THE ETHNOBOTANY OF THE TSONGA-SHANGANA IN SELECTED AREAS OF BUSHBUCKRIDGE IN THE BOHLABELA DISTRICT OF THE LIMPOPO PROVINCE

BY

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DEDICATION

This thesis is dedicated to the memory of S T Sibanyoni - Shilubane, F M Mdaka - Shilubane, C M Shilubane - Ngwenya, E M Shilubane and J H Mathebula.

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Last but by no means least; I thank the Almighty who gave me life, strength and ability to accomplish this work.

PAUL XILAVI SHILUBANE
POLOKWANE

SUMMARY

THE ETHNOBOTANY OF THE TSONGA-SHANGANA IN SELECTED AREAS OF BUSHBUCKRIDGE IN THE BOHLABELA DISTRICT OF THE LIMPOPO PROVINCE

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In this study, the multidisciplinary epistemology of ethnobotany is reviewed within the wider context of ethnoecology and indigenous knowledge systems. The major problems derived from this theoretical framework cover aspects of the relationship between cultural groups and their natural environment – particularly the botanical component of the latter. Problems and critical questions about this relationship were investigated in selected areas of the Bushbuckridge district, which are inhabited by a number of Tsonga-Shangana communities. Salient aspects of the natural habitat in the study area are discussed with special reference to the vegetation, climate and soil types. A proper understanding of the culturally-based exploitation of plant resources necessitates a sound knowledge of the culture concerned, including relevant aspects of its value-system and cosmology. In this review, emphasis is placed on those aspects of culture that are directly concerned with the utilisation of plant resources. The latter include a wide range of economic, technological and medicinal uses. Specimens of 200 plants were collected and identified by the University of Limpopo Herbarium. The uses of every species are described. Systematised tables of plant uses are presented, as well as comparative lists in which selected uses are compared to those of other cultures in which the same species are used. The effects of plant utilisation, as well as indigenous forms of resource management, are also discussed. Recommendations are made on how to counter the process of environmental degradation which is caused by over-exploitation.

OPSOMMING

DIE ETNOBOTANIE VAN DIE TSONGA-SHANGANA IN GESELEKTEERDE GEBIEDE VAN BOSBOKRAND IN DIE BOHLABELA DISTRIK IN DIE LIMPOPO PROVINSIE

