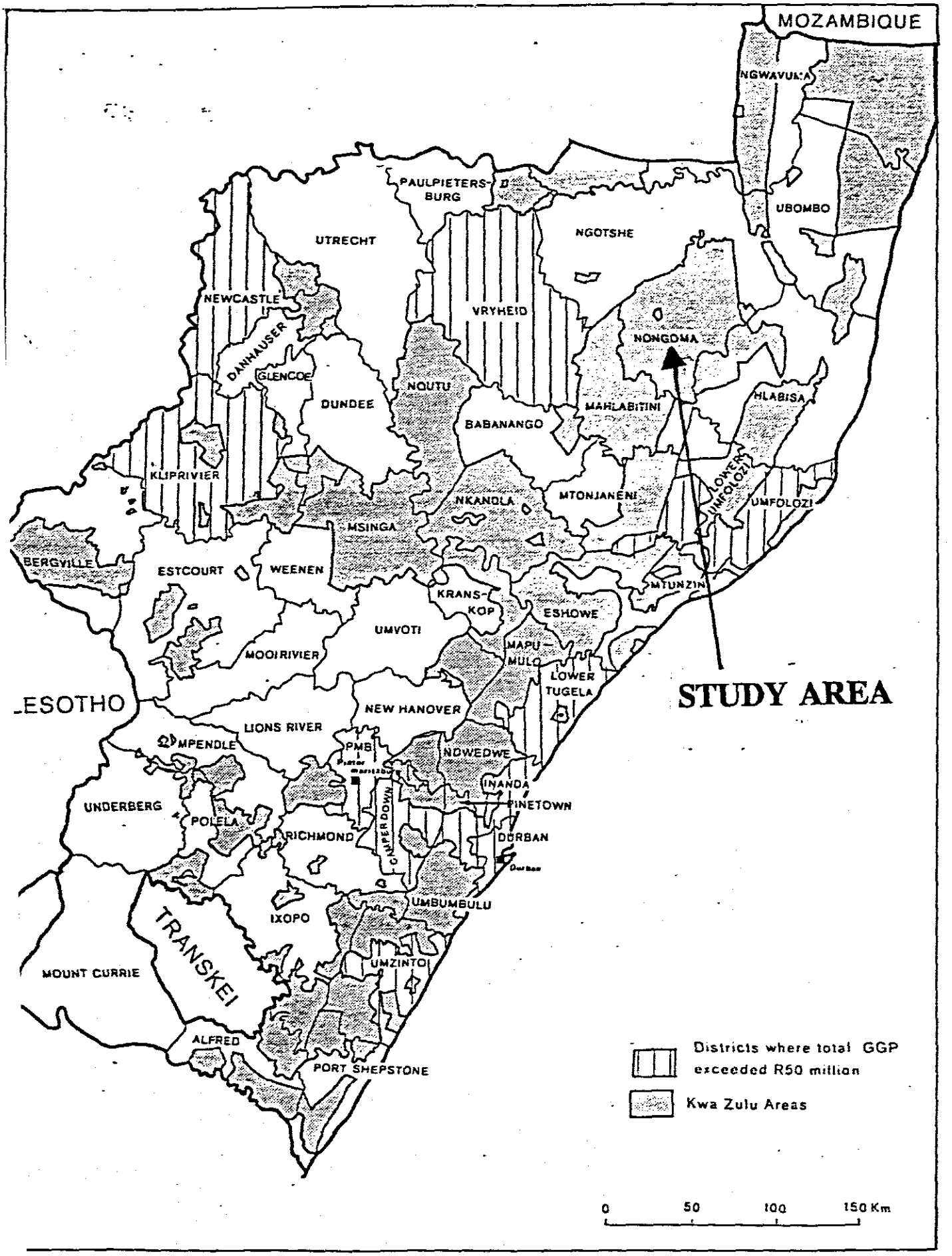
Nongoma District is one of the 66 magisterial districts of the province of KwaZulu-Natal Region, situated in northern part (Fig. 2.1). It is compact and somewhat triangular in shape, and its total area is 219 455 hectares. It is approximately 45 kilometres South of Pongola, 75 kilometres East of Vryheid and 25 kilometres North of Ulundi.

Table 2.1 Road Distances Between Nongoma and the Adjacent towns are

From	To	Total Kilometres
Nongoma	Ulundi	66
Nongoma	Vryheid	110
Nongoma	Pongola	75
Nongoma	Hlabisa	122

The area is reasonably well served by a formal road system, and the roads in the area are generally in a reasonable state of repair. There are three main roads, viz., the R66 which

FIG. 2.1 THE LOCATION OF NONGOMA IN RELATION TO KWAZULU-NATAL



the R66 which runs from Ulundi through Nongoma to Pongola, which is tarred only between Ulundi and Nongoma. The R818 which runs between Nongoma and Vryheid via Mgome and is tarred for part of its length. The R618 which is a gravel road running between Nongoma and Hlabisa.

There is also a network of other smaller roads serving the rest of the district, supplemented by numerous paths and tracks. There is thus satisfactory means of transportation for goods and services in the district and surrounding areas.

2.2 Relief

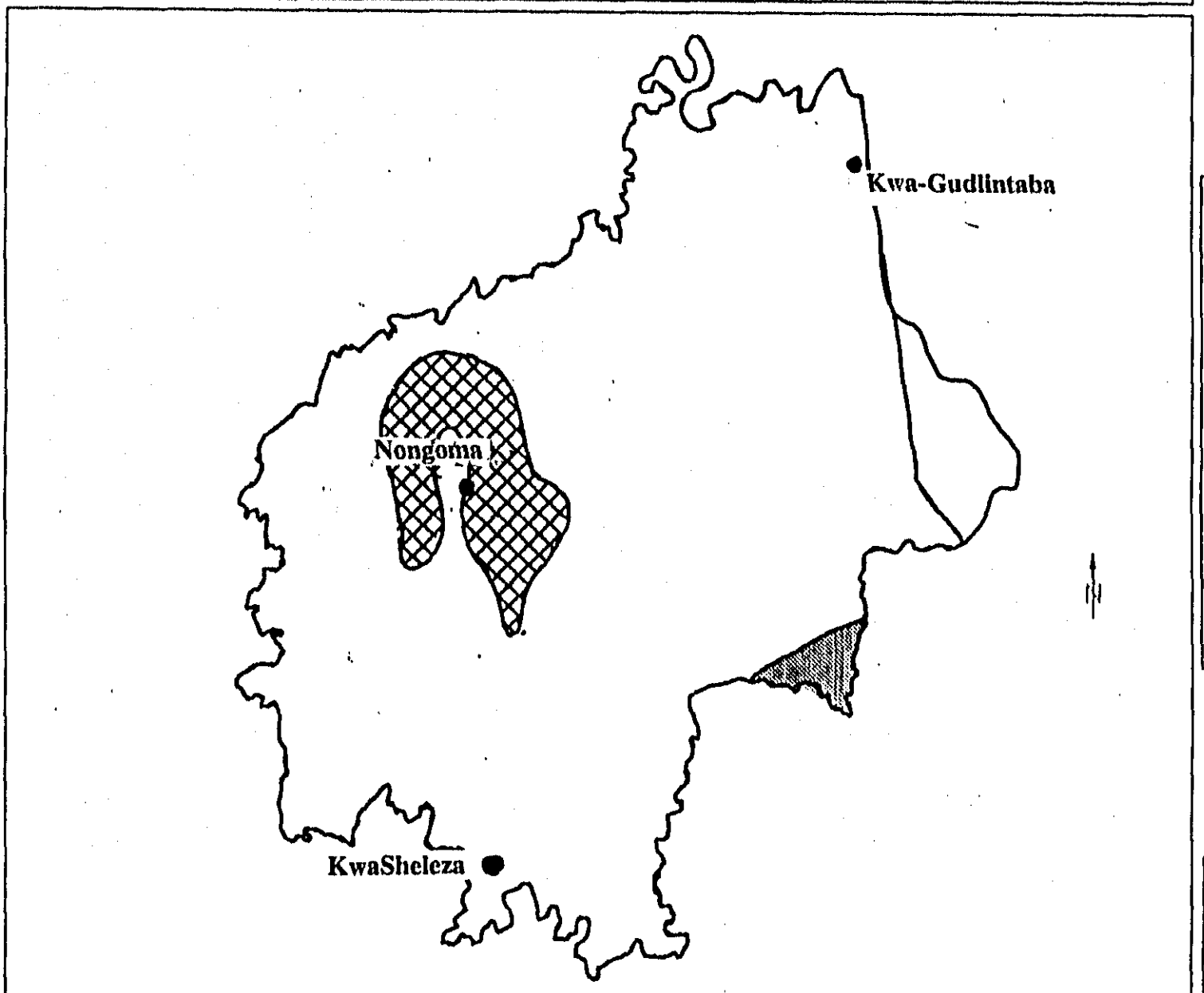
The altitude of Nongoma is 120 to 868 metres above sea level. Its geological formation rests upon the Basement Complex which comprises the most highly mineralised ancient rocks of the geological series, including granites some of which are highly erodible when exposed to the elements. The granite landscape is characterised by immense relief (Thorrington-Smith, 1978).

Nongoma is split into two topographic areas by a ridge running in an east-west line. The stony terrain is undulating to hilly. It is dissected by a number of streams and rivers, and is characterized by numerous bad lands. As a result the arable area is confined to the flatter parts of the plateaux or in the wider river valleys. The plains and valleys are commonly used for settlements and crop cultivation. The town of Nongoma is situated on a ridge approximately 750 metres above sea level slightly West of the centre of the district.

FIG. 2.2

NONGOMA

Soils



2.3 Soils

Kant (1980) states that Nongoma's chief soil component is seventy percent basalt. The granite soils, which constitute the major soil group in the South Coast Sugar Belt, are highly productive gritty loams.

The soils of the upland areas in the west are generally deep with good structure and aeration. Due to the high rainfall and the good permeability and drainage of these soils, they have a high degree acid saturation with associated aluminium toxicity and low nutrient status.

The soils in the drier lower areas in the north west are derived from Ecca shales and Cape sandstones and as a result are more heavily textured and have a much lower potential. There are, however, some large pokes of high potential alluvial soils in the northern areas adjacent to Mkuze river. The soils of the rest of Nongoma district are a mixture of moderate to low potential dark melanic clays and poor highly erodible duplex soils, although there are some isolated patches of higher potential red clays. The potential of many of these soils is limited by slope.

It is shown in Fig. 2.2 that most parts of Nongoma contain soils with moderate agricultural potential. A very small proportion of the land surface consists of soil with high agricultural potential. The majority of the soils in the area are unsuitable for dry land cropping. As a general observation it can be said that because of lack of soil depth in most parts of the area, the district does not have a great potential for dry land crop production.

Depletion of soil fertility in the area of study is one of the major causes of poor harvest. In the study area soils are predominantly shallow. Rockiness and wetness of the soils are some of the problems in the survey area.

2.4 Rainfall

The mean annual rainfall in the study area ranges from under 600 millimetres in the drier northern parts to 800 millimetres in the south although it rises to over 1 000 millimetres in the higher parts of Bululwane river in the west.

The mean monthly rainfall values (Fig. 2.4) of the town of Nongoma show that the rainy season is between September and April. The period suitable for the cultivation of crops, referred to as the moisture growing season by Schutte (1982), starts in September and ends at the end of January and its length is approximately 150 to 600 days. It is the time when the amount of precipitation is enough to meet the water requirements of the established crop (Schutte, 1982). It is therefore important for agriculturalists to plant their crops in time for this season. Those agriculturalists who plant late in September are more vulnerable to mid-season drought period.

2.5 Drainage

Nongoma district is drained by three major rivers. The Mkuze River flows in an easterly direction dropping from approximately 300m to 150m, and draining the northern part of

FIG. 2.3 NONGOMA

Mean Annual Rainfall

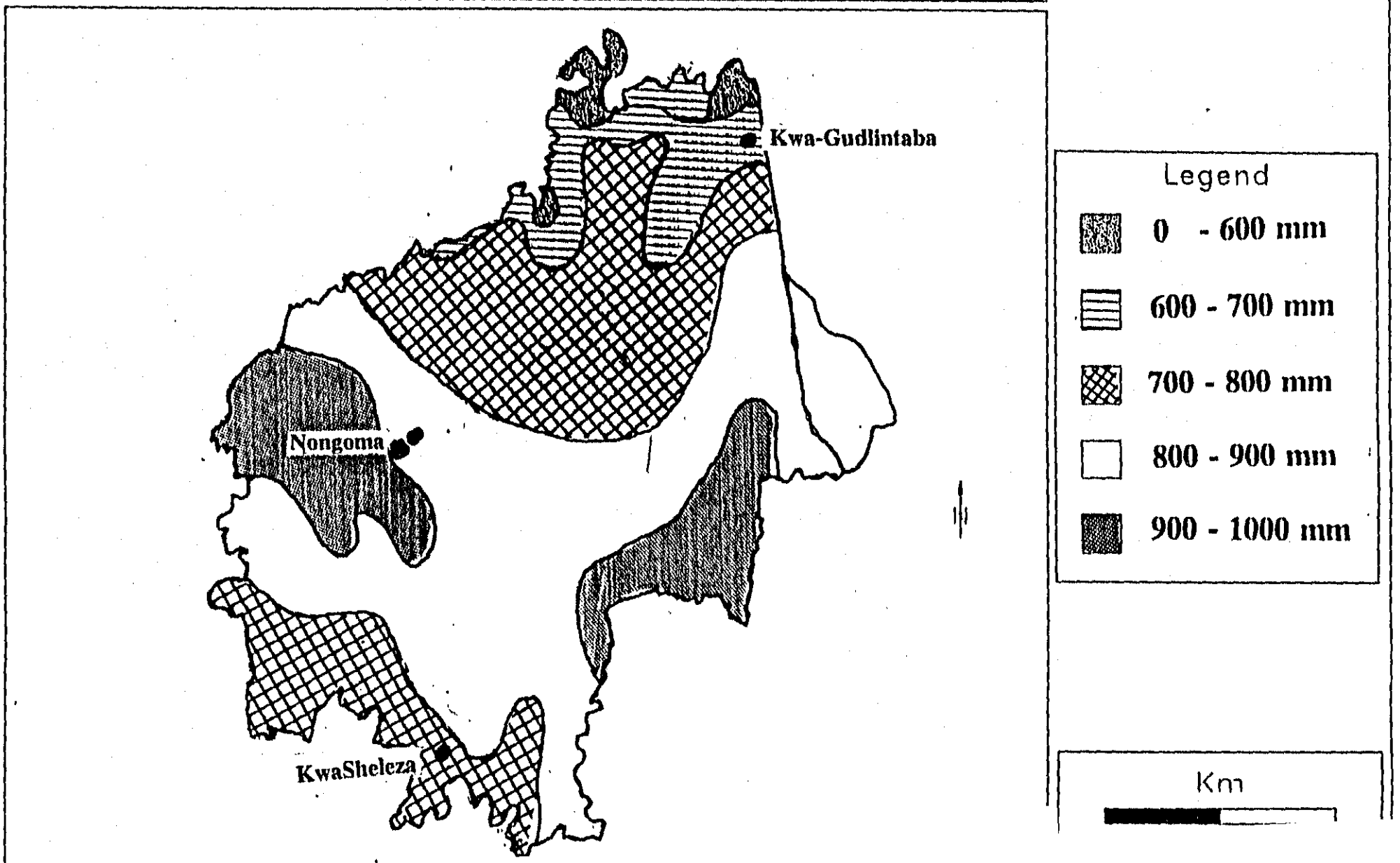
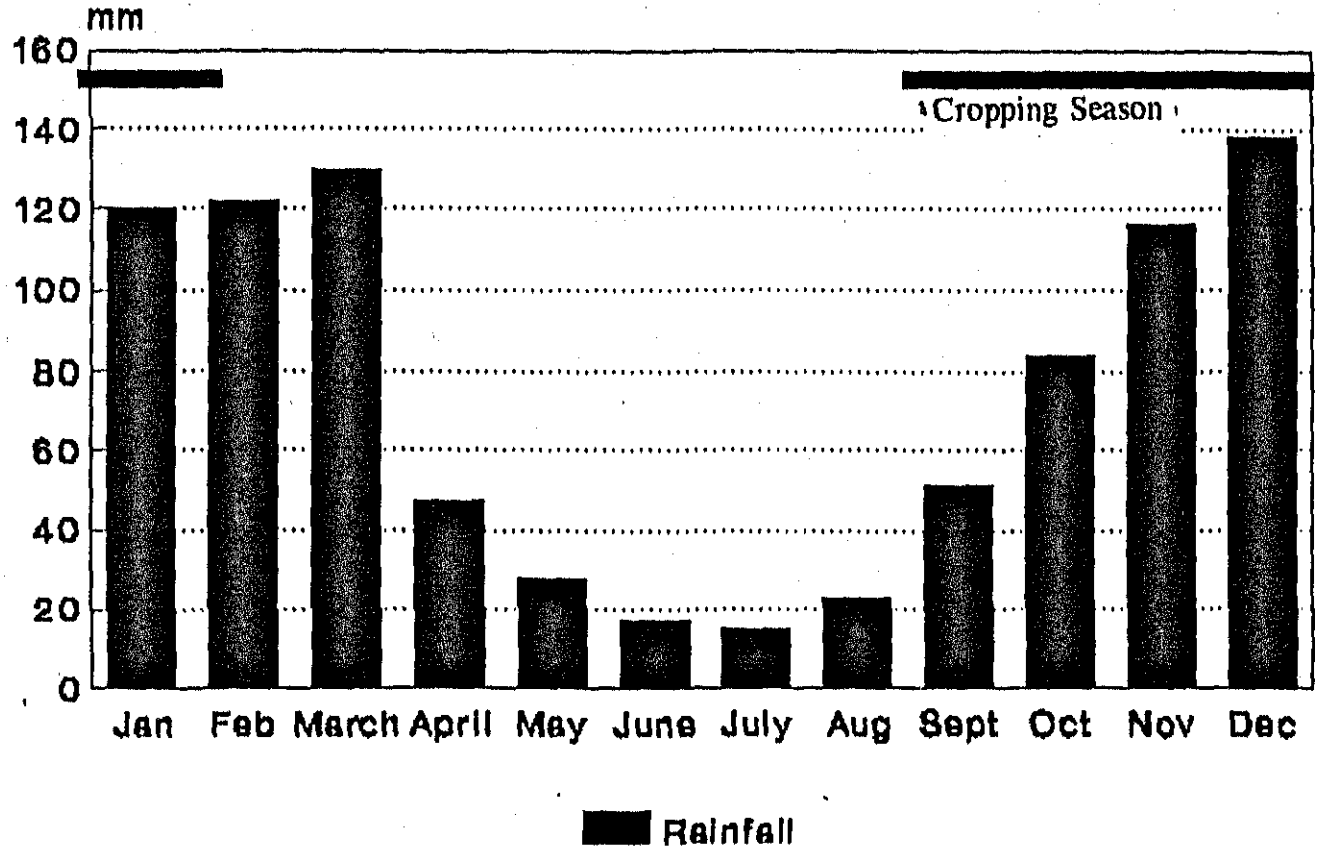


FIG. 2.4 RAINFALL DISTRIBUTION IN NONGOMA



the district. It also forms part of the northern boundary of the district. The western part of the district is drained by the Bululwane River, which rises in the north and flows South draining into the easterly flowing Black Umfolozi river. The Black Umfolozi River is the southern district boundary. The easterly flowing Msunduzi river drains the west and the centre of the district.

Although there are a few strong boreholes in the area, ground water conditions are somewhat unreliable in Nongoma district. The water is generally of moderate quality in the high lying areas but is poorer in the drier low lying areas, especially those in the north.

2.6 Water resources

Nongoma district is situated in a semi-arid part of KwaZulu-Natal, and is not well endowed with water resources. Very few of the rivers draining it are perennial. The area is characterized by under-developed primary and secondary water resources. Even water supplies for domestic use are still inadequate in most parts of the area. This has a negative effect on agricultural production.

Mandlakazi ward is the hardest hit in terms of the shortage of water resources. Since this is the largest ward in the district, it gives the whole district the appearance of a semi-desert. Compared with the other two wards, namely Usuthu and Matheni, agricultural produce in Mandlakazi ward is low. This is related to the lower population density in the

ward (Fig. 3.5).

Due to shortage of capital, the potential for development and distribution of water resources in the area has still not been explored, and the supply of water is remains one of the biggest obstacles to rural land use and development in the district.