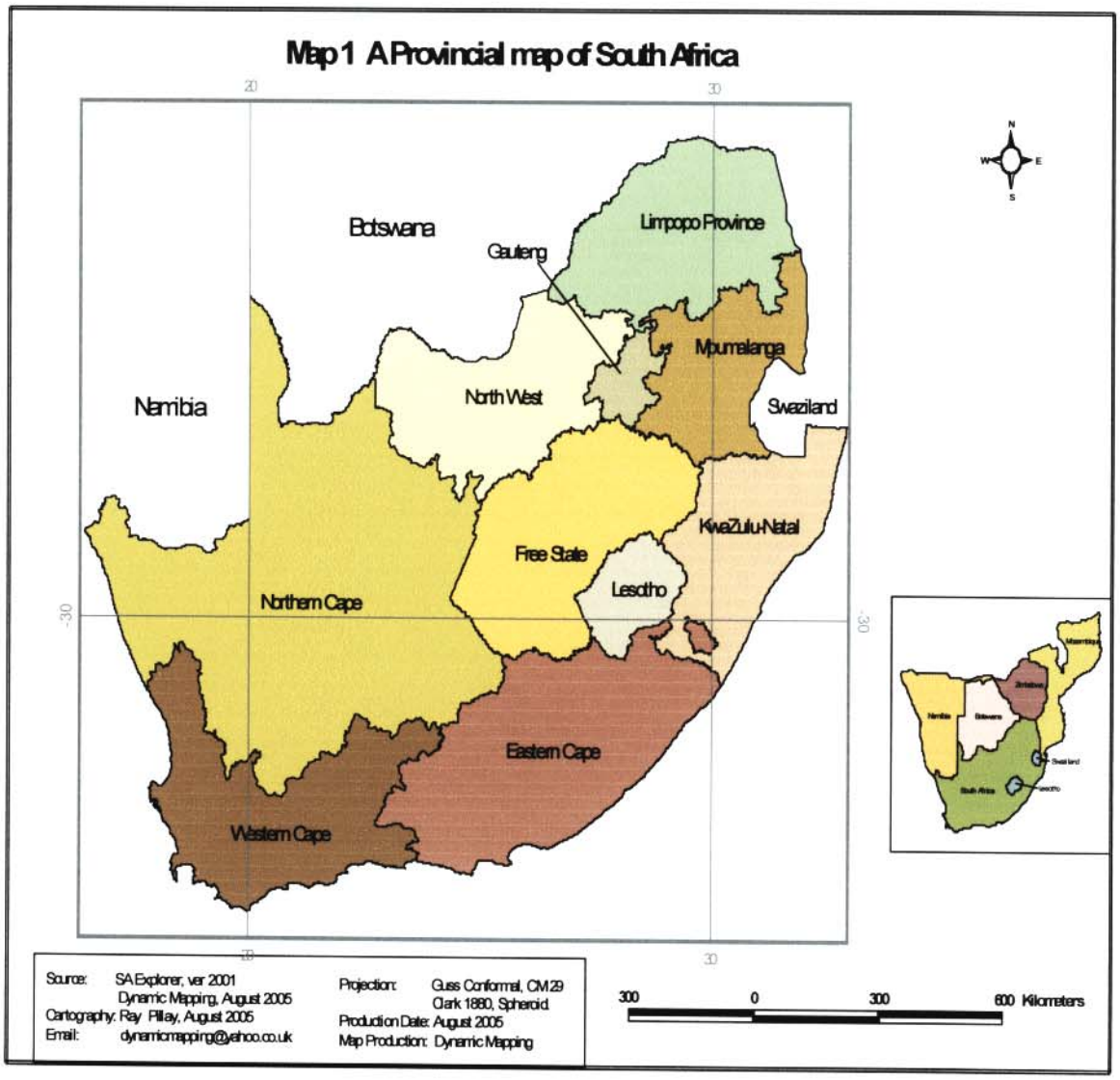
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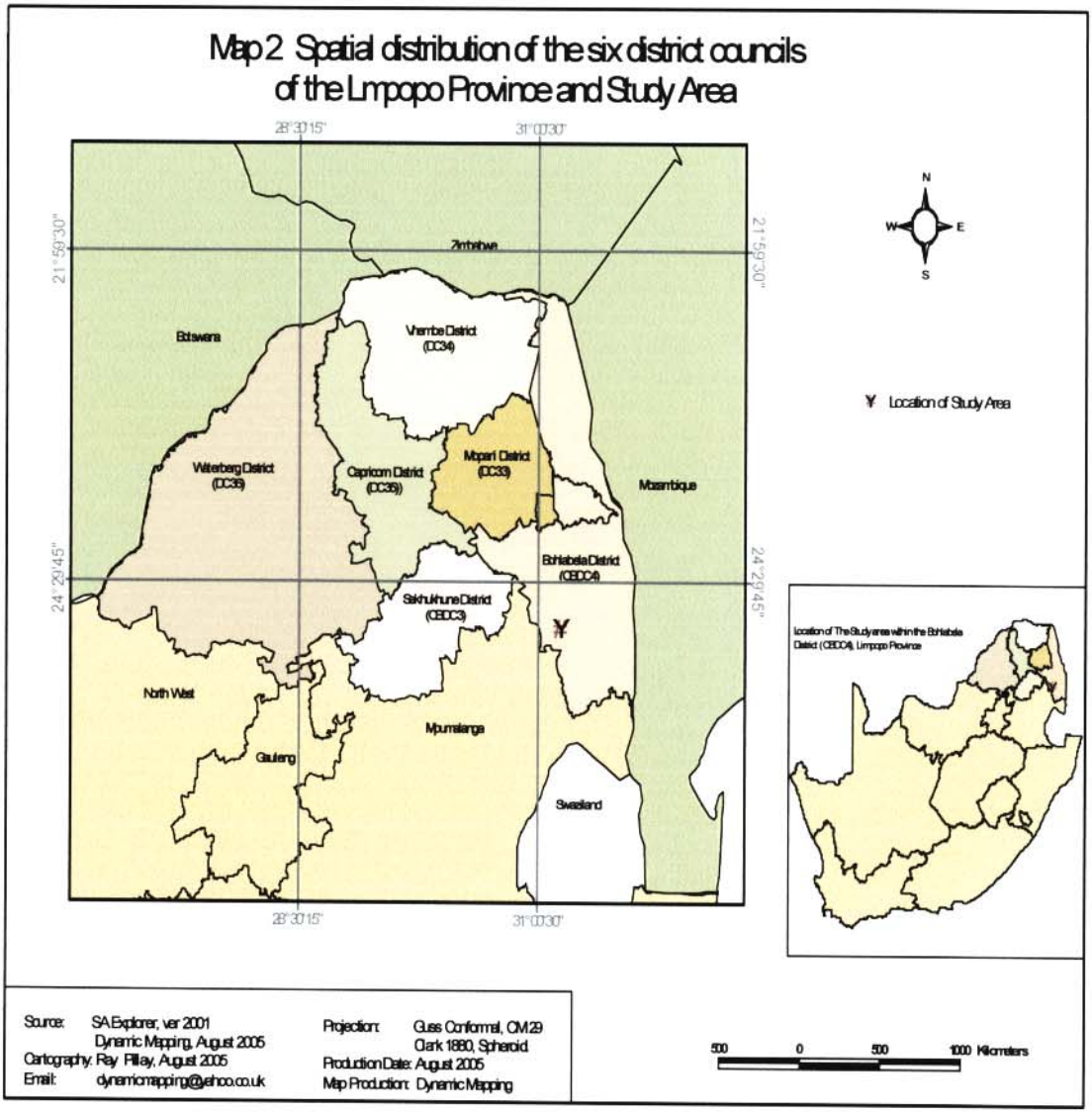
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Republiek van Suid-Afrika