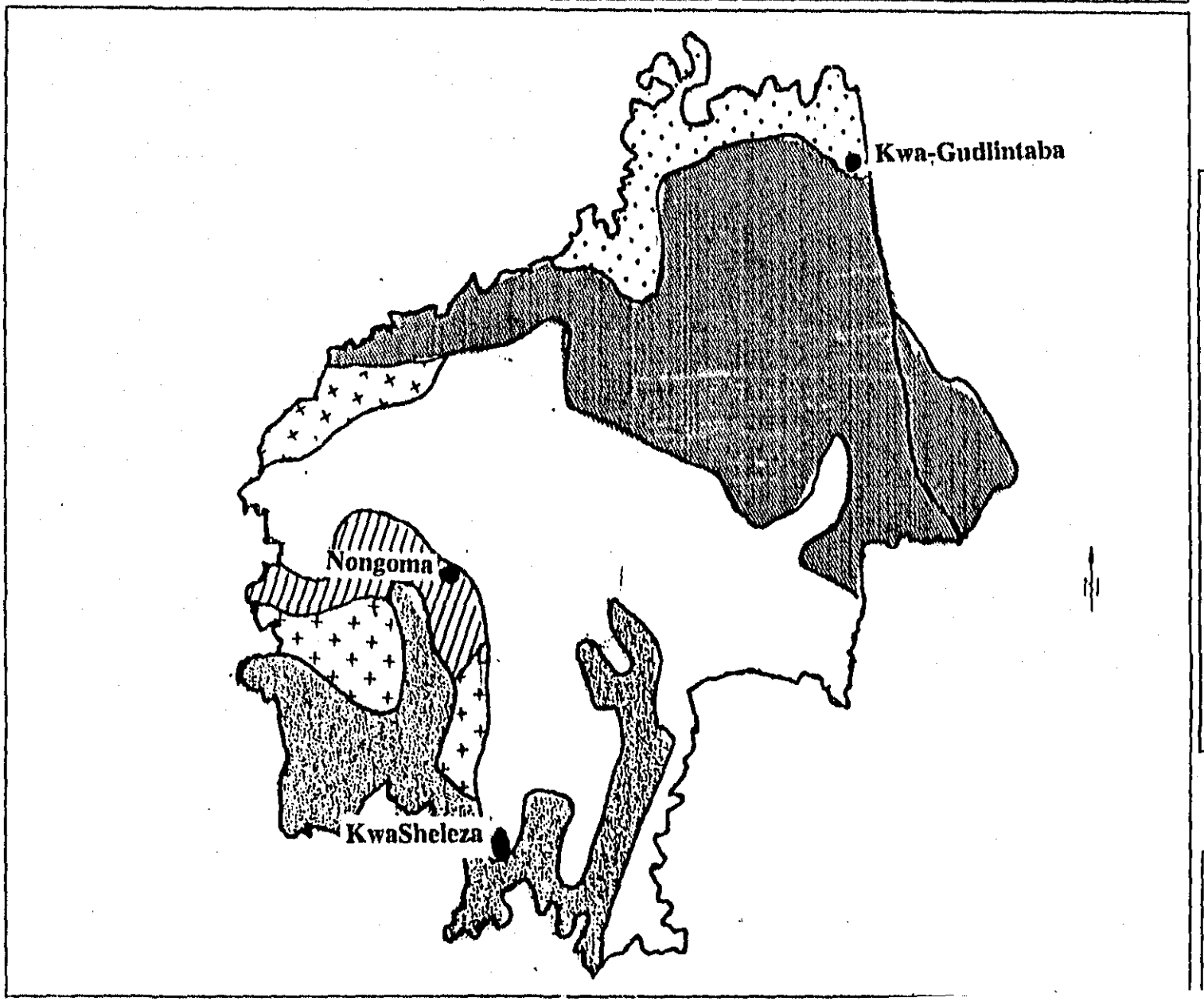
2.7 Vegetation

Much of the natural vegetation in Nongoma has either been cleared for purposes of cultivation and/or residential development or disturbed due to overgrazing. Four main natural vegetation types are found in the area. These are Zululand Thornveld, Arid Low veld, Northern Tall Grassland and the Low veld.

2.7.1 Zululand Thornveld

This vegetation type forms a broad band running through the centre of the district on the high ridges forming a transition between the Northern Tall Grassland on the highest ridges and the lowveld in the drier valley bottoms. In good condition it consists of reasonably open thornveld with a strong presence of Euphorbia species and bushveld species as well as a strong sward of grasses dominated by themeda triandra and Panicum maximum. It is however almost entirely dominated by bushveld species such as Dichrostachys cinerea. The grass sward has also weakened considerable and is dominated by cyton dactylion.

FIG. 2.5 NONGOMA
Bioclimatic Groups and Sub-Regions



Legend

- Arid Lowland
  Hot to Mild
- Riverine and Interior Lowveld
  Hot to Mild
- Tall Grassveld (Dry)
  Warm to Cold
- Tall Grassveld (Moist)
  Warm to Cold
- Riverine Interior
  Warm to Mild
- Zululand Bush & Lowveld
  Hot to Mild

Km

0 10 20

2.7.2 Arid Low veld

The Arid Low veld occurs in the dry low-lying valleys of the Mkuze, Black Umfolozi and Msunduzi rivers to the north and south of the higher ridges running through the centre of the district. The veld is disseminated by a mixture of Acacias and Bushveld trees forming a reasonably open canopy. The grass sward is poor as it has generally been seriously overstocked and as a result is dominated by broad leafed perennials and annual grasses such as Elensine indica, Aristida adcenionis and Rhynchelaatrum repeses.

2.7.3 Northern Tall Grassland

This vegetation types occupied the high lying ridges in the West of the district and is a transition between the Lowveld in the South Zululand Thornveld to the North and the high lying Highveld Sourveld to the West. This veld is dominated by Hyparrhenia hirta and Sporobolus pyramidalis as the better species such as Themeda triandra have been lost due to chronic overgrazing. The woody component is dominated by Acacia Sieberana.

2.7.4 Woody Vegetation

This vegetation type occurs along the Mkuze River valley. It is very similar to the Valley Bushveld with much of its grass component destroyed by overgrazing. The Woody Vegetation is dominated by Dichrostachys Cinerea, Acacia nigrescence and Ziziphus mucronate.

2.8 Natural hazards related to low Agricultural Production

Hazards are threats to humans and what they value (Perry, 1981). Hazards have been also defined by Gardiner (1977) as events, objects, processes and substances that are perceived to cause more damage to society than the benefit they give. The more frequent natural hazards in Nongoma are drought, floods, hailstorms and frost.

2.8.1 Drought

Drought is a serious problem in the area of study. Its effects are felt in both stock losses and a decrease in agricultural production. The rainy season usually begins so late that it is of little value for the crops. Severe stock mortality is experienced in Nongoma because the grazing lands are virtually stripped bare of grass as a result of continued drought.

Drought also has an important effect on the economy in that the extended period water shortage retards the economic progress of the area.

2.8.2 Floods and Hailstorm

Floods and hailstorm also affect agricultural productivity in the study area. Heavy downpours and floods are frequently reported to have eroded the topsoil and to have devastated crops. Very pour harvest was obtained in most parts of Nongoma in 1994 due

to these natural hazards, especially the floods. Almost all parts of the district experienced extraordinarily heavy rains and floods during that year.

2.8.3 Frost

Frost and snow occur mostly in winter but frequently constitute a hazard when they occur during the latter part of spring when they can cause severe damage to growing crops. In the area of study frost is reported to affect fields along the river valleys. Tomato gardens are also vulnerable to frost in the area.

2.9 Land Capability

Land in the Nongoma District has been divided into four Orders, namely, A,B,C and D. Out of a total area of 219 455 hectares 9 085 hectares of the land has been classified as high potential land with few limitations. This land has been classified as Order A. A further 13 779 hectares was classified as arable land with a moderate potential and/or with moderate to severe limitations (Order B). The third Order comprising 193 506 hectares (the bulk of the land) is made up of the shallow to very shallow soils on steep slopes. This order (Order C) has been identified as suitable only for forestry and grazing of livestock. The rest of hectares fall under the fourth Order (Order D) and is of the land occupied by high density settlement areas and of land that is so steep and so shallow that it is completely unsuitable for agricultural use (order D). In terms of this classification, only about 10 per cent of the land is suitable for the cultivation of crops, which is a

serious limitation in a predominantly rural area with high population densities.

2.10 Conclusion

There is a very close interrelationship among the different ecological factors in Nongoma. The nett result of this interrelationship is a lack of adequate water resources for domestic, agricultural and industrial use. Due to lack of capital, no attempt has to date been made to remedy this harsh living condition. It is thus one of the factors contributing to the low agricultural production, lack of industrial development, unemployment and general poverty in Nongoma.

Soil erosion, rockiness and steep slopes present another major physical constraints to cropping systems in the study area. Due to the shortage of arable land, even steep slopes are used for the cultivation of crops, leading to the acceleration of the erosion process. Furthermore, the lack of natural vegetation and perennial crops increases the severity of soil erosion in the area of study.

CHAPTER 3

POVERTY IN NONGOMA

3.1 Introduction

Following the exposition of the concept poverty in Chapter 1, this chapter examines the level of poverty in Nongoma. The criteria used for this purpose are those outlined in Chapter 1, but it should be further emphasised that there is a complex interrelationship among the various factors, and none can be regarded as an absolute indicator of poverty. The systematic discussion that follows is only for the sake of convenience, a means to an end, and should not be interpreted to be the end in itself. This Chapter is based on the following hypotheses :

3.1.1 The population of Nongoma is traditional

3.1.2 The population density is high

3.1.3 There is unemployment in Nongoma

3.1.4 The income level is low

3.1.5 The literacy rate is low

3.1.6 The dependency ratio is high

3.1.7 There is overpopulation in Nongoma

3.1.8 The living conditions are poor

3.1.9 There is food insecurity in Nongoma

3.2 The Demographic profile of Nongoma

The main features that characterize the demographic profile in Nongoma are high population growth, imbalanced age-sex distribution in the productive age groups and a very high dependency ratio.

3.2.1 Ethnic Homogeneity

Table 3.1 Population Structure of Nongoma

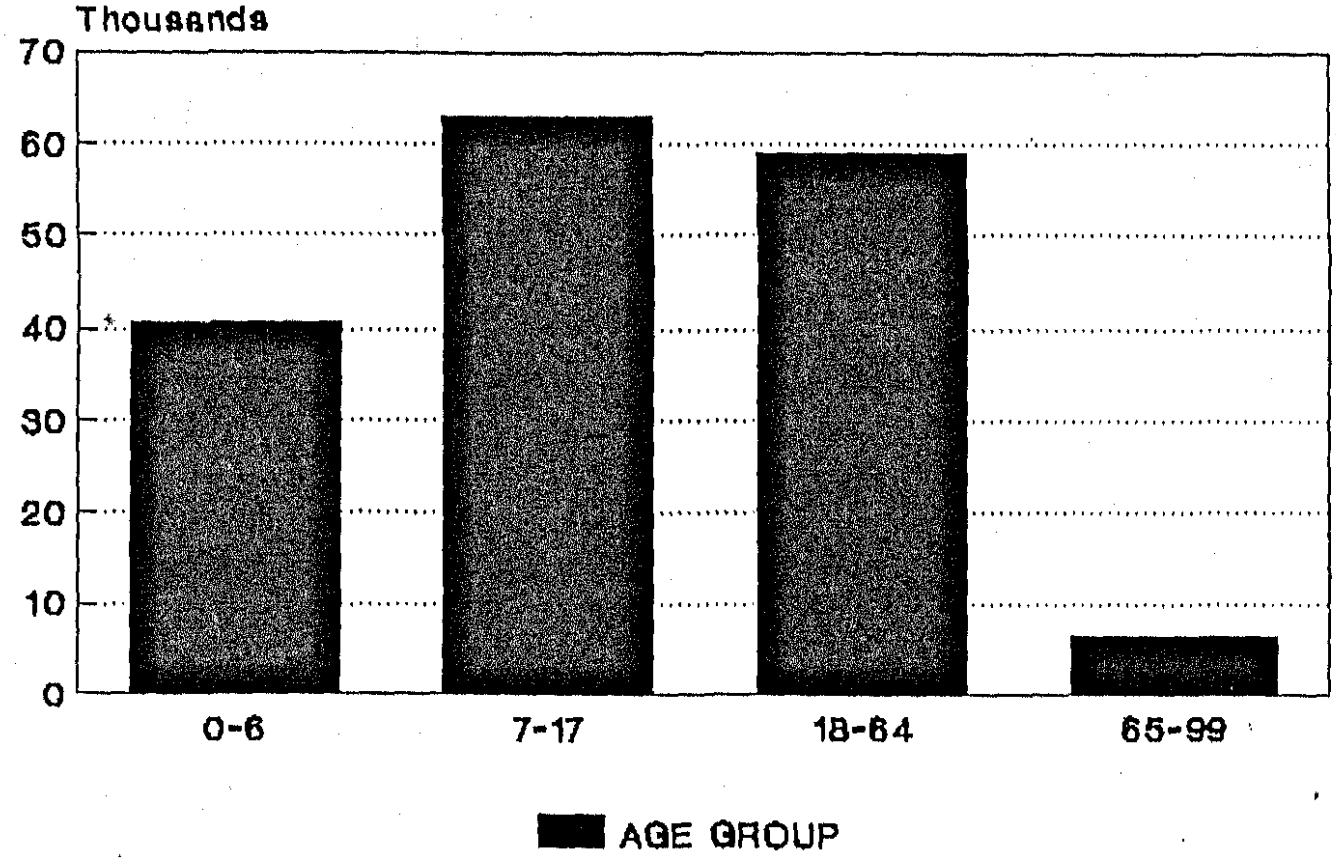
Race	Number	Percentage
Blacks	162,702	99.8
Whites	161	0.1
Coloureds	109	0.07
Asians	18	0.01
Total	162,990	100.0

Source: 1991 Population Census

Every human being has a cultural background in the form of special values, aspirations and customs which come from ethnic influence which can play either a negative or positive role in the progressiveness of the community (Bembridge,

FIG. 3.1

POPULATION DISTRIBUTION BY AGE GROUPS



1982). The population of Nongoma is ethnically homogeneous, consisting 99.8 per cent Blacks of exclusively the Zulu ethnic group (Table 3.1). Nongoma is the traditional home of the Zulu Royalty, where there is still strict adherence to culture. There is thus some restraint on the behaviour of individuals, which also influences their initiatives in agriculture and other economic enterprises. Although this may be good for social stability, it does contribute to lack of innovations in Nongoma, and is thus negative to economic progress.

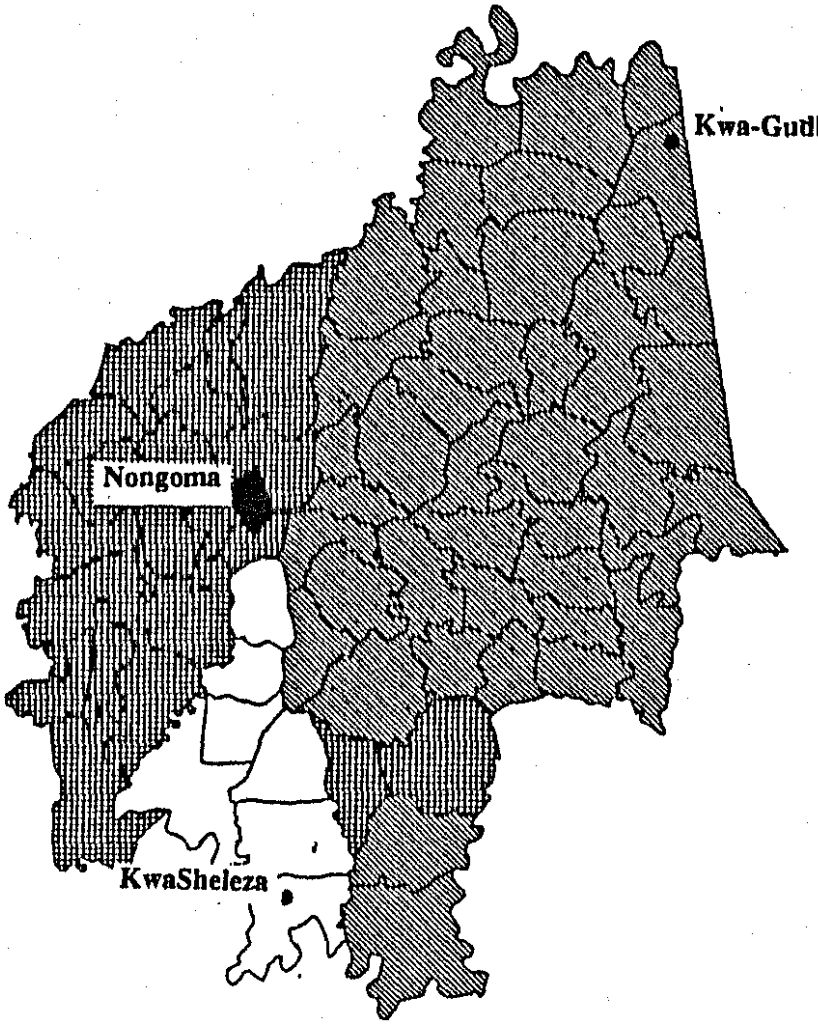
3.2.2 Tribal Structure

Table 3.2 Tribal Wards of Nongoma

Tribe	Ward	Induna	Population	Agric. Officers
Zulu	Mandlakazi	95	70 000	6
Zulu	Matheni	12	20 000	1
Zulu	Usuthu	30	50 000	6

Nongoma district is divided into three tribal wards. The largest ward is Mandlakazi with a total population of 70 000. It has 95 Indunas or Sub-Chiefs and 6 agricultural extension officers (Fig. 3.2, Table 3.2). A population of 140 000 is thus administered by some 137 Indunas, giving an average of 1021 people or about 127 homesteads to an induna. There is thus close supervision of the communities, which would make it more difficult for individuals to deviate from the norms of the tribe.

FIG. 3.2 NONGOMA
Tribal Areas



Legend

- Urban Area
- Usuthu
- Matheni
- Mandlakazi

Km

0 10 20

3.2.3 Age Composition

Table 3.3 shows that the population of Nongoma is dominated by young people below the age of 18 years (61,7 Percent). This is an indication of a young population. It also indicates a high fertility rate in the area. The economically active population (i.e. population between 18 and 65 years) is only 34.6 percent of the total population (Fig. 3.1). Considering 55,5 percent of this population consists of females and that some of the males and females in this group may be incapacitated, It must be expected that the proportion of active full-time farmers will be small, and that the majority of the population will be just rural dwellers (consumers) having only limited interest in agriculture. This places a heavy burden on the household harvest, leading to insufficient food and other needs.

Table 3.3 Age Composition of the Population

Age group	Number	Percentage
Less than 6	38 893	23.6
6 - 17	62 870	38.1
18 - 65	57 066	34.6
65 - 99	6 161	3.7
Total	164 990	100.0

Source: 1991 Population Census

Furthermore, only 3,7 percent of the population is between 65 and 99 years of age. This depicts a very low life expectancy in the area which is likely to be related to poverty.

3.2.4 Sex Structure

There are more females than males in Nongoma. The female population constitutes 55,5 percent and the male 44,5 percent of the total population. There is a relatively high incidence of female-headed families and, in terms of traditional attitudes towards females, there is a low potential number of bread winners. There is a very close correlation between the spatial distribution of the females and that of the males Figs 3.3 and Fig. 3.4), which shows that there is equitable distribution of the sex ratios. In other words the factors responsible for the excess of females over males are similar for all areas.

Table 3.4 Sex Structure of the Population of Nongoma

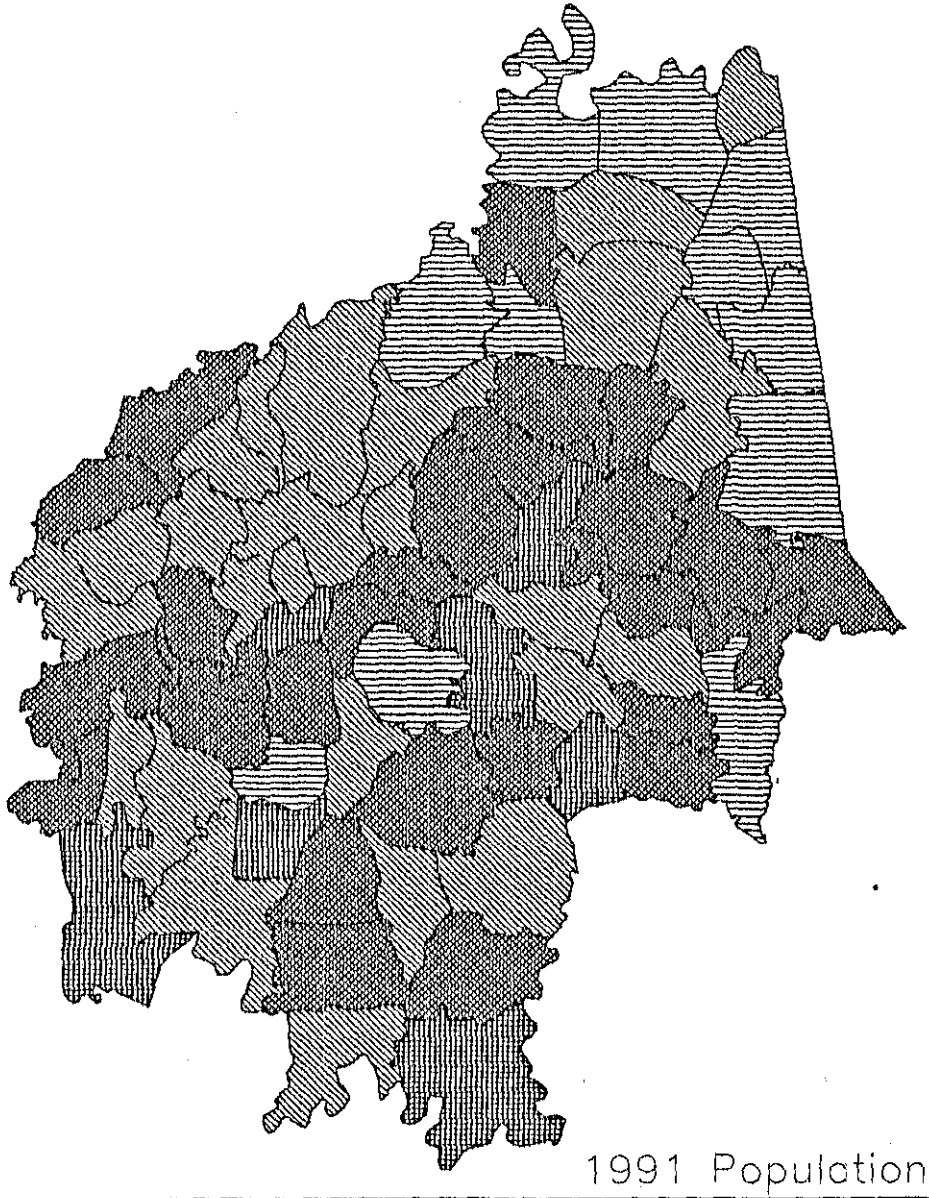
Sex	Number	Percentage
Female	90 423	55.5
Male	72 567	44.5
Total	162 990	100.0

Source: 1991 Population Census

FIG. 3.3

NONGOMA

Percentage of Females per EA



1991 Population Census

Legend

51 – 53

54 – 55

56 – 57

58 – 59

N

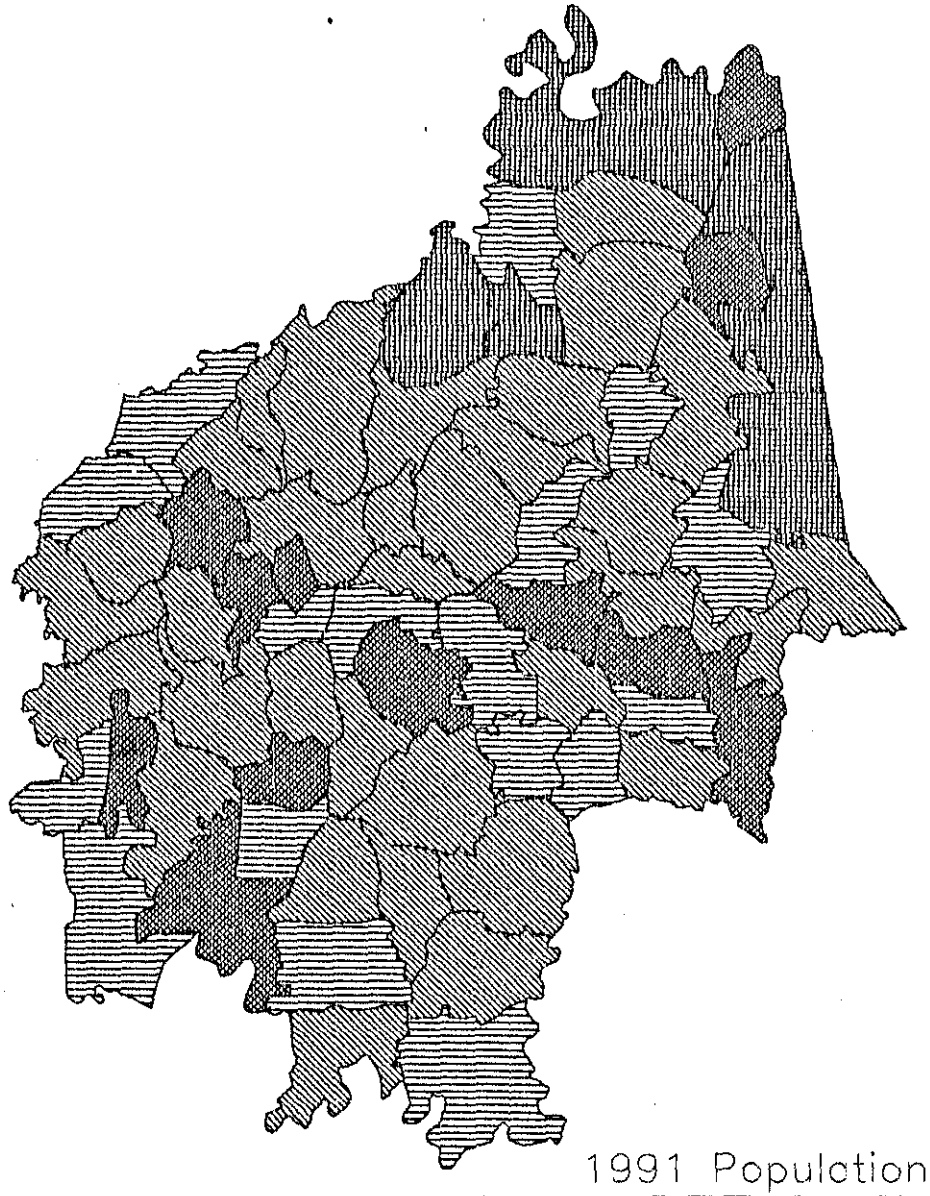
Km

0 10 20

FIG. 3.4

NONGOMA

Percentage of Males per EA



Legend

41 – 43

44 – 45

46 – 47

48 – 49

N

Km

0 10 20

1991 Population Census

Nongoma thus consists of a relatively young traditional society that has more females than males. This makes it economically vulnerable.

3.3 Population Density in Nongoma

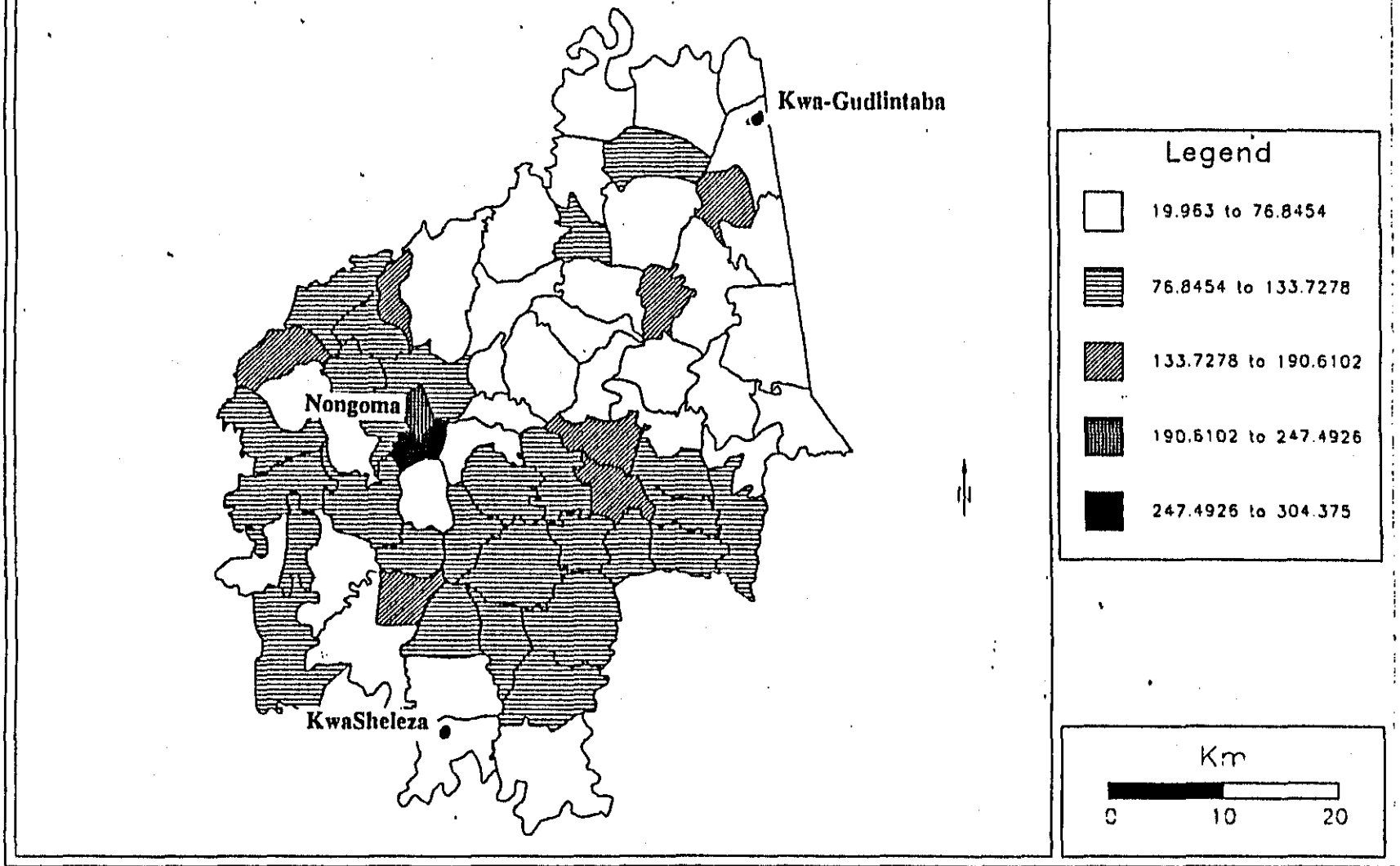
The average population density in Nongoma is 77.5 persons per square kilometre. There is spatial differentiation in the distribution of population, with more concentration in the middle of the district where there are about 133 to 247 persons per kilometre square (Fig. 3.5). There is a close relationship between population distribution and the distribution of rainfall (compare Fig. 3.5 and Fig. 2.3). The less densely populated areas are not only having a low rainfall, but they are also characterised by high temperatures. This makes them rather harsh for agriculture. It is evident that, in the absence of irrigation, people inhabit areas where they can pursue agriculture with relative ease. But this high concentration of people in an agricultural environment leads to overpopulation, overgrazing, land degradation, poor productivity and poverty.

On the other hand there is not much choice for the people. Even those who inhabit the sparsely populated hot and arid regions cannot survive due to lack of rainfall.

3.4 Employment Situation in Nongoma

Nongoma is predominantly rural and there are few job opportunities. According to the 1991 population census, only about 6884 people, i.e. 4 percent of the total

FIG. 3.5 NONGOMA
Population Density by E.A.



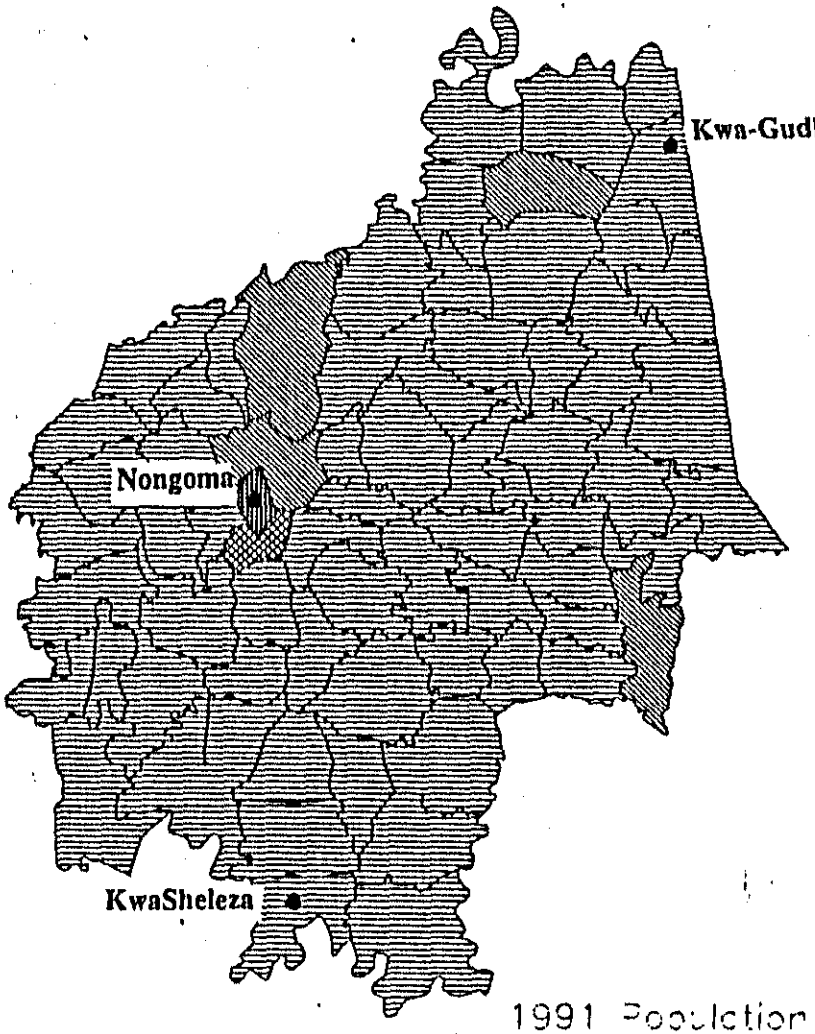
population or 12 percent of the economically active population, in the district are employed (Table 3.5). Apart from the Town of Nongoma and a few areas adjacent to it, there are very few areas offering job opportunities in the district (Fig. 3.6). There were about 12 740 people reported to be earning an income. This figure includes petty commodity producers, pensioners and those engaged in other informal occupations. Out of the total number of people who are earning an income in Nongoma 91 percent earn less than R15 000 per annum and only 9 percent get an income of more than R15 000. Bearing in mind that the 9 percent of those earning more than R15 000 includes White, Coloured and Indian employees employed in the service and forestry sectors (Fig. 3.8 and Fig. 3.9), it is evident that there is insufficient money earned by the mass inhabitants of Nongoma to meet the needs of their households. It is interesting to note that, although the district of Nongoma is predominantly rural, there is only a very small percentage of people who are classified as farmers. These farmers are spatially confined to the northern part of Nongoma towards the Umfolozi Game Reserve (Fig. 3.10). The majority of the people are not defined (Fig. 3.9 and fig. 3.10). This shows that subsistence agriculture plays an insignificant role in the economy of the district. It remains to be seen whether this type of agricultural production does satisfy the basic needs of the residents. Otherwise it can be said that there is a high incidence of poverty in Nongoma.

Due to the prevailing patriarchal attitudes, the women are more afflicted by unemployment than men. The households headed by women have thus a higher incidence of poverty than those headed by men.

FIG. 3.6

NONGOMA

Number of People Employed per EA



Legend

- 5 – 196
- 197 – 387
- 388 – 578
- 579 – 769

KM

0 10 20

1991 Population Census

Table 3.5 Employment Status in Nongoma

Status	Number of people	Percentage of the economically Active Population
Employed	6 884	12
Earning	12 740	22
Earning less than R15 000	11 636	20
Earning more than R15 000	1 104	2

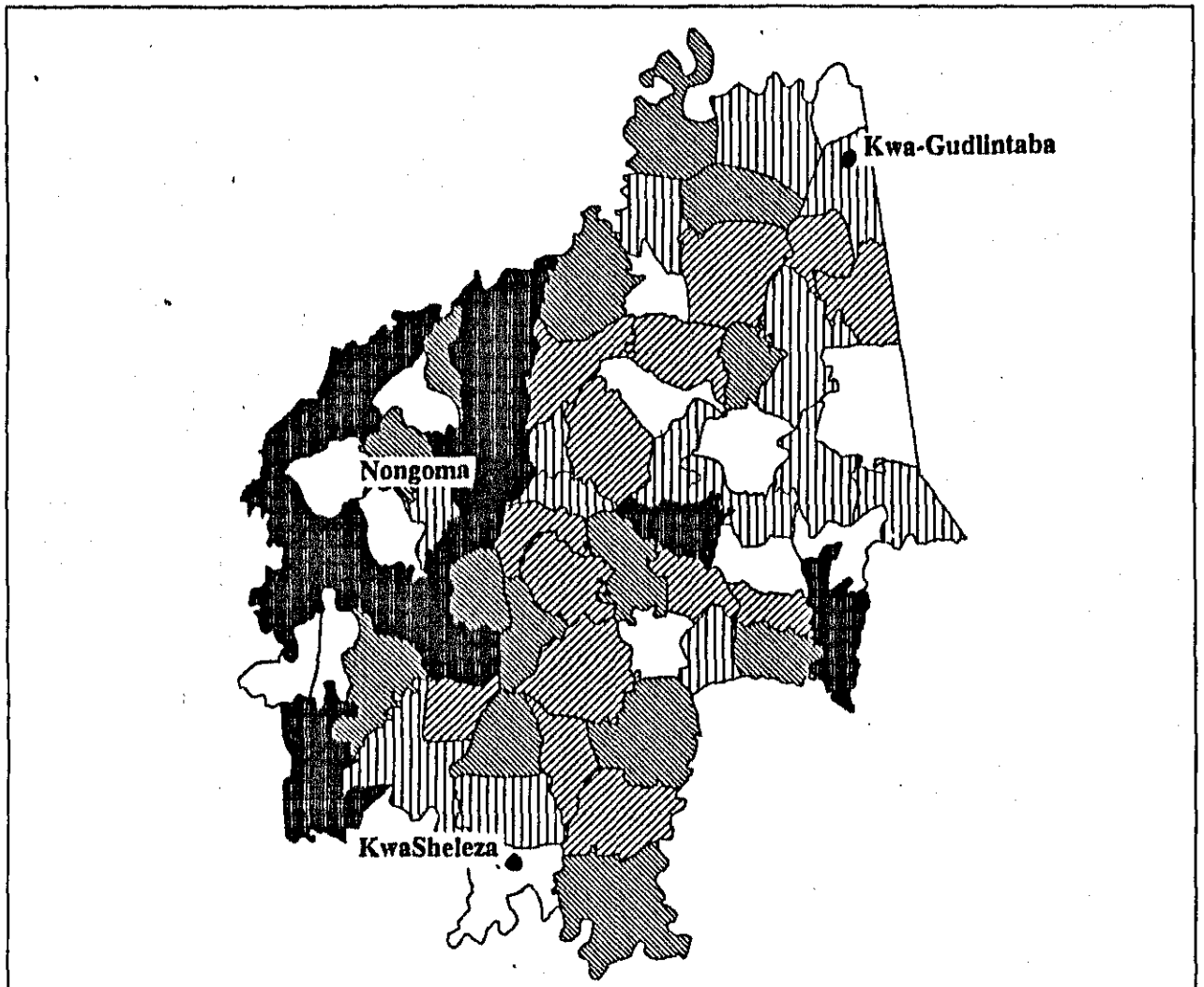
Source: 1991 Population Census.

3.5 Household Income and Expenditure

It was mentioned in Chapter 1 that a number of studies were conducted on household incomes and expenditures to determine the level of poverty. It was also stated that, as a measure of poverty these indicators vary from place to place and from time to time. The nearest such study to Nongoma in spatial terms was done by May and Peters (1984) at Mabongolwane. Based on an average household size of 8 people, this study found that wages were the most common source of income, but that the *per capita* income was far lower than the expected expenditure. Owing to the big gap in time, the actual figures obtained in this survey are now outdated. A recent yet spatially distant survey carried out at KwaMakhanya in KwaZulu/Natal found that an average household size of 8 people needed at a minimum income of R7 997 (Levin & Weiner, 1994).

FIG. 3.7 NONGOMA

Economically Active People by E.A.



Legend

- 14 to 87
- 87 to 135
- 135 to 221
- 221 to 326
- 326 to 832

Km

0 10 20

3.5.1 Income level at Nongoma

Associated with the serious problem of unemployment is the very low *Per capita* income in Nongoma (Fig. 3.11). The people with a higher *per capita* income are concentrated in a few areas near the town of Nongoma, and are largely engaged in the service sector (Fig. 3.11). During the questionnaire survey many respondents in the area indicated that they get income from a variety of sources such as production, remittances, pension and welfare payments, formal and informal employment and very few mentioned maintenance payments. Out of these sources, old age pensions were said to be an important source of income for many households. Low agricultural productivity results in inadequate income which is one of the causes of poverty. These conditions are prevailing in Nongoma. That may be the reason why when respondents were asked if they would like their sons to work in farms or towns, 62 percent of the total preferred towns. In other words jobs are their top priority. This alienation of the innovative as well as active young human resources from the land is detrimental to agricultural production in the area, and it contributes towards poverty.