In hierdie studie word die multidissiplinêre epistemologie van etnobotanie in die breërverband van etno-ekologie en inheemse kennisstelsels beskryf. Die belangrikste probleme wat uit hierdie teoretiese raamwerk afgelei word, het op aspekte van die verhouding tussen kultuurgroepe en hulle natuurlike omgewing betrekking – veral die botaniese komponent van laasgenoemde. Probleme en kritiese vrae oor hierdie verhouding is in geselekteerde gebiede van die Bosbokrand distrik nagevors, wat die woongebied van verskeie Tsonga-Shangana gemeenskappe is. Uitstaande aspekte van die natuurlike habitat in die studiegebied word bespreek met spesiale verwysing na die plantegroei, klimaat en grondtipes. Die regte verstaan van die kultureel gebaseerde gebruik van plantbronne vereis 'n deeglike kennis van die betrokke kultuur, insluitende aspekte van hulle waardestelsel en kosmologie. In hierdie oorsig word dié aspekte van die kultuur beklemtoon wat direk met plantgebruike in verband staan. Dit sluit 'n wye reeks ekonomiese, tegnologiese en medisinale gebruike in. Monsters van 200 plante is versamel en deur die Unilim Herbarium geïdentifiseer. Die gebruike van elke spesie word beskryf. Sistematiese tabelle van plantgebruike word aangebied, en sommige van die bevindings ook met gebruike in ander kultuurgroepe vergelyk, waar dieselfde spesies gebruik word. Die gevolge van die benutting van plante word beskryf, asook die inheemse stelsel van hulpbronbestuur. Aanbevelings word gemaak oor hoe om die proses van omgewingsdegradering wat uit die oorbenutting van plantaardige hulpbronne voortspruit, teë te werk.

GLOSSARIES

It is not usual to have a glossary in a thesis. Since the study was conducted among the Tsonga-Shangana people with their distinctive language and vocabulary, the use of technical terms which could not easily be translated into English, was unavoidable. The author therefore deemed it necessary to provide glossaries in order to retain the original meaning of the concepts and for quick references to enable readers not familiar with Xitsonga to find their way around. The glossary in 2.4.2.5 **(Glossary A)** is for traditional disease terms while **glossary B** concerns technical terms for artifacts, structures and musical instruments. The singular and plural forms of the terms in glossary B have been given. Readers are advised to use the glossaries where they have difficulties in understanding the terms.