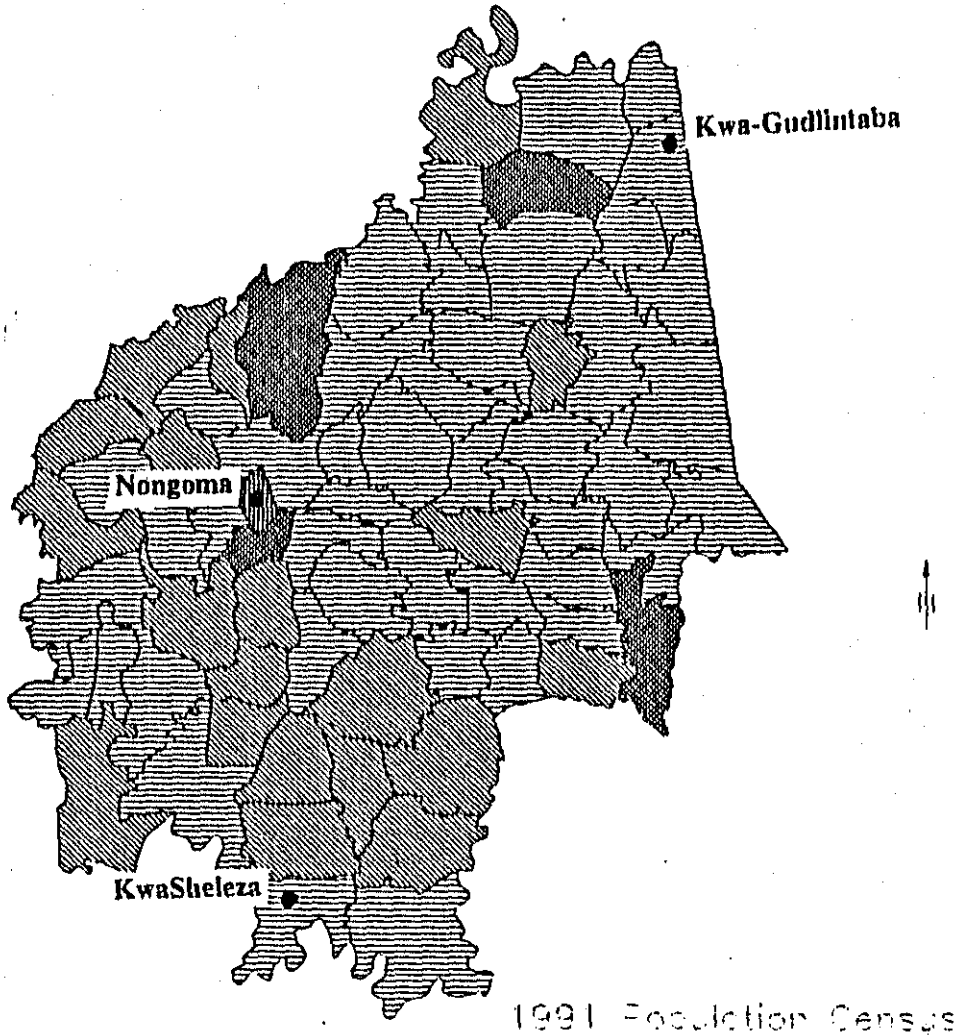
3.5.2 Household Expenditure

The total household expenditure on food for the whole sampled population averaged R350 per month, i.e. about R4 200 per annum. The total of fifty one percent of the respondents pointed out that their most significant item of expenditure was food. The expenditure on food was followed by clothing then

FIG. 3.8

NONGOMA

Total People Earning Money per EA



Legend

- 58 – 920
- 921 – 1680
- 1766 – 2440
- 2441 – 3200

0 10 20

FIG. 3.9

POPULATION DISTRIBUTION BY MAJOR OCCUPATIONS

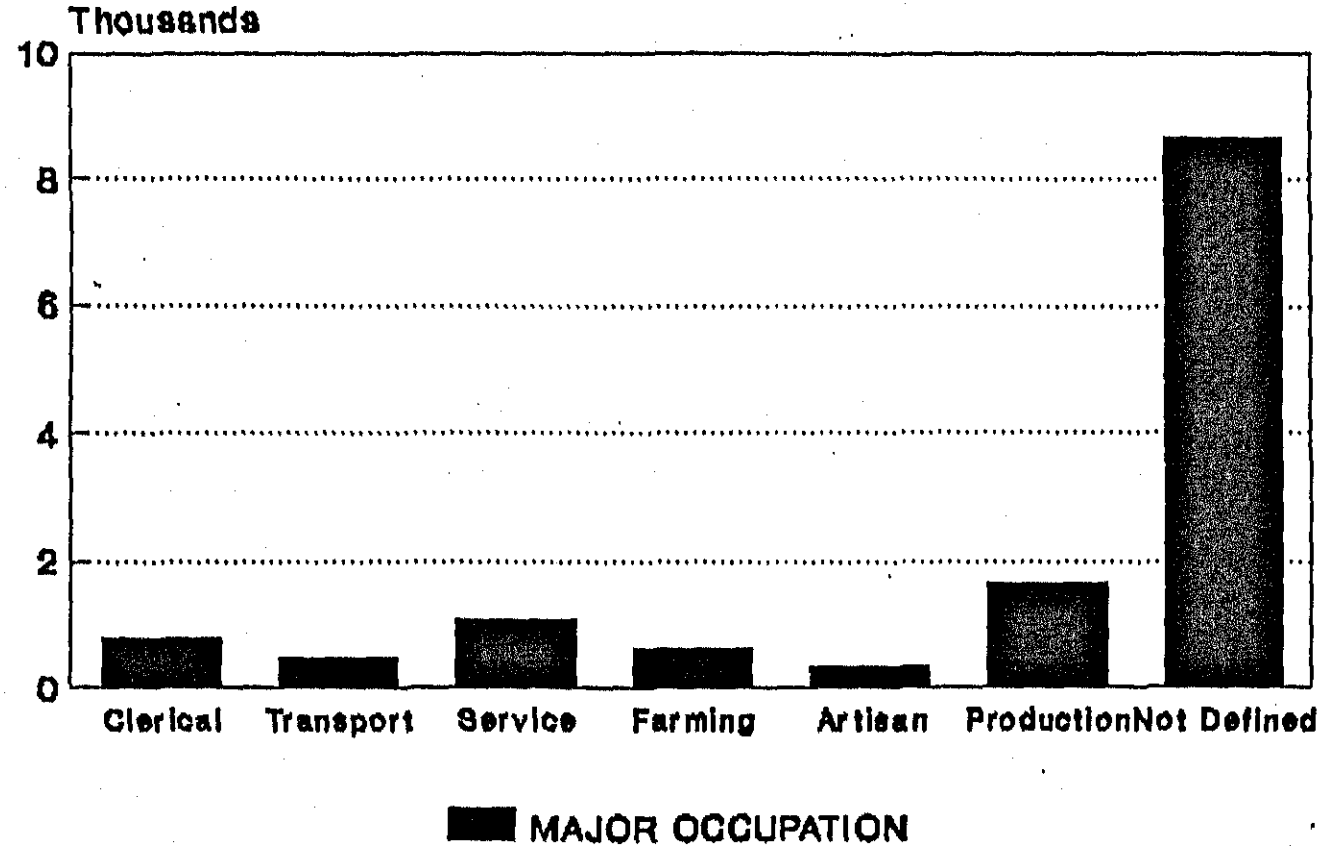


FIG. 3.10

NONGOMA

Major Occupations per EA

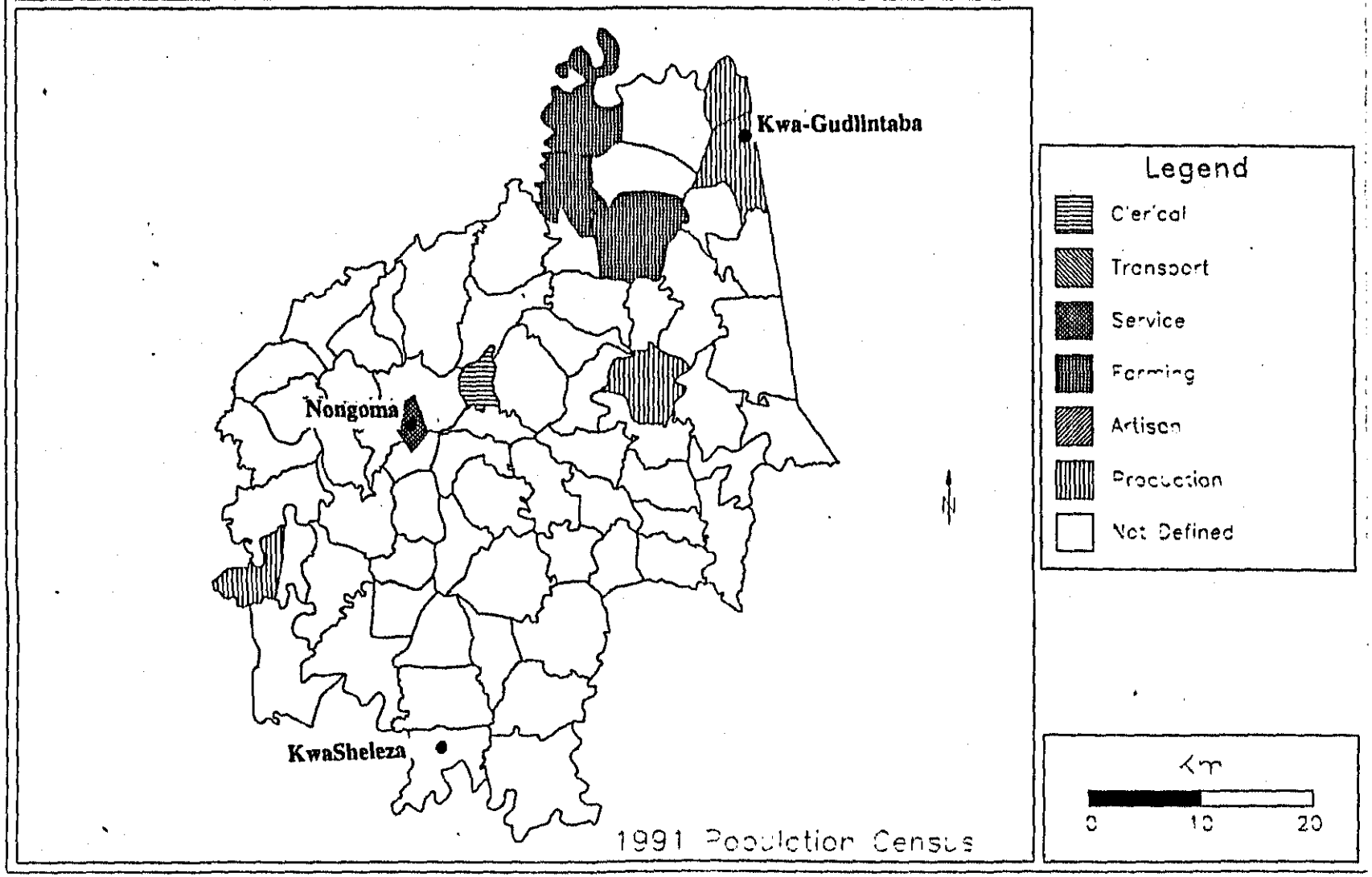
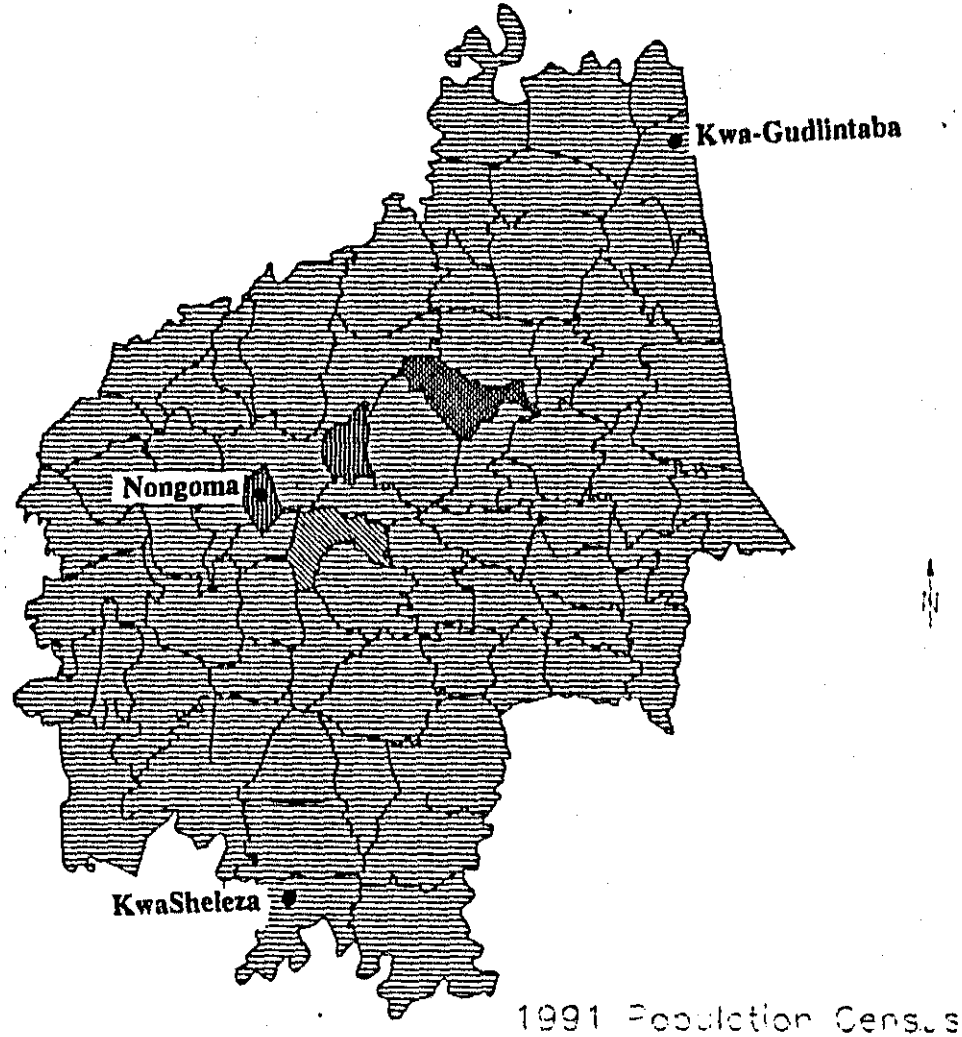


FIG. 3.11

NONGOMA

Per Capita Income per EA



Rands per Annum

0 – 1250

1251 – 2490

2491 – 3724

3724 – 5000

Km.

0 10 20

Table 3.6 Household Expenditure on Food

Amount in Rand Per Annum	Number	Percentage
200 - 300	12	34,0
301 - 400	14	40,0
401 - 500	2	5,0
501 and more	5	14,0
Not sure	2	5,0
Total	35	100,0

From Table 3.6 it is clear that about 40 per cent of the people in the area spend between R301 to R400 per annum on food. Only 14 per cent of the respondents indicated that they spent above R500 and two percent said they were not sure of the amount they spent on food. In terms of the current high food prices, this figure indicates that it is items of low level of nutrition that are purchased.

It was further highlighted during the interviews that the amount spent on food augmented what has been obtained from agriculture.

Table 3.7 Household Expenditure on Education

Amount in Rand Per Annum	Number	Percentage
Not sure	4	11,0
10 - 600	13	38,0
601 - 800	10	28,0
801 and above	6	18,0
No children at school	2	5,0
Total	35	100,0

Table 3.8 Total Annual Household Expenditure

Item	Expenditure (R)	% Expenditure(R)
Education	800	9.5
Transport	1 200	14.3
Food	4 200	50.0
Fuel	500	6.0
Clothing	1 000	11.9
Health care	600	7.1
Ploughing	100	1.2
Total	8 400	100

Most people in the study area spend between R10 to R600 per annum on education of their children. Only eighteen percent reported that they spend above R800 on the education of their children.

The total average household expenditure in Nongoma is R8 400 per annum (Table 5.4). Considering that only 9 percent of the working population of Nongoma earn more than R15 000 per annum, and that the *per capita* income is only R456 per annum, many people are living below the bread-line.

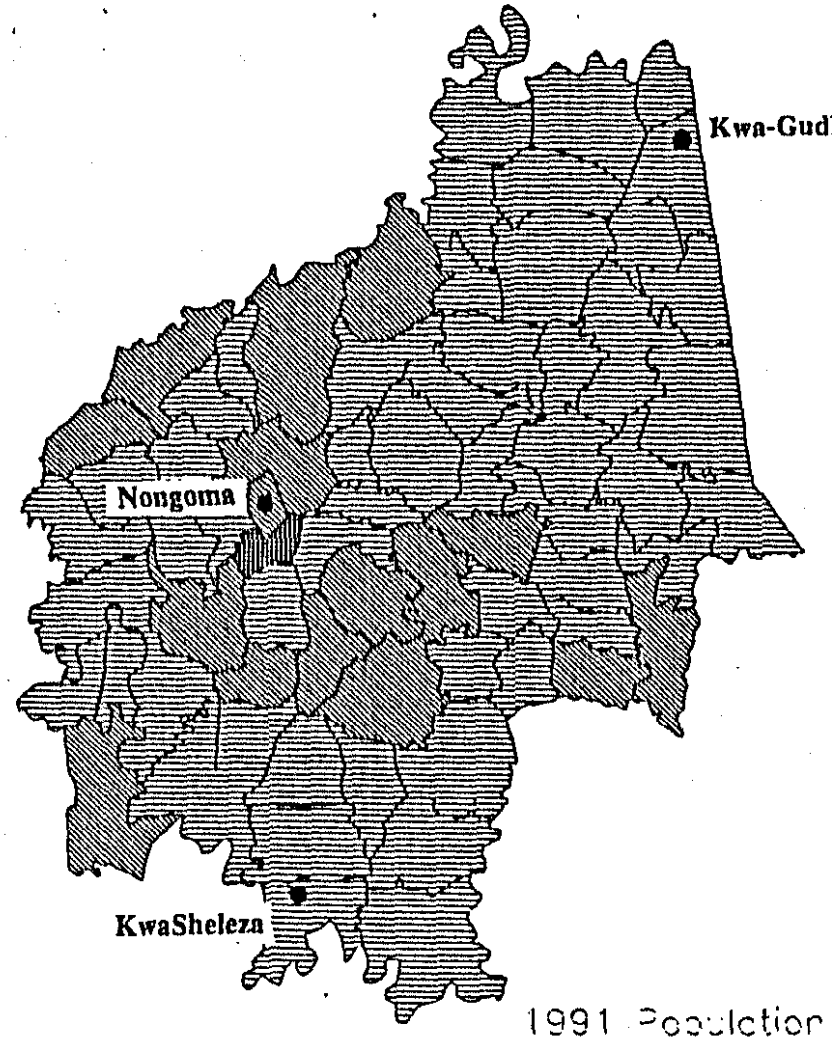
3.6 The Level of Literacy

According to the 1991 population census figures only 27270 adults (i.e. 16 per cent of the 18-64 age group) have reached standard 4, and only 6853 (i.e. 12 per cent of the total adult population) have reached standard 10. Of the latter figure, 4050 (59 per cent) were Females, which means that the females are more educated than the males (Table 3.7). This is related to the fact that, due to financial circumstances, the males are obliged to leave school at an early age to join the labour force. It is also related to the fact that the young males spend more time tending livestock while the girls go to school. The more literate people are confined to the areas around the town of Nongoma where most of the schools are situated (Fig. 3.12 and Fig. 3.13). It can thus be concluded that the level of education in Nongoma is low. This can be associated with poverty and the low productivity in the area.

FIG. 3.12

NONGOMA

Total Adult Literacy (Std. 4) per EA



1991 Population Census

Legend

43 - 536

537 - 1038

1039 - 1524

1525 - 2020

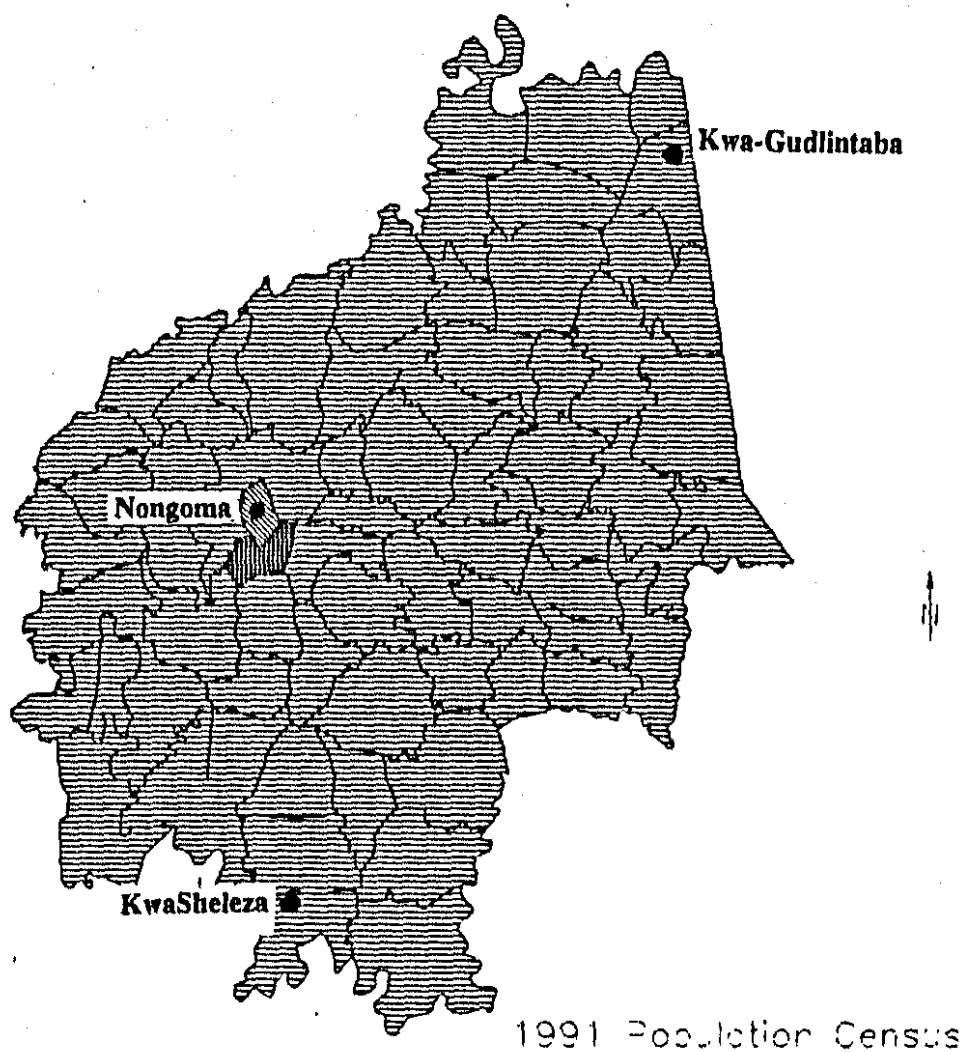
Km

0 10 20

FIG. 3.13

NONGOMA

Total Adults with Standard 10 per EA



Legend

- 1 - 369
- 370 - 737
- 738 - 1105
- 1106 - 1475

Km

0 10 20

Table 3.9 Literacy (based on 18-64 Year Age Group)

Std of Education	Male		Female		Total	
	No.	%	No.	%	No.	%
At least std 4	10723	39	16547	61	27270	100
At least std 10	2803	41	4050	59	6853	100
Total	13526		20597		34123	100

Source : 1991 Population Census

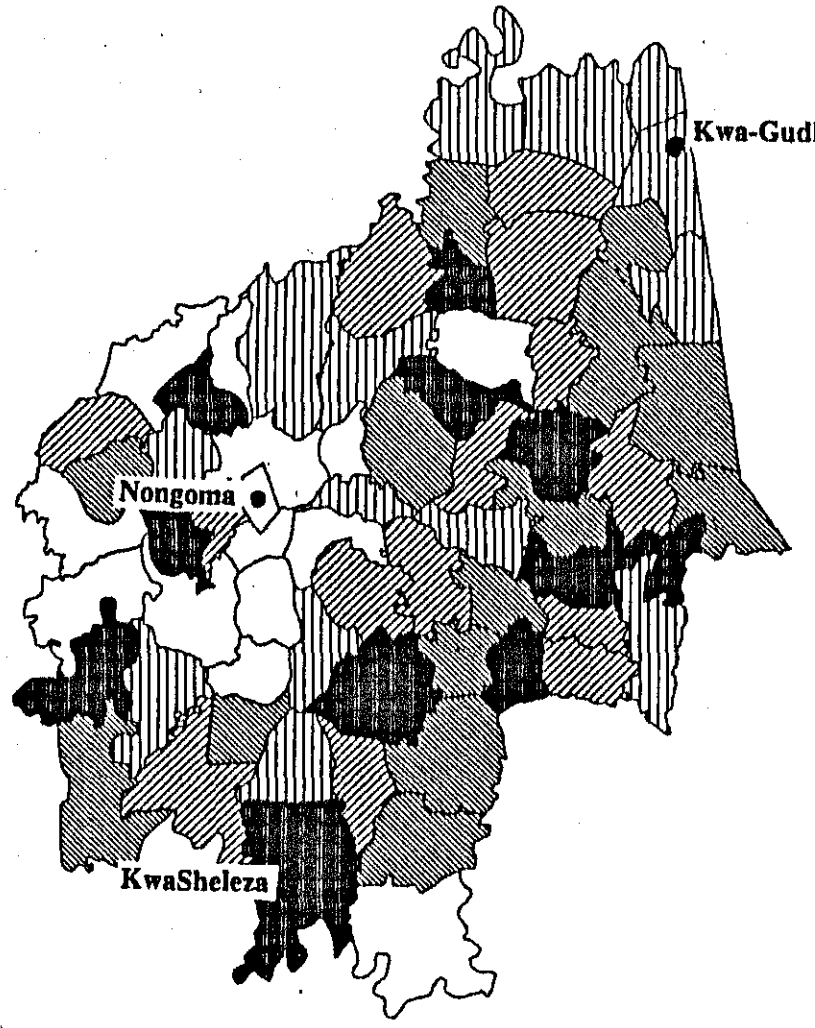
3.7 The Dependency Ratio in Nongoma

The average dependency ratio in Nongoma is 1:16. There is discernable spatial differentiation in the level of dependency which ranges from 1:1 to 1:79 (Fig 3.14). Whereas the areas around the town Nongoma have a lower dependency ratio, they are more literate and have higher income. The opposite is true of many of the remote rural areas. Considering that only 2 per cent of the economically active population earn above R15 000 per annum or R1 250 per month (Table 3.5), it can be concluded that the earnings in Nongoma do not meet the needs of the residents. It now remains to be seen whether, in the absence of cash income, agriculture provides an alternative means of livelihood for the residents. Otherwise it can be concluded at this stage that there is extensive poverty in Nongoma.

FIG. 3.14

NONGOMA

Dependancy Ratio by District



Legend

- 1.126 to 7.272
- 7.272 to 9.621
- 9.621 to 13.451
- 13.451 to 21.947
- 21.947 to 79.333

Km

0 10 20

3.8 Overpopulation in Nongoma

From what has been discussed above, it is evident that the number of people in Nongoma exceed their earning capacity. There are few paid jobs and the people are not well educated or trained. This situation is exacerbated by the rapid increase of population. It could thus be stated that there is overpopulation in Nongoma. This is further evidence that there is poverty in Nongoma. The conclusive proof of this will be arrived at after the examination of the role of agriculture on the well-being of the residence.

3.9 Population Migration in Nongoma

"Poverty stimulates the search for additional source of income and makes people willing to do things they may previously have avoided" (Wilkinson, 1973 p. 5). It has already been indicated in the discussion of the employment situation that many unemployed people in Nongoma earn money from informal occupations such as petty commodity production. One way out of misery for the these people is migration. Owing to the numerous restrictive colonial and apartheid laws, however, many people in Nongoma have not been able to relocate to other areas. The only form of migration common in the area is migrant labour. The oscillation of labour from Nongoma to the mines and industries of South Africa has been going on since the nineteenth century. Although remittances from the migrants have been of assistance in alleviation destitution and hunger among the rural households, the migrants earned so little that few have been able to accumulate surplus from

their earnings. This has resulted in the perpetuation of the system as generations after generations of the young and able-bodied young males drop out from school to join the system with the same objective of alleviating hunger at home.

About 58 percent of respondents indicated that two to four family members were migrants and forty percent have above five family members who are away for employment and three percent reported above eight migrant workers.

Table 3.10 Reported Migrants

Sector	Number	Percentage
Commerce	3	9,0
Industry	10	29,0
Mining	17	48,0
Services	5	14,0
Total	35	100,0

Table 3.8 shows that 48 percent migrant workers in the study area were employed in the mines, 29 percent in industries, 5 percent were engaged in services and the remaining 3 percent were employed in the commercial sector. The system of migrant labour has a strong impact on decision making within the household. Women who are left to run the household in the absence of the male head may not

feel able to act independently of their husbands (Sharp & Spiegel, 1990). Further, a *de facto* female head is acutely aware of the fact that her husband is the head of the household and any decisions which involve large investments must be made by him (James, 1992). The respondents in the study area have provided evidence of the conflict which arises as a result of this situation, which counter-productive in agriculture.

The low level of literacy among the economically active age group referred to earlier in this chapter is further evidenced by the high percentage of respondents employed in mining industry. This category of workers is also one of the lowest paid. This contributes to the low level of total income and low *per capita* income in Nongoma.

3.10 The living conditions are poor

Although there are many streams passing through Nongoma, there is shortage of water resources for agriculture and domestic use. this is largely because there is little irrigation going on. The rural residents have to travel long distances, and spend a lot of time, to fetch water. Since water is needed for washing cooking and drinking, the lack of free access to water resources makes the living conditions to be below average. The residence also have difficulties of access to energy resources. The common source of energy are firewood, paraffin and gas. Like water, firewood has to be fetch from long distances, and the sources from which it is fetched are getting depleted. Gas and paraffin are also increasingly becoming

expensive for the average household. The cost of operating appliances such radios, television, refrigerators and cookers by means of batteries, gas or paraffin is thus high, and few rural households can afford it. It is only recently that there is an attempt to install electricity in some villages of Nongoma. On the whole the difficulties of access to fuel resources lowers the standard of living of the people.

Road are poorly developed and access to social-economic facilities such as schools and health services is poor. Furthermore, the quality of education in the schools accessible to the poor is not high.

The poor also lack affordable basic health care; over a quarter seek no treatment because they cannot afford it, or there is no transport, or they cannot take the time off work needed to travel vast distances for treatment.

3.11 There is food insecurity in Nongoma

Food security is the access by all people at all times to enough food for an active healthy life (World Bank, 1986). food insecurity therefore means the inability of the people to acquire food. It stands to reason that poor people are vulnerable to food insecurity. As it was a explained in Chapter 1, poverty can either be chronic or transitory. So also can food insecurity be either chronic or transitory.

3.12 Conclusion

It has been ascertained in this chapter that Nongoma is populated by an ethnically homogeneous population of a traditional, conservative and patriarchal Zulu culture. The traditional way of living is through agriculture. It has, however, been found that there is high population densities in the area which is not in accordance with normal expectations in predominantly rural areas. It has been determined that there is little cash income from non-agricultural sources, and that the dependency ratio is high. The population experiences difficulties in accessing water resources, food, health and education facilities. The living conditions of the people are less than average. The conclusion to be drawn from this is that there is poverty in Nongoma. This finding will be conclusive if it is found in Chapter 4 that, agriculture, which is the only other source of livelihood for the area in inadequate.

CHAPTER 4

RELATIONSHIP BETWEEN POVERTY AND RURAL LAND USE IN NONGOMA

4.1 Introduction

In the previous chapter it was ascertained that there is widespread poverty in Nongoma. The indicators of poverty used for identifying the existence of poverty were mainly based on the modern concepts of economic characteristics, which pivoted on monetary values. The factors examined thus included income and expenditure, as well as the different variables associated with these factors. In terms of these measures it was determined that the majority of the people at Nongoma were not able to satisfy their basic needs. It was pointed out, however, that Nongoma was predominantly rural and, since rural people depend largely on the land for their livelihood, it was essential to examine the extent to which their needs were satisfied from rural land use before a final conclusion could be drawn on the level of poverty in the district.

Chapter 4 is an analysis of the use of the land for agriculture in Nongoma. The aim of the discussion is to determine the extent to which poverty was related to peasant land use in Nongoma. The discussions are based on the following hypotheses :

4.1.1 There is insufficient land for all the peasants in Nongoma

4.1.2 There is inefficiency in the use of the land

4.1.3 There is overgrazing in Nongoma

4.1.4 Agriculture does not provide food security in Nongoma

4.2 The Current Man-land Ratios in Nongoma

The possession of sufficient land is essential for the survival of an agricultural society. Before examining how the peasants in Nongoma used the available land for agriculture, it is necessary at first to determine how much land is available for their use. Table 4.1 gives a breakdown of the land use in Nongoma.

Table 4.1 Potential Rural Land Use in Nongoma

Land use Category	Size (ha)	Size (%)
Arable	6 451	2,9
Grazing	192 640	86,0
Forestry	269	0,1
Non-agricultural	24 640	11,0
Total	224 000	100

Source : Development Bank of Southern Africa (DBSA), 1988.

The bulk of the land (about 86 percent) in Nongoma is classified as grazing, and only 2,9 percent is potential arable land. This alone indicates the shortage of land for crop raising. It was indicated in Chapter 2 that the terrain of Nongoma was rugged and that it was characterised by weakly developed, low potential soils. The potential for agriculture was further weakened by aridity. The limited areas of high potentiality in crop raising are further diminished by the competing interest of human settlement. The plains and valleys which are suitable for crop raising also attract residences, which diminishes their potential use for the important task of the raising of food crops.

It was stated in Chapter 3 that the average population density in Nongoma was about 77 people per square kilometre. Given that there are only 6 451 ha of arable land, the average density on arable land is about 26 people per ha of arable land. This is very critical when considering that the peasants do not have access to irrigation in this arid land and that their yields are low.

Assuming that this arable hectarage is all available for peasant agriculture, the average size of land that each peasant homestead possesses is only 0,4 ha. Considering that the major crop produced on this land is maize, it is clear that there is insufficient food produced from agriculture by each household. Without sufficient production of food from agriculture, and with little income from off-farm sources, it can be concluded that there is poverty in Nongoma.

Land classified as grazing is actually unusable land, also termed veld. It is land that

is either too rugged, arid, stony, woody, marshy or just degraded. The main reason why it is termed grazing land is that livestock have free access to it. Some people also call it rough grazing land to distinguish it from pasture. On such land there is not much scope for crop raising, even though peasants may at times be compelled by landlessness to eke out an existence from such land. The consequences of such desperate action is the acceleration of the erosion process with little or no harvest.

4.3 Land Use Efficiency

The size of land *per se* is not so crucial to agricultural productivity. What really matters is the way in which the available land is put to use. For instance the choice of crop, seed, fertilizers etc. are all important in stretching the productivity of the land. Even the choice of agricultural activity is important. Poultry, for instance, may in certain circumstances be a better option than the raising of vegetables on a garden.

The concept "efficiency" does, of course, have different connotations. Lipton (1993), who advocates the idea of smallholder production, sees production efficiency in terms of inputs against outputs. To him the smallholder is more efficient in resource efficiency (i.e. inputs per output) than the large scale producers. Efficiency can also be viewed in terms of land efficiency (i.e. yield). Due to the legacy of Apartheid which has marginalised peasant agriculture in South Africa by denying it the necessary inputs such as irrigation, the concept of resource

efficiency can hardly be considered in the case of Nongoma. What is considered in this discussion is land efficiency, that is production per unit land. There are a number of constraints to land use efficiency in Nongoma. These include the geomorphological, soil, climatic, and socio-economic constraints.

4.3.1 Geomorphological constraints

Steep slopes present a major physical constraint to the cropping systems in the area. Crops grown in the area are annuals with the predominant crop being maize. Efforts to intensify the production of annual crops in the survey area must aim to increase yields of potentially arable land so as to reduce the need to cultivate on steep slopes. The researcher envisages a gradual process in this regard rather than a radical restructuring of the farming system throughout the district. During the interviewing session many respondents expressed fear that the survey was preliminary to resettlement and it is certain that such a project would be met with great resistance.

Many households cultivate the land directly below their cattle kraals where the slopes are usually steep. They do this because of the availability of cattle manure that causes relatively higher yields in these fields. These slopes are, however, susceptible to erosion unless conservation measures are practised. Although some peasant farmers in some areas within the district have achieved a remarkable degree of contouring with their ox-ploughs, this process is extremely laborious and inefficient. It is thus unlikely that soil erosion can be controlled efficiently by its

continued use.

4.3.2 Soil Fertility

Low soil fertility, which was discussed in Chapter 2, is linked to the presence of witchweed which also significantly reduces productivity especially that of maize. Crop yields show significant response to the application of organic fertilizer. Limited amounts are spread by hand by most farmers in the area. Mineral fertilizer is seldom used, or is used in insufficient amounts and only after considerable soil depletion has already taken place. Crop yields can, however, not be greatly improved without the use of mineral fertilizer.

It is the researcher's opinion that farmers in Nongoma have in the past been discouraged by an apparent low agricultural productivity for quiet a long time. Fertilizer may have been applied too thinly if any or washed away on steep slopes or even the wrong mixture may have been used. Other influencing factors, weeding in particular, may have become limiting once soil fertility had been corrected giving the false impression that fertilizer was ineffective.

4.3.3 Climatic Constraints

In Chapter 2 it was demonstrated that the rainfall in Nongoma is both insufficient and erratic for most parts of Nongoma. The net result is that Nongoma is semi-arid as portrayed by the Bio-climatic map (Fig. 2.). For agriculture to thrive under these

circumstances would require extensive irrigation. The peasants can, however, not afford to practise irrigation. The inability of the peasants to deal with the aridity of the land thus presents one of the biggest handicap to their productivity.

4.3.4 Socio-economic Constraints

Lack of capital to purchase agricultural inputs such as fertilizers, seed, implements, etc. is one of the limiting factors in land use efficiency among the peasants in Nongoma. It was indicated in Chapter 3 that there is very little cash income generated by the peasants in Nongoma. The environment in which they operate, on the other hand, is so harsh that only through extensive use of capital inputs such as irrigation and fertilizers can there be significant improvement in land use efficiency.

Capital inputs are themselves dependent on the creation of economies of scale. The small allocated landholdings of most peasants do not allow for the creation of such economies of scale. The system of land allocation together with the tribal land tenure system prevailing in Nongoma are some of the social constraints that limit the application of advanced methods of farming. The cash resources of most peasants are derived from meagre resources such as remittances, pensions and welfare payments, low income formal and informal employments, and maintenance payments. Such income is usually sufficient to meet only immediate family needs such as food, health and education, and do not provide capital for investment in agriculture.

Income from peasant farming in the area was reported to be very low. This has been confirmed by the fact that 80 percent of respondents indicated that they get more income from other sources than from agriculture. Only 20 percent agreed that they get more income from agriculture and this correlates with few educated farmers in the area. Low agricultural income is related to low agricultural productivity, and low agricultural productivity results in inadequate income which is related to the prevailing poverty in Nongoma.

Mbatha (1983) argues that education is of the vital components of man's requirement to prepare himself for his meaningful future. Bembridge (1983) also assert that education has relationships with farming progressiveness mainly because there is a possible correlation between education and the adoption of improved practices and hence farming efficiency. It is sometimes true that illiterate people generally have weak attitudes which are difficult to change. Beno (1976) regards education as a provident man's required skills, knowledge and competence in fulfilling a cultural as well as social function. In the light of this statement, problems such as education may have greater priority than agriculture, particularly as the potential for agricultural production is not very high in the study area.

It was demonstrated in Chapter 3 that the level of education, especially among adult population, in Nongoma is far from adequate. More than half of the respondents had either no education at all or insufficient formal education to ensure that they retained an adequate degree of literacy. Such low levels of education in

the area can be expected to lessen access to both job opportunities and job expectations, and thus also lessen potential wages remitted. This has a negative economic impact on the rural households, and further diminishes the chances of improvement in agricultural productivity.

As there is a serious problem of unemployment throughout the district, there is high level of absenteeism especially among the male. This phenomenon is highest in the forty to forty five year age group. The absence of male household heads results in high rate of females in the study area acting as *de facto* heads of families. Migrant labour has a strong impact on decision making within the household since women who are left to run the households in the absence of the male heads may not feel able to act independently of their husbands. The respondents in the study area have provided evidence of the conflict which arises from this situation. This situation may be partly related to the efficient land use in Nongoma.

4.4 Peasant Land Use in Nongoma

Table 4.1 shows that there are only four land use classes in Nongoma. Forestry is limited to small areas in the north-east of Nongoma, and is not a peasant system of land use. Peasants are engaged only in the cultivation of crops and livestock grazing.

4.4.1 Peasant Methods of Crop Cultivation

Peasant cultivation in Nongoma is mainly for household subsistence. The crop largely grown is maize, a staple food crop. A variety of other crops are grown. Beans are second to maize in popularity. Pumpkins, calabashes, sweet potatoes, sweet sorghum and sorghum are frequently intercropped with maize with increased density in the fertile soil below cattle kraals. Intercropping maize with beans and pumpkins is widely practised throughout the area. Crop rotation is hardly practised. The crops grown in the study area are given in Table 4.2.