Map 1 A Provincial map of South Africa
Botswana
Gauteng
Limpopo Province
Mpumalanga
Namibia
North West
Swaziland
KwaZulu-Natal
Free State
Lesotho
Northern Cape
Eastern Cape
Western Cape
Source: SA Explorer, ver 2001
Dynamic Mapping, August 2005
Cartography: Ray Pillay, August 2005
Email: dynamicmapping@yahoo.co.uk
Projection: Guss Conformal, CM 29
Clark 1880, Spheroid
Production Date: August 2005
Map Production: Dynamic Mapping
300 0 300 600 Kilometers


Map 2 Spatial distribution of the six district councils of the Limpopo Province and Study Area
28°30'15"
31°00'30"
21°59'30"
24°29'45"
Zimbabwe
Botswana
Vhembe District (DC34)
Waterberg District (DC36)
Capricorn District (DC35)
Mopani District (DC33)
Mozambique
Ehlanzeni District (DC32)
Sekhukhune District (DC47)
North West
Gauteng
Mpumalanga
Swaziland
N
W
E
S
Location of Study Area
location of The Study area within the Ehlanzeni District (DC32), Limpopo Province
Source: SA Explorer, ver 2001
Dynamic Mapping, August 2005
Cartography: Ray Pillay, August 2005
Email: dynamicmapping@yahoo.co.uk
Projection: Gauss Conformal, CM 29
Clark 1880, Spheroid
Production Date: August 2005
Map Production: Dynamic Mapping
500 0 500 1000 Kilometers

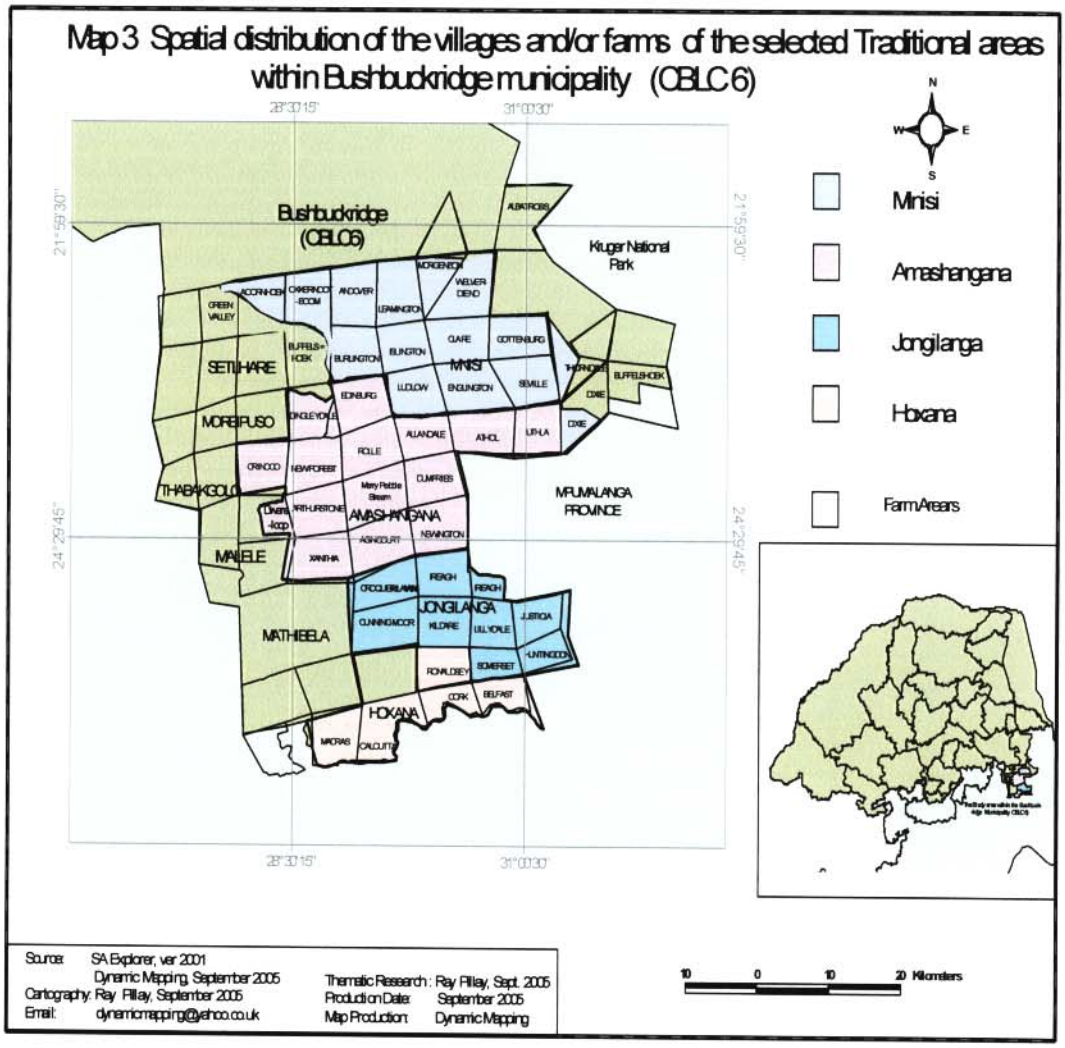

Map 3 Spatial distribution of the villages and/or farms of the selected Traditional areas within Bushbuckridge municipality (OBLC 6)
28°30'15"
31°00'30"
21°59'30"
24°29'45"
Bushbuckridge (OBLC6)
Kruger National Park
SETLHARE
MORERUSO
THABAKGOLO
MAKELE
MATHIBELA
MINISI
AMASHANGANA
JONGILANGA
HOKANA
MPUMALANGA PROVINCE
N
S
E
W
Minisi
Amashangana
Jongilanga
Hokana
Farm Areas
Source: SA Explorer, ver 2001
Dynamic Mapping, September 2005
Cartography: Ray Pillay, September 2005
Email: dynamicmapping@yahoo.co.uk
Thematic Research : Ray Pillay, Sept. 2005
Production Date: September 2005
Map Production: Dynamic Mapping
10 0 10 20 Kilometers

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APPENDIX B

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CHAPTER 1

INTRODUCTION

In the light of the population increase in many parts of the world the relationship between human societies and their environment is becoming a matter of critical importance. The mounting pressure on natural resources necessitates a new investigation into and a reassessment of the nature of this relationship. In recent years, various conferences were held on the nature/society dichotomy, while increasing numbers of researchers have probed this complex field of study from different perspectives (e.g. Peet & Watts 1996, Descola & Pálsson 1996, Ellen & Fukui 1996, Cotton 1996, Schultes & Von Reis 1995, and Martin 1995).

The patterns of the utilisation of natural resources obviously vary from one culture to another, consequently the ethnoecology, of which ethnobotany is one of the major branches (Martin, 1995: xx-xxi), has to be investigated and described for every ethnic group. Martin says that "ethno- is a popular prefix these days, because it is a short way of saying 'that's the way other people look at the world" (1995: xx).

The cultural values and practices of the society concerned have to be taken account of, to understand the dynamics of their adaptation to the natural environment. However, a cultural ecological study of this nature must necessarily be supplemented by research expertise from relevant disciplines in the natural sciences, e.g. botany, geography and pharmacology, thus rendering the approach a multidisciplinary one. From various disciplines, knowledge should be synthesised with that which is derived from the local group. In so doing, comprehensive understanding can be gained of a region's natural resources, its exploitation and management.

In this ethnobotanical survey, the utilisation of the plants by the resident Tsonga-Shangana society of the Bushbuckridge area in the Bohlabela district of the Limpopo Province was investigated. It is a multidisciplinary project of which the major theoretical

and methodological foundation was derived from the disciplines of socio-cultural anthropology, indigenous knowledge systems and botany. Use was also made of scientific data accumulated by the departments of geography, pharmacology, zoology, soil science, agriculture, and psychology.