Table 4.2 Types of Crops Cultivated in the Area

Crop	Number	Percentage
maize	10	29,0
beans	2	5,0
sorghum	-	-
maize, beans and pumpkins	20	57,0
maize and sórghum	3	9,0
Total	35	100,0

Some respondents mentioned that they begin to harvest green mealies as early as the end of December, though other begin in early January. It is the custom in the

area to pick green smaller cobs. Normally a full 50 kg bag is picked once a day depending on the number of family members present at home. The harvest of green mealies ceases up when cobs become dry; followed by the task of harvesting dry cobs which involves the harvesting of the whole field.

Crops inter-cropped with maize are harvested after maize has been harvested in winter, these are: potatoes, sweet potatoes and madumbes which are left in the soil until they are needed.

The respondents reported that some fields are planted late so as to provide fresh cobs late in the season. It was said that most of the yield from these fields is harvested while green.

The smaller dry cobs are normally chosen for crushing into samp, mealie-rice and maize mealie. Partially rotten cobs are usually shelled and fed to poultry.

It was also mentioned that largest cobs were separated and hung along the roof of a hut usually above the fire place to be used as seed in the next season.

Land preparations begin in winter when kraal manure is carried to the fields and spread over the soil after being deposited in heaps of bout five metres apart. The preferred site for a field in the area of study is directly below the cattle kraal where crops get an abundant supply of kraal manure through rain water run-off. Other preferred sites for cultivation as mentioned by respondents were fertile places such

as abandoned huts' sites. These fields together with those below cattle kraals were however difficult to protect against domestic animals.

Large proportions of the fields in the study area are planted in September and October depending of course on rains.

Respondents also commented that rain sometimes falls very late thus delaying planting for about a period of one month or more.

In ploughed fields, maize seed, often mixed with sweet sorghum is planted directly in the furrow behind the ploughshare. The furrow is then closed by the action of the plough on the return run.

In hoed fields the most common method of cultivating was to dig holes spaced at regular or semi-regular intervals apart, then dropping two to three maize seed per hole. Respondents reported that the preparation needed for sweet potatoes is more intensive where land is prepared in ridges. Madumbes which are also a common crop in the area are planted in September and the respondents mentioned that madumbes need moist sites.

Beans are intercropped with maize and planted a couple of weeks after the maize plants emerged. A second planting of beans occur in January to March normally in pure stands. The respondents pointed out that they believed that beans planted in late summer perform better than those planted in spring. This is commonly

practised by the population as groundnuts and jugo-beans are planted in summer.

4.4.2 Energy Resources For Agriculture

The survey indicated that most residents used oxen or hand hoes, and that only a few used tractors. Even those who do not have cattle preferred to hire oxen than tractors, the reason being that oxen were cheaper. This is also related to the low level of income in the area. There is also a feeling among the residents that since they had small pieces of land, it was uneconomical to hire a tractor because production obtained would not recover the cost of the tractors.

Table 4.3 Source of Draft Power for Ploughing

Source	Number	Percentage
hand hoe	4	11,0
own oxen	21	60,0
hired oxen	5	14,0
hired tractor.	3	9,0
own tractor	2	6,0
Total	35	100,0

Table 4.3 shows that 60 percent of respondents indicated that they use their own

oxen for ploughing. This indicates a very high degree of primitive methods of ploughing in the study area. 11 percent used the hand hoe, and the explanation for this was that they did not have money to hire oxen or tractors. Others stated that the hired implements did not always arrive on time, and to avoid late ploughing they decided to use hand hoes. Of those who used tractors, 9 percent used hired tractors from nearby White farmers, and only 6 percent indicated that they used their own tractors.

From the above data it can be concluded that three kinds of cultivation tools were commonly used in the study area, namely oxen, hand hoe and tractors. Of the three, oxen were the most commonly used. Even the peasants who did not own cattle preferred to hire oxen than tractors because of affordability. There is thus less mechanisation, and more use of cattle drawn implements, which may be economically efficient but slow.

4.4.3 Fallowing of Land

Since the crops are rainfed, cultivation is largely dependent on the weather conditions. During droughts there is hardly any cultivation of crops. Hence, not all respondents indicated that they cultivated their lands annually. The most frequent reason for the non-cultivation of land was that the households no longer owned as many oxen as they used to. They stated that many oxen died during the 1982 drought. Other reasons included a shortage of labour, discouragement due to disease and floods, drought and shortage of inputs/money. The distance

between homes and fields was also reported to be a problem among the respondents; 22 percent pointed out that it takes more than forty minutes to reach their fields. Only 25 percent of respondents indicated that they cultivated all the land available to them annually. There were some, about 5 percent of the sample, who mentioned that they had no agricultural fields at all.

Table 4.4 Fallowing of Fields Before Sowing

Period	Number	Percentage
Do not fallow	19	54,0
2 weeks	4	11,0
3 weeks	4	11,0
4 weeks	1	4,0
5 weeks and more	7	20,0
Total	35	100,0

A Large number of peasants in the study area do not till their fields before they sow. The explanation for this was centred around the shortage of income to pay for labour in the form of a hired span of oxen or tractors.

The average of 11 percent of respondents admitted that they tilled their fields before ploughing, but they varied in terms of the length of time they left their fields

fallow after tillage. When asked by interviewer why left their land fallow, they stated that they did that specifically to improve the soil fertility of their fields. This shows that the peasants are knowledgeable about the use of the soil in agriculture.

It was noticed during field work that some people in the area had left their lands fallow for several years. The most frequent explanation for this was that the family no longer owned as many oxen as they used to. Others were reported to have stopped cultivating their fields because of low yields which they attributed to drought and poor soil fertility. This explanation is contrary to the idea of underutilisation of land alleged by some authors (Weiner & Levin, 1991).

4.4.4 Application of Agricultural Inputs

Agriculture is a man-made ecosystem that, unlike natural ecosystems, requires frequent maintenance by artificial means. Without the artificial means of maintenance agricultural crops (in their artificial environments) are susceptible to failure.

4.4.4.1 Fertilizer Inputs

The application of chemical fertilizer among the peasants in Nongoma is rare. The households in the area used fertilizer only after considerable depletion of plant nutrient had taken place (measured by low production) and that fertilizer was not used in quantities sufficient to improve soil fertility.

The peasant farmers preferred to use the freely available cattle manure. Some of the farmers argued that their soil was naturally fertile and needed no fertilizers. In actual fact it is the presence of cattle manure that they are referring to. The most preferred position for fields in Nongoma is that directly below cattle kraals where an abundance of kraal manure is continually being supplied to the soils by run-off during the rainy season. Use is also made of fertile patches of soil found in abandoned sites of ruined huts.

Table 4.5 Types of Fertilizer Used

Means of Fertilizer	Number	Percentage
kraal manure	10	28,0
crop residues	4	12,0
mineral fertilizer	9	26,0
none	12	34,0
Total	35	100,0

According to Table 4.5 about 34 percent of the respondents used no fertilizers in their fields; 28 percent transported kraal manure to the fields, while 12 percent indicated that they did not feed livestock with residues but used them as fertilizer.

Only 9 percent used mineral fertilizers.

4.4.4.2 Seed Inputs

The use of purchased seed appears to increase yields considerable. However, data collected from the study area show that most of the peasant farmers in the area did not often purchase seeds. They only do so when an insufficient quantity remained from the last harvest. Introduction of new seed should however proceed with caution. A mixture of traditional and purchased seed may be the most suitable. Rural communities preferred to use the traditional varieties of seeds, and those who buy seed one year may be obliged to sow a portion of the yield the

Table 4.6 Sources of Seed

Where Obtained	Number	Percentage
Agricultural Officers	2	6,0
last harvest	19	54,0
merchants	4	11,0
friends/relatives/neighbours	10	29,0
Total	35	100,0

following year. The traditional variety is then eaten green with a potion kept for

resowing. This is repeated for several years thus contributing to low productivity. This practice is related to the lack of extension services in the study area.

The data in Table 4.6 shows that 54 percent of the peasants used part of the previous year's harvest as seeds. 29 percent indicated that they obtained seeds from friends, relatives or neighbours. 11 percent mentioned that they purchased seeds from merchants and only 6 percent obtained seeds from the Agricultural Officers. This analysis shows that only 17 percent of the population in the district used approved seeds and the rest used traditional seeds. This shows the vulnerability of the study area to low agricultural productivity and poverty.

Table 4.7 The Use of High Yielding Variety (HYV) Seed

Manner	Number	Percentage
always	2	6,0
not always	13	37,0
not at all	20	57,0
Total	35	100,0

About 57 percent of the respondents indicated that they did not use HYV seeds at all. The general explanation for their not using the HYV seeds being that they could afford to pay for them. 37 percent responded that they did not frequently use

HYV, and only 6 percent used HYV seeds. The fact that a large population of the peasant farmers in Nongoma district does not use High Yield Variety seeds diminishes any chances of improving their yield.

4.4.4.3 Irrigation

There are only two known irrigation schemes in the district. The first is the Bululwane irrigation scheme along the Bululwane River which covers an area of 400 ha. It is an agricultural project that is mainly concerned with furrow irrigation of maize and beans. There were about 34 peasant farmers taking part in this scheme (DBSA, 1986). The other is the Mjindi farming irrigation scheme in the Jozini area (Makatini Flats). It was initiated by the South African Development Trust for the purpose of establishing independent farmers, as well as providing training in irrigation farming. It covers an area of 2 782 ha, and each farmer is allocated plots of 5 to 10 ha of land for irrigation. It can thus accommodate about 300 peasant farmers. Considering the total population of Nongoma, it is evident that irrigation has an insignificant effect in alleviating poverty in Nongoma.

4.4.5 Crop Failure in Nongoma

Crops in the area are cultivated under a constant threat of animal and pest damage. The risk of livestock damage to maize increases with late plantings, that is, after December since the crop matured after most families had stopped herding their livestock. The respondents mentioned that fields close to the huts showed some

evidence of chicken and pig damage. Animal damage in the area reduces the motivation to cultivate land. Many households have reported that they had stopped growing crops such as potatoes, sweet potatoes because of this problem. "Once the cobs ripen it is a race between us and the wild pigs" said one of the respondents.

Although losses from animal damage is not extensive in the area, it does reduce motivation to cultivate the land. Many peasants confirmed that they had stopped growing tuber and root crops altogether because of the wild animals. There was also a social cost incurred in herding domestic animals since it was performed by children who should be at school. Since it was not financially feasible for the peasants to fence their fields, animal are likely to remain a persistent cause of crop failure among the peasants in Nongoma.

The most serious pest in maize fields in the study area is witchweed. This is a parasite of maize capable of drastically reducing yields. Damage caused by cutworm is fairly extensive. Other pests and diseases noted in the area do not appear to constitute major problems in as far as peasants were concerned.

Pertaining to the use of pesticides, 68 percent of respondents stated that they did not use insecticides; 5 percent rarely used pesticides, while 25 percent indicated that they used pesticides. The cost factor was mentioned as the cause for the non-use of pesticides, which meant that the peasants were defenceless against insect pests and thus vulnerable to low productivity.

Other common but less regular causes of crop failure among the peasants are drought and floods. Both have occurred frequently during these last three decades and have caused innumerable damage to drops. Drought is particularly devastating, causing a number of peasants to be discouraged from aspiring to become farmers.

4.4.6 Gardening by the Peasants

There are about 30 community gardens occupying an area of 1 147 ha in Nongoma. The number of members of the communities involved is 1 152 and the average plot size is 9 959 m^2. The gardens are situated in the river valleys and about 1 051 ha are irrigated from the adjacent streams (DBSA, 1988). 21 percent of the respondents participated in the cultivation of the gardens. They grow various vegetables, the most popular of which are tomatoes, cabbages and onions. Although it was mentioned that they were partially fenced, a major problem in vegetable growing in the study area is damage by both domestic and wild animals. Others held that even if vegetables were grown near the homesteads, they were destroyed by chickens. Most gardens in the area are situated in valleys and some near streams from where they could be irrigated. The knowledge of vegetable cultivation by the peasants in the study area is poor. They planted at the wrong time, used incorrect sowing methods, and create stressful conditions for the vegetables such as watering very heavily one day and then leaving the garden dry for several days. Yields are thus low, and vegetables do not significantly improve the level of poverty among the peasants in Nongoma.

4.4.7 Livestock Production by the Peasants

Cattle, sheep and goats owned according to a traditional system may be regarded as among the largest resources of income in the rural areas of KwaZulu-Natal. There is, however, an appalling high mortality rate, low production rate as well as low off-take. Such low levels of production are attributed to low levels of management together with the deterioration of the environment. This explanation is justified by empirical data published in the document entitled "KwaZulu Development Information (No. 12, 1990)" which makes special reference to Nongoma District (KFC, 1990).

4.4.7.1 Grazing Land in Nongoma

The vegetation type prevailing at Nongoma is suitable for cattle, sheep and goats although goats do not cope well in waterlogged (wet) areas. There is severe over-stocking that has been going on over many decades. The more recent severe drought conditions of 81/83 has caused further deterioration in veld species in the area. Consequently the carrying capacity of the grazing areas has decreased. Extensive inroads into the grazing lands have also been made by additional allocations of arable land for a growing rural population. The inevitable results of the combination of these various factors together with minimal veld and grazing management has resulted in large stock losses.

4.4.7.2 Livestock Statistics

Table 4.8 shows the amount of livestock production in Nongoma from 1982 to 1988. Looking at this table one could realise that there has been a fluctuation in the number of livestock, and a very slight increase in the total number of livestock kept in the area from 1983 to 1988. There are many contributing factors to this, but the one which was frequently mentioned by respondents during the interviews was drought. Another major reason for low reproduction, high mortality and low off-take can be ascribed to low levels of nutrition due to overstocking, lack of grazing management and practically no supplement feeding. The lack of other management practices such as control of internal parasites also play a role in diminishing livestock numbers.

Table 4.8 Livestock Production

Year	Cattle	Sheep	Goats	Total
1982/83	320 112	4 300	44 205	368 617
1983/84	211 455	6 425	49 320	267 200
1984/85	247 101	3 634	51 121	301 856
1985/86	334 608	3 100	55 000	392 708
1986/87	326 005	2 940	60 111	389 056
1987/88	313 578	2 566	59 601	375 745

Source: KwaZulu Development Information (No. 12, 1990)

Most households own cattle, goats and sheep in the study area. The common livestock in the area being cattle with very few herd of donkeys for ploughing. Although they keep these types of livestock, it was noted that in majority of cases, livestock numbers per household are very low. Explanation for small numbers of livestock varied, with shortage of grazing land indicated as the factor by most respondents.

Table 4.9 Type of Livestock Owned

Type	Number	Percentage
cattle	12	34,0
goats	8	23,0
sheep	5	14,0
cattle and goats	10	29,0
Total	35	100,0

Thirty four percent of respondents own cattle. Twenty nine percent keep both cattle and goats. Twenty three reported that they herd goats, and fourteen percent of the total owned sheep.

The researcher discovered that the animals these people keep are not of good quality, and as a result, their livestock is vulnerable to diseases. Livestock in

Nongoma is kept for various social activities ranging from domestic consumption, lobola, ritual cultural functions to social status. The status of individuals in this area is, in actual fact measured by the number of livestock a person owns.

Four percent of households interviewed, sell cattle as a regular means of income. Sometimes they slaughter the cattle and sell their meat and hides to supplement the household income. One business man in the district buys these hides for his business. Though the income derived from the selling of the cattle and hides is not enough, it does however, help in paying for the children's education.

The period of dipping of livestock in summer takes place every month. This is done because in summer the animals are infested with ticks. In winter this is done once a month.

One major problem cited by respondents was the high level of stock theft in Nongoma.

Whereas the White farmers in Nongoma graze their stock privately in grazing fields that are adequately supplied with water sources by perennial streams and dams, grazing among the peasants is communal and the individual peasant does not have the freedom to practice grazing rotation that is followed by White farmers in the district.

4.4.7.3 Peasant Perception of Livestock Rearing

There are high numbers of livestock kept by residents in the area of study (Table 4.7). The most common being cattle, goats and sheep. Few farmers keep donkeys and gave explanation that they play an important role as drought-animals. Every family in the area has a number of chickens roaming on the ground.

Cattle are regarded by residents as the most important possession. Not only do they provide meat and milk, but they are also used for social functions. They are a yardstick by which the status of a man in the community may be judged. It is for these reasons that all families in the area strive to keep cattle.

Table 4.10 Reasons of Selling Livestock

Reason	Number	Percentage
financial problems	13	37,0
no grazing fields	10	29,0
livestock sick	12	34,0
Total	35	100,0

Very often the peasants have to sell their livestock. 37 percent of the respondents in the study area sell their stock because of financial problems. Those who sell their livestock because of poor quality constitute 34 percent. The remaining 10

percent sell their stock due to lack of grazing land.

Most respondents prefer selling their stock to their relatives or friends. Some sell it to stock farmers and very few sell it to meat producers. 70 percent of these respondents indicated that they get little profit from their sales.

4.5 Food Insecurity in Nongoma

The size of land if effectively utilized determines the volume of production. The bigger the size of land under cultivation the higher the probability of getting more produce. The analysis of data collected from the interviews revealed that the fields allocated to households were not big enough to produce what can meet the basic .needs of the residents. This is directly related to insufficient food production and widespread of poverty in the area.

4.6 Conclusion

In conclusion, it can be inferred that agricultural activities contribute only a small fraction to household income. This may be associated with geomorphological, soil, climatic and socio-economic constraints with which the peasants could not cope due to their weak financial position. It has been further established that there is a lack of technical skill among the residents for the management of a rather harsh environment. The net result is that there is general food insecurity and poverty among the peasants resulting from the inadequacy of agricultural produce.

CHAPTER 5

POVERTY AND THE SOCIAL RELATIONS OF PRODUCTION

5.1 Introduction

There are many groups that are currently interested in rural restructuring and rural development in South Africa. There is thus considerable literature among the social sciences on social relations of production and social differentiation among peasant societies (De Wet and Leibrandt, 1994; Murray, 1993; May, 1987; Rahman, 1986). Most discussions on agricultural land use and management, however, take place without due regard to the analysis of the roles of class and gender, yet the processes of development in rural economies must be understood in the broader context of social transformation. Different writers have adopted different approaches towards the study of social relations in rural South Africa. The liberal group tend to attribute the present deplorable situation in Black agriculture to be a direct consequence of the oppressive Apartheid policy (Lipton, 1986). The radical view sees the South African peasants as a homogeneous group of victims of capitalism and market forces (Wolpe, 1972; Bundy, 1979).

This chapter seeks to examine the social relations of production in Nongoma in order to identify the unique circumstances under which peasants in this area make a living. The discussion seeks to determine the survival strategies of these peasants in the light of the

revelations of a situation of dire poverty in Nongoma. The following hypotheses will form the basis of the discussion:

5.1.1 Poverty in Nongoma is related to Government policies

5.1.2 There is class differentiation among the peasants in Nongoma

5.1.3 There is insecurity in land tenure among the peasants

5.1.4 There is social differentiation in access to land

5.1.5 Available Institutions are not effective among the peasants

5.2 The Role of Government Policies in Peasant Agriculture

The colonial history of South Africa had a significant impact on the present pattern of land distribution and agricultural inequities. The colonial acts of dispossessing the peasants of their land are well documented (Bundy, 1979; Lenta, 1982; Cobbett, 1987; Wolpe, 1972). These acts were further related to a calculated strategy of coercing the peasants to supply cheap wage labour to the colonial farming and mining industries. The result was the development of the migrant labour system, which has since become a 'traditional' way of life of the male peasants (Wolpe, 1972; Bundy, 1979; Beinart, 1982). It can be stated that the colonists succeeded in alienating a large number of the male peasants from the land, and in creating a class of semi-proletariat part-time peasants who spent their youthful years oscillating between their rural homesteads and the industrial areas.

The struggle for agricultural land was pursued further by the post-colonial governments in South Africa. Territorial segregation along racial lines was legalised by the 1913 and 1936 Land Acts. This was followed by forced removals of communities to areas designated for them. The nett result was a confinement of about 80 percent of the population of South Africa on only 13 percent of the land area. The resulting congestion, land degradation and poverty among the peasant communities is also well documented (Wolpe, 1972; Bundy, 1979; Weiner & Levin, 1991).

A significant shift of the South African government policy towards Black agriculture took place after the declaration of the policy of Apartheid in 1948. In their anxiety to give credibility to the idea of Bantustans, the government adopted the Betterment scheme which was recommended by the Tomlinson Commission (Union of South Africa, 1955), and introduced about 1960. The scheme, was intended to improve the living conditions in the Bantustans of South Africa. Its main tasks was land reclamation and soil conservation, as well as the provision of socio-economic infrastructure such as roads, schools, clinics and water supply. It involved the resettlement of the scattered rural villages into nucleated villages with a grid street pattern. It also involved the allocation of land for the various land uses, and the control of livestock numbers on grazing land (Union of South Africa, 1955).