1.1 Defining the field of study

Ethnobotany is one of the branches of ethnoecology which is the study of people interacting with various aspects of the natural environment, including plants, animals, land forms, soil types, etc. It is defined as follows by Martin:

> The term ethnoecology is increasingly used to encompass all studies which describe local people's interaction with the natural environment, including subdisciplines such as ethnobiology, ethnobotany, ethnoentomology and ethnozoology. Ethnobotany is that part of ethnoecology which concerns plants (1995: xx).

The significance of ethnoecology as a field of study is continuously increasing as the relationships between people and their environment becomes more critical due to the higher demands being made on natural resources. Prance emphasises this development and gives a number of reasons for it:

> Ethnoecology has blossomed in recent years into an important science because of the realisation that the vast body of knowledge contained in both indigenous and folk cultures is being rapidly lost as natural ecosystems and cultures are being destroyed by the encroachment of development. Ethnobotany and ethnozoology both began largely with direct observations about the ways in which people used plants and animals and consisted mainly of the compilation of lists. Recently, these subjects have adopted a much more scientific and quantitative methodology and have studied the way in which people manage their environment and, as a consequence, have used a much more ecological approach (1995:xvi).

Martin (1995: xxi) says that ethnoecology is no longer concerned with mere list-making. Systematic research into local ecological knowledge allows us to address theoretical questions about the relationship between humans and their environment and to contribute to rural development and conservation projects. He also emphasises the multidisciplinary and applied nature of this science:

> As a discipline which integrates many diverse academic fields, ethnoecology is having an impact on the way that basic and applied research is carried out. After decades in which the natural sciences and even the social sciences have become increasingly reductionism, ethnoecology promises to give a holistic view of our knowledge of the environment. This basic goal of natural history, nearly abandoned in the quest for specialized knowledge in fields such as particle physics and molecular genetics, is gaining new importance as scientists seek to understand the ecological wisdom of local people (1995:xxi).

Ethnobotany is a subfield of ethnoecology and is the major preoccupation of this study. A concise but balanced definition of ethnobotany is offered by Cotton:

> Ethnobotany studies the mutual relationships between plants and traditional peoples. Attention is focused not only on how plants are used, but also on how they are perceived and managed, and on the reciprocal relationships between human societies and the plants on which they depend (1996:1).

According to Lipp (1995:52) the various fields of ethnobotanical research principally encompass the utilisation of plants in non-Western societies; folk taxonomy; archaeological vegetal remains; the origins and domestication of cultivated plants; the ecological effects of human activity upon plant communities; and the symbolic role of plants in religion and folklore.

Ethnobotany is essentially a multidisciplinary field of knowledge. Lipp (1995:52-53) says that the theoretical and methodological approaches involved in ethnobotanical research

depend primarily upon the investigator's principle discipline, whether it be botany, anthropology, agronomy, pharmacology, geography, or another science. To this he adds:

> ...it is the interdisciplinary and integrative nature of the field that vastly enriches it. At the same time, it should be clear that no single theoretical framework and methodology can encompass the diverse areas of study within the field of ethnobotany. Even a broadly-based, ecologically oriented systems approach would be of limited use to, for example, linguists studying local plant names as a means of identifying the origins and movements of ancient peoples (1995:53).

1.2 The rise of ethnobotany as a discipline

For thousands of years, the dependence of human societies on the plant kingdom for the fulfilling of a significant part of their needs has increased. Eventually agriculture, which is the ability to domesticate certain plants, was developed. This practice gave rise to a different kind of dependence, particularly on food plants (Schultes & Von Reis, 1995 b: 11). The great significance of plants is reflected in various ideas that were, since early times, entertained about the qualities and characteristics of plants. Greek philosophers such as Theophrastus and Aristotle popularised the idea that each plant has a *psyche* or soul. According to Schultes & Von Reis (1995 a: 20), this belief survived in European thinking well into the sixteenth century; and they add to it:

> Western ethnobotany stemmed from the teachings mainly of Aristotle... whom we might honour as the earliest 'father of Western ethnobotany.' Much of the belief in the medicinal efficaciousness of plants that permeates European herbals in the medicinal years can be directly traced to Greek ethnobotanical writings (1995 a: 20).