The scheme was introduced in a few areas of Nongoma. The Zulus, however, value the possession of live-stock which they used in various social occasions. The possession of livestock also gives them social status. Consequently the peasants

resisted government attempts to curtail their livestock. Land reclamation and the resettlement of villagers also resulted in the diminution of the size of landholdings. In short, the scheme did not succeed in alleviating poverty in Nongoma.

The irrigation schemes on communal gardens are the only government initiated schemes that were progressive prior to 1994. Their impact is, however, insignificant because they involve very few individuals. It now remains to be seen whether the Reconstruction and Development Project (RDP) of the new Government of National Unity (GNU) will deliver a remedy for the alleviation of poverty in Nongoma (ANC, 1994).

5.3 Class Differentiation and the role of Chiefs in peasant production

Peasant communities in Nongoma do not consist of a homogeneous class. There is social differentiation into class and gender among them. There is considerable literature that focus on social differentiation among the peasants (Wolpe, 1972; Arrighi & Saul, 1973; Rahman, 1986). One of the major factors resulting in social differentiation among the peasants in South Africa is the proletarianisation of the male peasants during the colonial period as discussed above. This process introduced wages, which have since become a major factor in peasant economy. Cash provides alternative ways of living in peasant economies and leads to the stratification of peasant societies into different classes of individuals with different ways and standards of living (Wolpe, 1972; May, 1987; James, 1985; Keegan, 1988).

Among the respondents in Nongoma were those engaged primarily in agricultural production. They tilled the land on a seasonal basis and looked forward to harvest time when they ripped the fruits of their labour. Most members of this class have sufficient land for subsistence. They produce mainly the staple crop, maize, in their fields and vegetables in their gardens. There is normally one or more members of the family engaged in paid employment, from whom they rely for their various other needs. Within this class of producers there are differences in well-being according to the size of landholdings or according to the amount of money generated from off-farm income. Then there were the landless peasants who survived by share-cropping with those with land. Some of the peasants were artisans living by selling rural crafts. Others sold soft goods, vegetables, fruits and other petty commodities. There were those who lived solely by petty commodity production and other forms of capitalist enterprises. Some of the respondents were money lenders, shop keepers, and transport operators. Due the prevailing patriarchal attitudes in Nongoma, gender also plays an important role in social differentiation. The peasants were thus differentiated mainly by their access to off-farm income into social classes of haves and have-nots. It is thus not judicious to treat them as a homogeneous group and to generalise about their level of well-being.

An important classification of peasants is the linear classification resulting from the hierarchical system of chieftainship. Chiefs are symbols of tribal authority. Their main function, which is also their source of power in the villages, is to allocate land to the villagers. Many chiefs and their headmen, however, often lack the expected leadership qualities such as administrative expertise. Some have low standards of

education, and may not be in a position to give informed advice to their subjects. For this reason the institution of the chieftainship can be a hindrance to agricultural development. Further more the system of chieftainship is open to abuse, as some of the chiefs take bribes for offering services to the villagers.

5.4 The Relationship between Land Tenure and Poverty in Nongoma

Land tenure is one of the most important topics in development planning because of the importance of land as a source of livelihood. Land in Nongoma, whether it is for residential or agricultural purposes, is administered by the chief through his headmen. It is thus traditional (also termed tribal) tenure. It is communal in the sense that the land belongs to the tribe, but it is individually used by the householders subject to certain conditions. The one good aspect of the traditional system of land tenure is that it offers access to land even to the poorest households who would otherwise not have any means of subsistence.

5.5 Security of tenure

Once the land is assigned to a particular household, it becomes the property of such household which has all right over it except the right to sell. Household rights to their lands are permanent as long as they continue to reside in the designated area, and the rights remain unaffected whether they cultivated the land or not. There is thus security of tenure once the land was allocated to a household. This is a positive factor to social stability and agricultural productivity. The stability

factor was confirmed in the interview in that about 53 per cent of respondents were born in their present area. It has also been found that many people had resided in the district for more than forty years, which indicates their resilience to the harsh environment.

Concerning the method of land acquisition, 62 percent of the respondents indicated that they were allocated land by the chiefs. 17 percent reported that they have inherited the land they cultivate. Very few respondents 'purchased' land.

The tribal system of land tenure can, however, be an obstacle to land redistribution, and it causes imbalances in cases where the owners of the land did not have an interest in agriculture while there were interested but landless households. The system accounts for the prevalent practice of sub-letting of the land to landless households or those who have the means to cultivate crops but lack sufficient land. This is one of the factors resulting in disparities in the level of poverty among the peasants in Nongoma.

Due to this and other factors there is discontent among the peasants with the system of land allocation. During the interviews 66 percent of the respondents preferred the new government to do the allocation of land as opposed to the traditional system. They stressed that there was bias in the traditional system of land allocation. Table 4.4 indicates the preferences expressed by the respondents with regard to the system of land allocation.

Table 5.1 Preferred System of Land Allocation

Preference	Number	Percentage
By chief	4	11,0
By the new Government	23	66,0
By locally elected committee	6	18,0
By purchase	2	5,0
Total	35	100,0

The low percentage of those who preferred to purchase land is a reflection of the low level of income in the area of study. The respondents were, nevertheless, unhappy with the present system of the allocation of land.

5.6 Poverty and Social Differentiation in Access to Land

From the analysis of man-land ratios in Chapter 4 it was evident that there was a shortage of land for cultivation among the peasants in Nongoma. The analysis was, however, based on pure mathematical calculations, and did not take into account the hidden disparities in the system of access to land. There are social differences based on class and gender in the acquisition of land which results in general inequity in the distribution of land in Nongoma. Hence there are, on the one hand, a number of homesteads with more than the average of 0,4 ha of land.

On the other hand there are a number of landless homesteads. Female headed households were particularly vulnerable to being discriminated against in the allocation of land. The resulting low yields contribute to the high level of poverty in Nongoma.

During the questionnaire survey about 40 percent of the respondents were heads of households and 60 percent were just members of the family.

Table 5.2 Land Ownership

Owner	Number	Percentage
Household	26	74,0
Relative/friend	7	20,0
Neighbour	2	6,0
Total	35	100,0

When questioned about access to land, 74 percent of the respondents in the area indicated that they have access to land. The respondents indicated that they have acquired land through traditional channels. 20 percent indicated that the fields they ploughed belonged to their friends or relatives, and 6 percent used land that belonged to their neighbours. This practice has a negative effect to agricultural productivity in the area in the sense that part time owners of the field do not normally use fertilizers effectively because of the fear that the actual owner might

demand his field back at any time.

Table 5.3 Number of Fields per Household

Number of fields	Number	Percentage
1	10	29,0
2	18	51,0
3	5	14,0
4	2	6,0
5 or more	-	-
Total	35	100,0

N.B. A field varies in size from 0.25 to 0.5 hectare

From Table 4.3 it is clear that land for cultivation is inadequate in the area. This has been indicated by the high percentage (80 percent) of households that have access to two fields (i.e. about 1 ha) or less. This can be attributed to the low level of income experienced in the area. Only 6 percent of the respondents have access to at least four fields and no one reported to have more than four. In the light of the statistics presented in Table 5.3, many of the peasants who claim to possess land for crop raising are in actual fact cultivating very marginal lands either because they were on steep slopes or because the soils were not suitable for cultivation.

There is general complaint by people in the area that the fields they have were not producing enough. Of these 25 percent stated that they required more than twice the size of their present land for a living, and 42 percent indicated that they needed more than three times their present land. In short, it could be concluded that there is a shortage of land for the cultivation of crops in Nongoma and that this shortage of land is associated with the low level of agricultural production and poverty.

5.7 Poverty and Homestead Composition

The peasants in Nongoma still live in extended families. In each homestead there may be two or more households (families). The sub-families may be those of the sons, brother or sister to the household head. The interviews revealed that among the respondents almost all members of the homesteads were somehow related to the main household head, and that most of them were daughters and sons of the head. It was also found that there were other dependants of the household heads such as grandchildren and other distant relatives. The average age of the female respondents was 45 years. Of these female respondents 62 percent were married, 11 percent were single, 17 percent were widowed and 10 percent were married to polygamists.

The number of people per household was high. About 48.6 percent of the respondents indicated that they had more than eight members of the household. This is associated with the high dependency rate and high incidence of poverty identified in Chapter 3.

5.8 The Role of Migrant labour in peasant Agriculture

Migrant labour, which started during the colonial period in the nineteenth century, has become a traditional way of life for almost all the young males. Nongoma is invariably deprived of its young and able-bodied males who could be providing the needed man power in agriculture for many homesteads. It is evident that the system of migrant labour has become the source of livelihood for most homesteads in Nongoma. Since the males stay away from home for the greater part of their lives, this system causes social dislocation and is a negative factor to social transformation. During the absence of the male heads of households the children are brought up by the mother. Social scientists have found that children brought up by single parents often develop psychological disturbances. The fact that the migrant spends some of his earning in his work place means that the household is unable to accumulate enough money to enable the migrant to withdraw from the system. The migrant labour system remains thus an ephemeral but perpetual system that does not allow growth in the rural homesteads. Due to the low wages paid to the migrants, its positive contributions to peasant agriculture in Nongoma is negligible. It is associated with the low literacy rate and low aspiration among the youth which contribute significantly to the perpetuation of the cycle of poverty in Nongoma.

5.9 Gender Roles in Peasant Production

Traditional farming is normally regarded as a household business. Every member

of the family, no matter how old he or she is, is expected to take part in one way or the other. It is also a tradition in Nongoma to divide labour in the family according to sex and age.

According to this norm males were assigned to perform heavier duties like ploughing and clearing of the land for cultivation while females were expected to do weeding and most of domestic functions including children caring.

Each household in the area cultivates one or more fields. Each wife of a polygamist is allotted a separate field and she is expected to perform tasks such as weeding on it. The head of the household has absolute rights over the field situated below his kraal.

Division of labour according to sex and age is still predominant in the area. There are tasks, both domestic and agricultural, that are traditionally performed by women. Respondents confirmed that tasks such as cooking, dish washing, firewood collection, water fetching, weeding and child care are associated with females. Males perform tasks such as ploughing, tending of livestock, repairs, building and clearing the forests for fields' cultivation.

Some respondents in the Nongoma district, claimed that labour division is also done according to age. Child tending is said to be the duty of old women i.e. sixty or more years of age. Water and firewood collection is done by young girls. Herding of livestock is mostly done by both elderly men and the young boys.

It was noticed that some women in the area work in the fields for about four hours a day in the morning between six and ten. During harvesting, they sometimes work from sunrise to sunset so as to complete harvesting the whole field. There is fear that if they left it partially harvested it would be difficult to identify theft from a field.

The respondents also mentioned that their children help with harvesting before and after school. This was evident by ten percent of respondents who reported working for about two hours in the late afternoon.

The traditional division of labour in agricultural tasks has partly broken down in some communities in Nongoma where males were reported to be helping their wives with tasks such as hoeing.

Most decisions regarding agricultural matters in the area of study are made by the household head. *De facto* heads may not take final decisions, but they must wait for the response of the male head. Women have some control over decisions pertaining to agricultural produce such as crops, fruits, vegetables and poultry. Although women, in the absence of their menfolk, may be granted limited responsibilities, decisions with regard to cattle, goats and sheep are usually left to the men.

Although the women shoulder most responsibilities of agricultural production in the absence of their menfolk, their powerlessness to take decisions regarding the land

and other property is a negative to productivity and it contributes to destitution.

5.10 Labour Relations in Nongoma

The experience of living in a harsh environment has taught the communities both peasant and elite, to learn to live by mutual assistance. To plough a field using ox-plough needs a minimum of two oxen. Some households in the area have oxen but were unable to perform this task themselves due to sickness, untrained oxen, or sometimes because no-one at home was able to control the plough. 18 percent of the respondents who wanted to use tractors for ploughing their fields stated that they had to hire tractors at the expense of letting a portion of their fields to the tractor owners as a compensation for the work done. It was also noticed that families who have assisted those who could not plough or weed were given grazing rights to the maize stalks of that field after the harvest. It was further noticed that White store-keepers in the area were lent fields in return for their labour in ploughing peasant fields by tractors.

During peak periods of agricultural activity, peasant women took up periodic work in nearby White farming areas where they are hired specifically for maize weeding and harvesting. This earns them the needed cash for immediate alleviation of their state of destitution.

Cash income is also derived from the remittances of family members employed in the mines and manufacturing industries of the urban areas. Other sources of

income were derived from petty commodity production, the sale of agricultural produce (especially vegetables), sewing, selling of fruits as well as from miscellaneous work. Cash earned in these different ways enables the peasants to survive their hardships.

5.11 Extension Services

About 70 percent of the respondents reported that they were unable to obtain advice from the extension officers when needed. On investigation it was found that only 2 percent of the respondents were aware of training courses offered in the area. Many of them, however, expressed their willingness to undergo some training in modern methods of agriculture. Almost all the respondents made use of the services of the animal health Inspector who advised them on dipping, inoculation as well as dosing of livestock. This further demonstrates the prevailing ignorance associated with the high level of illiteracy and poverty among the peasants in Nongoma.

5.12 Agricultural Co-operatives

There is only one agricultural co-operative in Nongoma, namely, the Masihambezulu co-operative. It has a membership of 757 peasants and is mainly concerned with the production of maize and beans. It is Involved in the irrigation of some 400 ha of land along the Bululwane River. The sources of funds for the Masihambezulu co-operative are partly from contributions by members and partly from the sales and

interest gained from debtors. In 1986 it had fixed assets worth R7 500 and a sales turnover of R37 700 (DBSA, 1986). This shows that co-operative farming could alleviate some of the problems associated with poverty in Nongoma.

5.13 Poverty and the Marketing of Agricultural Produce

From the interviews it became evident that the peasants found it difficult to market their agricultural produce due to its small size. Partly associated with the small amount of their produce, and partly because there were no organised marketing institutions for agricultural produce, marketing was done largely through the informal sector. Marketing of their produce in this manner was further affected by the fact that the home market was small and that it was not cost-effective for the peasants to travel to distant markets with meagre produce.

Cattle auction sales do take place at Mona Show Ground every month (i.e., every last thursday of the month). Almost all peasant farmers who sell cattle at the stock sale (auction), however, complained that the prices were too low. Some thought that the prices were fixed by the cartels, although some did admit hat they sold poor quality livestock. The conclusion to be drawn from the interviews is that there is very little cash earned by the peasants from agriculture, and this is closely related to their high level of poverty.

5.14 The Role of Savings Institutions among the peasants

There are three banks in town (Nongoma), namely Standard Bank, First National Bank and Ithala Bank. There is, however, little use of the banks by the peasants. Not only do the peasants lack cash to do business with the banks, but they had acquired certain fears about the commercial banks. Many of the peasants, particularly those who are 55 years old and above, have a tendency of keeping their money at home because of suspicions that they might forfeit it to the banks. There was also a general reluctance among the peasants of borrowing money from the banks. Most respondents held that they were not prepared to borrow money from the banks due to the high interest rate which made it difficult for the borrower to repay the loans. This they learnt from experience rather that from pure rationality. They generally preferred to borrow money from friends, neighbours or relatives. Those who were prepared to borrow money from the Banks, especially from the KwaZulu Finance and Investment Corporation (KFC) bank (Ithala bank), were from the middle aged elite. Due to the negative attitudes of the peasants, the presence of the savings institutions in Nongoma cannot improve their financial difficulties, and can thus not lead to the betterment of their standard of living.

5.15 Conclusion

To conclude this discussion it may be stated that the present pattern of rural land use among the peasants in Nongoma developed gradually since colonial times. The land and agricultural policies of the colonial and post-colonial governments are

closely related to the present land shortage experienced in the area. It has been found that the peasants in Nongoma are not homogeneous, and that their level of wellbeing differs mainly according to their access to land and off-farm income. It is, however, evident that there is general poverty among the peasants, which is alleviated mainly through the system of migrant labour and petty commodity production.

CHAPTER 6

SUMMARY, EVALUATION AND CONCLUSION

6.1 Summary

6.1.1 Introduction

This dissertation is an examination of the relationship between poverty and rural land use in Nongoma. It was mentioned in the first chapter that the concept poverty is defined differently by various writers, and that this difference in the conceptualisation of poverty presented some difficulties in identifying the levels of poverty in any given society. Furthermore, it was mentioned that the levels of poverty differed not only from area to area but also from time to time. That this dynamism of the concept poverty makes it more difficult to identify it. It was illustrated how communities, families or individuals may be found to be poor at a given time and how at another time they may be found to be above the poverty line. Similarly it was shown that a community in a particular place may be declared poor, yet another community elsewhere with basically similar resources may not be classified as poor. This emanates from the differences in the conceptualisation of poverty in absolute or relative terms. The conceptualisation of poverty is further complicated by the fact that different communities have various notions of it. It was stated, in short, that poverty has many facets and that the poor are diverse. It was also stated that there were diverse means used by the poor to survive their plight. The following are a summary of the main findings of the study:

6.1.2 Ecological Constraints to Agriculture of Nongoma

The rainfall in most parts of Nongoma is insufficient and erratic. The end result is that Nongoma is semi-arid. For agriculture to thrive under these circumstances would require extensive irrigation. The peasants can, however, not afford to practise irrigation.

Most parts of Nongoma contain soils that are unsuitable for dry land cropping. Due to the shortage of arable land even steep slopes are used for the cultivation of crops, leading to the acceleration of the erosion process. The severity of soil erosion is increased by the lack of natural vegetation and perennial crops. The result of these conditions is poor harvest among the peasants in Nongoma.

6.1.3 Socio-economic Constraints to peasant farming in Nongoma

Nongoma is populated by a homogeneous population of a traditional, conservative and patriarchal Zulu culture. There is reasonable social stability in the area, but there is lack of individual initiative and innovation which is negative to economic progress. Lack of innovation may also be associated with the high rate of illiteracy in Nongoma.

The population of Nongoma is characterised by a preponderance of young people below the age of 18 years, which is associated with a high fertility rate. The economically active population is only 34.6 percent of the total population. Of this economically active population, about 55,5 percent consists of females. The number of potentially active full-time farmers is small compared to the total population.

There is a relatively high incidence of female-headed families and, because of traditional patriarchal attitudes towards females, there is a low potential number of bread winners. The females are also limited in their productivity by the lack of authority to take informed decisions about issues of land and other household property in the absence of their migrant menfolk.

There are few jobs in Nongoma. Many of the males earn money through migrant labour. Within Nongoma the cash resources of most peasants are derived from meagre resources such as remittances, pensions, welfare payments, and petty commodity production. Such income is usually sufficient only to meet immediate homestead needs such as food, health and education, and do not provide surplus capital for investment in agriculture.

6.1.4 Peasant Land Use in Nongoma

The two major farming systems identified among the peasants in Nongoma are crop raising and livestock grazing. Both of these farming systems are carried out mainly for subsistence living.

Although a variety of crops such as beans, pumpkins, sweet potatoes, sorghum, etc are also grown, the main crop raised by the peasants in Nongoma is maize. They produce this crop as a staple food crop mainly for household subsistence.

Crops in the area are cultivated under a constant threat of damage by animals and pests. The most serious pests to maize are witchweeds and cutworms. Due to the relatively high cost of pesticides, very few peasants use them. The majority of the peasants are simply

defenceless against the pests, and they are thus vulnerable to low productivity. Although losses from animal damage is not extensive in the area, it does reduce the motivation to cultivate the land. Since the peasants cannot afford fencing, and since the cattle are often not well cared for, there is very little remedy for the prevention of damage to crops by animals.

Other common but less regular causes of crop failure among the peasants are drought and floods. Both have occurred frequently during these last three decades and have caused extensive damage to drops. Drought is particularly devastating, and demoralising to the peasants.

Livestock among the peasants is kept for various social activities such as lobola and ritual functions. The possession of cattle also give social status to a homestead. Consequently many homesteads keep livestock for the sake of prestige, and without due regard to quality. The result is that there is severe over-stocking and deterioration of veld species in Nongoma. Livestock farming is thus also practised at a subsistence level, and the total income from peasant farming in Nongoma is very low.

6.2 Evaluation

The aim of this study was to examine the relationship between poverty and agricultural land use in Nongoma. The objectives being to determine causal relationships between poverty and agricultural land use. The ecological as well as the socio-economic factors associated with peasant land use in Nongoma were examined and the main findings are as summarised above. What follows hereunder is an evaluation of these findings.

The main hypotheses on which this dissertation is based are

1. That there is poverty in Nongoma
2. That this poverty is directly related to the failure of agriculture to provide a livelihood for the inhabitants.

In the exposition of the concept poverty in Chapter 1 it was apparent that the concept poverty was difficult to define accurately. This was so partly because of the dynamic nature of the conditions of poverty, and partly because of differences in the conceptualisation of poverty by both the victims of poverty and by those who study poverty. It was, however, found that there was consensus on the criteria adopted for measuring the levels of poverty. By using these criteria the following were the main findings concerning the two hypotheses :

6.2.1 Hypothesis 1. There is poverty in Nongoma

In Chapter 3 an examination of most of the criteria dealing with the population characteristics was made. It was found in that chapter that Nongoma was a congested rural area, consisting of a traditional Zulu patriarchal peasant population. It was further determined that, as a result of the high unemployment rate, there was a high incidence of migrant labour resulting in a preponderance of females over males. It was further determined that as a result of the low *per capita* income, there was a high rate of school drop-out as the youth were compelled by family indigence to join the migrant labour system. It was found that the literacy rate was very low.

In Chapter 4 it was mentioned that, as a result of the extended family system, there were many members in each homestead. This was associated with the high dependency rate found in Chapter 3. At the same time it was found that there was little cash earned by the average household due to the high rate of unemployment. On examining the household income and expenditure given in Chapter 3, it is evident that many peasant households in Nongoma were living below the bread line. Hypothesis 1 is thus valid.

As it was, however, demonstrated in Chapter 4 that there was social differentiation among the peasants in Nongoma, this hypothesis is valid only as a general statement.

6.2.2 Hypothesis 2. Poverty is directly related to the failure of agriculture to provide a livelihood for the peasants

On the examination of peasant agriculture in Chapter 4, it was found that there were high population densities among the peasant areas in Nongoma. The average population density on arable land was about 26 people per ha of arable land. It was determined that the average size of land that each peasant homestead possessed was only 0.4 ha. When considering that the peasants do not have access to irrigation in this arid land, and considering that the major crop produced on this land was maize, a low yielding staple and field crop, it was evident that there was insufficient food produced from agriculture by each household.

Lack of capital to purchase agricultural inputs such as fertilizers, seed, implements, etc. was one of the limiting factors in land use efficiency among the peasants in Nongoma. It was indicated in Chapter 3 that there was very little cash income generated by the peasants in Nongoma. The environment in which they operated, on the other hand, was so harsh that

only through extensive use of capital inputs such as irrigation and fertilizers can there be significant improvement in land use efficiency.

Capital inputs were themselves dependent on the creation of economies of scale. The small allocated landholdings of most peasants do not allow for the creation of such economies of scale. The system of land allocation together with the tribal land tenure system prevailing in Nongoma were some of the social constraints that limit the application of advanced methods of farming.

The migrant labour system that provides a temporary solution to many homesteads, results in females acting as *de facto* heads of families. Due to the prevailing patriarchal attitudes, the migrant labour system in the long run only compounds the problem by creating a vicious cycle of illiteracy, low incomes, alienation of the males from the land and the perpetuation of underproductivity in agriculture. The net result is that there is general food insecurity and poverty among the peasants resulting from the inadequacy of agricultural produce.

Since Nongoma is predominantly a rural area, in which it is normally expected that agricultural activities would be the primary source of livelihood for the peasants, the second hypothesis is also valid. The second hypothesis is also a general statement in that differences do exist in the ways of making a living among the peasants in Nongoma.

6.3 Conclusion

To conclude this discussion it may be stated that the present pattern of rural land use among

the peasants in Nongoma developed gradually since colonial times. The land and agricultural policies of the colonial and post-colonial governments are closely related to the present land shortage experienced in the area.

Peasant agricultural activities in Nongoma contribute only a small fraction to household income. This may be associated with ecological and socio-economic constraints with which the peasants could not cope due to their weak financial position and lack of technical skill. The failure of agriculture to provide a living for the peasants has resulted in general poverty.

The survival strategy of the peasants lies in cash income from diverse sources such as migrant remittances and petty commodity production. It has been found that the peasants in Nongoma are not homogeneous, and that their level of well-being differs mainly according to their access to land and off-farm income. It is, nevertheless, evident that there is general poverty among the peasants.

References

Adelman, A.H., 1981 : Colombian Friendship Groups: Constraints on a Rural Development Acquisition System. *Journal of Developing Areas*, Vol.15, 3 pp 457-470.

African National Congress, 1994 : *The Reconstruction and Development Programme*, Umanyano Publications, Johannesburg.

Arrighi & Saul, 1973 : *Essays in the Political Economy of Africa*, Monthly Review Press, London.

Beinart, W., 1982 : *The Political Economy of Pondoland 1860-1930*, Cambridge University Press, Cambridge.

Bembridge, T.J., 1982 : *Present Utilization of land: Field Crops of Amatola Basin.* Alice

Bembridge, T.J., 1985 : Agricultural and Rural Development in Less Developed Countries with Special Reference to South Africa, *Development Southern Africa*, Vol.2, No.2.

Bembridge, T.J., 1987 : Considerations in Agricultural Extension for Less Developed Areas of South Africa, *Development Southern Arica*, Vol. 4, No. 1.

Bembridge, J.T. *et al*, 1983 : An Evaluation of the KwaZulu Extension Service, *Agriculture and Rural Development Reseach Institute*, Fort Hare.

Beno, H., 1976 : *Black Development in South Africa*, Perskor Printers, Pretoria.

Bundy, C., 1979 : *The Rise and Fall of the South African Peasantry*, Heineman, London.

Cairns, R.I. and Lee, J.D., 1990 : An Agricultural Survey of Subsistence Farmers in the Nkandla District of KwaZulu, *Development Southern Africa*, Vol. 7, No. 1.

Chambers, R., 1985 : *Rural Development Putting the Last First*, Longman, London.

Cobbett, M., 1987 : The Land Question in South Africa: A Preliminary Assessment, *The South African Journal of Economics*, vol. 55, no. 1, 63-77.

Curtis, D., *et al;* 1988 : *Preventing Famine: Policies and Prospects for Africa*, Routledge, London.

De Wet, C. and Leibrandt, M., 1994 : Separate Developments: The different effect of Homeland policy on two Ciskei villages, *Development Southern Africa*, vol. 11, no. 2.

Murray, C., 1993 : *Black Mountains*, Wits Press, Johannesburg.

Development Bank of South Africa, 1984: Role, Functions, Strategy guidelines and Criteria for Development Aid; Sandton.

Fair, T.J.D., 1973 : *South Africa: Spatial Framework for Development*, Juta & Co, Ltd, Cape Town.

Hartshorne, T.A., 1980 : *Interpreting the City : An Urban Geography*, John Wiley & Sons, New York.

Iliffe, J., 1987 : *The African Poor*, Cambridge University Press, Cambridge.

James, D., 1985 : Family and Household in a Lebowa Village, Paper presented to the Annual Conference of South African Anthropologists, University of Natal, Durban.

Keegan, T., 1988 : *Facing the Storm: Portraits of Black Lives in Rural South Africa*, David Phillip, Johannesburg.

K.F.C., 1990 : KwaZulu Development Information, No. 12, Durban.

King, P.G., 1985 : *The Characteristics and Role of Opinion Leader in the Stutterheim Extension Ward*, Fort Hare University, Alice.

KwaZulu Department of Agriculture, 1994 : KwaZulu White Paper on Development Policy : Nongoma District, Ulundi.

Lenta, G., 1982 : Land Labour and Capital in KwaZulu: Some failures of Coincidence, *Journal of contemporary African Studies*, vol.1, no. 1, 307-327.

Lipton, M., 1986 : *Capitalism and Apartheid*, London.

Makhanya, E.M., 1990 : *The viability off Agricultural Development in KwaZulu*. University of Zululand.

Marres, P.J.T. & van der Wiel, A.C.A., 1975 : *Poverty Eats my Blanket*, Government Printer, Maseru.

May, D. & Peters, A.H. : *A study of Income and Expenditure in KwaZulu/Natal-Mbongolwane*, No.3, 1984, KwaZulu Finance and Investment Corporation Limited, Durban.

May, J., 1987 : Differentiation and Inequality in the Bantustans : Evidence from KwaZulu, Rural/Urban Studies Unit Working Paper, University of Natal, Durban.

May, J. *et al*, 1994 : *Rural Poverty and Institutions*, L&APC, Johannesburg.

Mbatha, J.C., 1983 : *Sugar Cane Production by KwaZulu Cane Growers at Ongoye District, KwaZulu*, Fort Hare University Press, Alice.

Mlumbi, B., *et al*, 1986: *Cattle Production in Ciskei, Past Present and Future.*

Monnig, H.O., 1983 : *The Pedi*, J.L. van Schaik, Pretoria.

Mosher, A.T., 1971 : *To create a modern Agriculture*, Agricultural Development Council, New York.

Nafziger, E.W., 1985 : *Inequality in Africa, Political Elites, Proletariat, Peasants and the Poor*, Cambridge University Press, New York.

Nattrass, J., 1985 : Dynamics of Black Rural Poverty in South Africa, *Up Against Fences*, David Phillip, Cape Town.

Nattrass, N. and Nattrass, J., 1990 : South Africa. The Homelands and Rural Development, *Development Southern Africa*, Vol.7, Halfway House South Africa.

Perry, A.H. 1977: *Environmental Hazards in British Isles*, George Allen & Unwin, Boston.

Rahman, A. 1986 : *Peasants and Classes: A Study of Differentiation in Bangladesh*, Zed Books, London.

Rodger, G., 1984 : *Poverty and Population*, International Labour Office, Geneva.

Strategic Plan for Agriculture and Forest in KwaZulu - Annual Report (Nongoma).

Thorrington-Smith, J.M., Rosenberg, F.P. and McCrystal, G.J., 1978 : *Toward a Plan for KwaZulu*, Shirley Hill Press, Pietermaritzburg.

Union of South Africa, 1995: *A Summary of the Report of the Commission for the Socio-economic Development of the Bantu Areas within the Union of South Africa*, Government Printer, Pretoria.

Van der Hoeven, R. & Anker, R. 1994: *Poverty Monitoring: An International Concern*, St Martin's Press, Great Britain.

Weiner, D. and Levin, R., 1991 : Land and Agrarian Transition in South Africa, *Antipode*, vol. 23, no. 1, 92-120.

Whyte, W.F., 1991 : *Participatory Action Research*, SAGE, London.

Wilkinson, R.G., 1973 : *Poverty and Progress*, Methuen, London.

Wilson, F. & Ramphele, M. 1989 : *Uprooting Poverty: The South African Challenge*, David Philip, Cape Town.

Wolpe, H., 1972 : Capitalism and Cheap Labour Power in South Africa: From Segregation to Apartheid, *Economy and Society*, vol. 1, no. 4.

World Bank, 1986 : *Poverty and Hunger*, World Bank, Washington.

Wrightson, K., 1982 : *English Society 1580-1680*, London.

Zakwe, T.P., 1995: *Agricultural Land Use in Msinga*, Dissertation for the degree of Master of Arts in the Department of Geography, University of Zululand (Umlazi Campus).

APPENDIX A

QUESTIONNAIRE

UNIVERSITY OF ZULULAND

DEPARTMENT OF GEOGRAPHY (UMLAZI CAMPUS)

QUESTIONNAIRE FORMAT

A. GENERAL INFORMATION

1. Status in the household	
2. Sex	
3. Age	

B. DEMOGRAPHIC FACTORS

4. Marital status

Married	
Single	
Divorced	
Widowed	
More than one wife	

5. Ethnic group

Zulu	
Xhosa	
Other (specify)	

6. Position in ward

Chief	
Headman	
Head of household	
Councillor	
Sub-headman	
Other (specify)	

7. Residential status

Home	
Daily Commuter	
Weekly Commuter	
Monthly Commuter	
Away employed	

8. How long has respondent been resident here?

1 to 5	
6 to 10	
20 to 30	
40 and above	

9. How many persons live in this household?

Less than 2	
3	
4	
above five	

10. Do all persons in this household eat from the same kitchen?

Yes	
No	

C. SOCIO-ECONOMIC QUESTIONS

11. Does this household have any of he following items?

Television	
Electricity	
Fridge	
Washing machine	
Motor vehicle (private)	
Motor vehicle (taxi)	

12. What is the primary source of water for this household?

Stream	
Well	
Spring	
Private tap	
Community tap	
Buy water	
Other sources (specify)	

13. If not a private tap, what is the distance from the source?

Less than 10 m	
100m - 1 km	
1 - 3 km	
more than 3 km	

14. What are your primary sources of fuel for cooking, lighting and heating for this household?

Source	
Wood	
Paraffin	
Coal	
Gas	
Electricity	
Generator	
Other (specify)	

15. If your primary source is weed, what is the distance from the points of collection (average)

Less than 100 m	
100 m - 1 km	
1 - 3 km	
more than 3 km	

16. How much do you spend for food per month?

R200 - 300	
R301 - 400	
401 - 500	
more than 501	
not sure	

17. What is your total expenditure for kids at school per year?

not sure	
less than R10 - R600	
601 - 800	
801 - above	
no children at school	

18. How many persons in the household who are employed else where?

0 - 2	
3 - 7	
8 - 9	
more than 10	

19. Does the household benefit from these people working away?

Yes	
No	

20. If yes in what way?

money	
food	
other (specify)	

21. Where are these people working?

Commerce	
Industry	
Farming	
Services	
Mining	
Other (specify)	

22. Does your household get more income from farming or from other work?

Farming	
Other work	
Not sure	

23. Looking for the future, would you like your son to go 00000farming or do you feel he should work in towns or cities?

not sure	
farming	
city	

24. What development would you like to see to help you with your farming?

not interested	
not sure	
crops	
livestock	
irrigation	
other (specify)	

25. Would you rather live in a town or remain where you are?

Remain	
Yes-Town	
Not sure	

26. During the previous 12 months, what was the total income earned by household from the following source?

Source of income (Rands)	
Crop sale	
Livestock sale	
Sale of crafts	
Pension	

27. What income do you feel is necessary today for you to feed, clothe and educate your family and enjoy the amenities you need?

No idea	
0 - R300	
R301 - R500	
R501 - R750	
R751 - R750	
R2000 - R4000	
Over R5000	

D. LAND ACCESS AND USE

27. Who owns the land that you till?

Mine	
Relative/Friend	
Neighbour	
Other (specify)	

28. How many fields do you use in raising your crops?

One field	
Two fields	
More than two fields	

29. What is the average side of your fields?

Less than 5 ha	
6 - 20 ha	
21 - 40 ha	
41 - 60 ha	
bigger than 61 ha	

30. Can you give the following information about land that your household has access to?

Type of land	How did you get land?	In what year was the Land acquired?
1. Residential	1. Inherited	
2. Grazing	2. Rented	
3. Agricultural	3. Purchased	
4. None	Through the chief	
	5. Other (specify)	

31. Do you feel you can produce more from the present land that you own?

Yes	
No	
Not sure	

32. How much land do you require to be able to ern a good living from both crop and live stock production?

2 x my land	
3 x my land	
4 x my land	
5 x my land	
more than 6 x my land	

33. What reason do you feel you need more land?

Don't know	
Not sure	
Not producing enough food	
Not making enough money	

34. Has this household ever lost land?

Yes	
No	

35. *if yes* could you provide the following information about all land the household has lost.

Type of Land	How did you get the Land?	In which year was the land lost?
1. Residential	1. Inherited	
2. Grazing	2. Rented	
3. Agricultural	3. Purchased	
4. Other specify	4.Through the chief	
	5. Other specify	

37. Would you like to be part of a future government programme to give people more land for farming?

Yes	
No	

38. *If yes*, would you be prepared to move to another place in order to get more land for farming?

Yes	
No	

39. *If yes*, would you be prepared to move?

Nearby	
Far	
Either	

40. How should agricultural land be allocated?

By chiefs	
By a new government	
By locally elected committees	
By purchase	
Other (specify)	

E. CROPS

41.

1.1 Do you ever use fertilizers in your fields?	seldom	often	never
1.2. Do you ever use insecticide?			
1.3 Do you ever use pesticides?			
1.4 Do you till your fields before sowing?			
1.5 Do you practice crop rotation?			
1.6 Do you use trackers for cultivation?			
1.7 Do you use oxen-drawn ploughs?			
1.8 Do you get seeds from Agricultural Officers?			
1.9 Do you get seeds from last harvest?			
1.10 Do you get seeds from merchants?			
1,11 Do you get seeds from friends/neighbour/relative?			

42. What is your main source of draft power for ploughing your fields?

Hand hoe	
Own oxen	
Hired oxen	
Own tracker	
Hired tracker	
Labour	
other (specify)	

43. Do you use high yield seeds?

Yes	
No	
Not always	

44. Do you irrigate your fields?

Yes	
No	

45. What type of crop do you raise in your fields?

Yes	
No	

46. What was your last harvest in maize?

1 bag	
2 bags	
3 bags	
4 bags	
more than 5 bags	

47. Was this harvest normal?

Normal	
Subnormal	
Abnormal	

48. What do you normally do with your harvest?

consume entirely	
sell some to neighbours	
sell some to roadside	
give some to relatives	

49. What t do you think are the causes of crop failure in your fields?

Insect parasite	
disease	
cattle/drought /disease	
Over rain	
drought	

50. Have you fenced your field?

No	
Yes	

51. Are there any herd boy caring for livestock?

Yes	
No	

52. *if yes*, are they responsible for their jobs?

Yes	
No	
Not always	

53. How long do you leave your fields fallow after tillage?

two weeks	
three weeks	
four weeks	
more than five weeks	
do not till the soil	

54. Do you own, hire or borrow these items?

Capital assets	Own	Hire	Borrow
Rake			
Shovel/spade			
Ox-drawn wooden plough			
Ox-drawn metal plough			
Tractor			
Water tank			
Hand hoe			

55. Is your household involved in the following types of work?

Cooperative farming work	
Community work (ilimo)	

F. LIVESTOCK

56. Do you own any livestock?

Yes	
No	

57. What type of livestock do you keep?

Cattle	
Sheep	
Goats	
Cattle. Sheep and Goats	
Cattle and Goats	
Poultry and Pigs	
Donkeys	

58. How many cattle do you have?

Less than 5	
6 - 10	
11 - 30	
40 - 50	
51 and above	

59. How often are your cattle dipped in summer?

Every week	
Once per fortnight	
Once in three weeks	
once per month	
Not sure	

60. How often are your cattle dipped in winter?

Every week	
Once per fortnight	
Once in three weeks	
Once per month	
Not sure	

61. How often are your cows dosed?

Never	
Once per month	
Once per six months	
Once per year	
Other (specify)	

62. How often are your calves dosed?

Never	
Once per month	
Once per six months	
Once per year	
Other (specify)	

63. Do you sell your live-stock

Yes	
No	

If yes, How often do you sell your livestock?

Frequently	
Sometimes	
Not sure	

64. To whom do you normally sell your livestock?

Stock farmers	
Meat Producers	
Friends/Neighbours	
Other (specify)	

65. What is the reason of selling your livestock?

Financial problems	
No grazing fields	
Livestock sick	
Other (specify)	

66. Are you getting any profit from the sale of your livestock

Little	
A lot	
None	

67. Who owns the grazing land?

Mine	
Communal	
Other (specify)	

68. Do you practise grazing rotation?

Yes	
No	

69. *If yes*, How long do the stock stay in one camp?

Less than two weeks	
One month	
Two months	
More than three months	

70. What is the average size of your grazing camps?

Less than 100 ha	
200 - 400 ha	
500 - 1000 ha	
1100 and bigger	
Not sure	

71. Do your grazing camps have water supply?

Yes	
No	

72. *If Yes*, How many water points are found in one camp?

One point	
Two points	
Three or more points	
Not sure	

73. Do you feed any stored crop residues to livestock?

Yes	
No	

G. HOUSEHOLD AND AGRICULTURAL LABOUR USE

74. Please indicate who among your household members perform the following tasks:

TASK	Girls under 16 years	Women 16-60 years	Women over 60 years
Cooking			
Firewood collection			
Fetching of water			
Building			
Dish Washing			
Child care			
Repairs			
Tending livestock			
Other (specify)			

Table continued below

TASK	Boys under 16 years old	Men 16 -60 years old	Men over 60 years
Cooking			
Firewood collection			
Fetching of water			
Building			
Dish washing			
Child care			
Repairs			
Tending livestock			
Other (specify)			

75. Please indicate the type of tasks performed by categories of household members as follows:-

HOUSEHOLD AGRICULTURE TASKS	Girls under16 yrs	Women 16-60 years	Women over 60 yrs	Boys under 16 yrs	Men 16 to 60 yrs	Men over 60 yrs
Planting						
ploughing						
Weeding						
Harvesting						

H. EXTENTION NEEDS

76. Does this household have extension needs?

Yes	
No	
Not sure	

77. Do yoou know the who your extension officer is?

Yes	
No	
Not sure	

78. Has any extension officer visited your household in the past year ?

Yes	
No	

79. Whom do you contact when you have agricultural problems?

Officers	
Friends/relatives	
Neighbours	
Farmer organisation	
Other (specify)	

80. Have you ever been visited by agricultural Officer in your area?

Yes	
No	

81. Do you listen to farming broadcasts on the radio?

Yes	
No	

82. *If No*, Why don't yooou listen?

No radio	
Do not know of the programme	
Not interested	
Broadcasting time is a problem	

83. Are you a member of a farmers committee in your area?

Yes	
No	

84. Do you think Agricultural Offices are enough in your area?

Yes	
No	
Not sure	