There are also records of what may be termed "general ethnobotanical beliefs" that were entertained by European societies in the Middle Ages – particularly in the field of ethno-medicine. The same can be said of most other cultures (Schultes & Von Reis, 1995 a: 20). In North America, ethnobotanical studies as a separate field had its birth with the

coining of the word *ethnobotany* in 1895 by the botanist, John Harshberger (Schultes & Von Reis, 1995 a: 21). Lipp (1995:52) says that "ethnobotanical studies have been commonly carried out by botanists (e.g., Melvin R. Gilmore) and by anthropologists (e.g., David P. Barrows, Ralph L. Roys). The eminent anthropologist Alfred L. Kroeber (1916) produced a statistical study of the inter-island floral relationships of the Galápagos Archipelago."

During the 20th century, great advances were made with this science. Davis says:

> As anthropologists working in ethnobotany became concerned with the totality of the place of plants in a culture, the intellectual potential of the discipline began to be realised... Several themes emerged. The important concept of cultural relativism was reinforced by studies of folk classification... Work in medical anthropology highlighted the significance of non-Western concepts of health and healing and, in doing so, emphasised the elaborate connection between spiritual belief, psychological predisposition, and pharmacology that underlies all indigenous practices involving psychotropic preparations (1995:43).

Davis (1995:43-44) also indicated the vital role of anthropologists who emphasised the on-going dynamic interrelationship between humans and plants. They incorporated advances in ecological studies and thus redefined the human role as but one element in a complex and ever-changing equation. Plants and human societies became viewed as co-dependents, and the task of the ethnobotanist was transformed from one of compiling plant lists and their uses to one of understanding and evaluating the complex interaction between societies and the floral resources of their environment.

One of the consequences of this modern synthesis in ethnobotany is "an integrative focus that draws upon the expertise of a host of specialists, including botanists and anthropologists as well as ecologists, geographers, soil scientists, pharmacologists, phytochemists, cultural ecologists, and environmental conservationists" (Davis 1995: 44). It is, therefore, multidisciplinary in nature. The relevance of this field of study has markedly expanded during recent years, as natural resources are increasingly endangered

by over-exploitation. Schultes and Von Reis (1995 b:12) say that in the United States and Canada more research is being carried out in this field each year, and that many more university courses in ethnobotany are now being offered. The number of doctoral dissertations based on ethnobotanical field work has also proliferated.

Despite the fact that it is an extremely relevant field of study, a slow start was made with ethnobotanical research in Africa. An African researcher who made a very significant contribution to this field of study is John Kokwaro (1976, 1980, and 1983) of the Department of Botany at the University of Kenya. In Namibia, pioneering work was done in this field by Malan and Owen-Smith (1974). A comprehensive investigation into the ethnobotany of the Kwanyama people in Owambo, Namibia, was conducted by Rodin (1985).

In South Africa, studies conducted before the present decade were few and far between. Those that were undertaken amounted to little more than the listing of plant uses (e.g. Quin, 1959). A new approach became evident in the 1990's, leading to more broadly based ecological studies, e.g. Cunningham, De Jager and Hansen who formulate their program description as follows:

> "...to promote the cultural, socio-economic and scientific benefits to be derived by people from the sustainable use of the Southern African flora" (1993:1).

In the Bushbuckridge area on which this research project focuses, a valuable introductory study was conducted by Els (1997:105-113).

1.3 The problem

Ethnobotany forms part of a field of study referred to as cultural ecology or human ecology. This branch of cultural anthropology focuses on the relationship of specific cultural institutions of a group's adaptation to its total habitat. The fauna, flora, soil, water, and various other natural resources are, or may be, exploited by people to fulfil their diverse needs. In many habitats the flora is regarded as a major asset providing in a

substantial part of a society's subsistence needs. To understand the relationship between the flora of a region and the resident society, knowledge must be gained about the culture of the group, the characteristics and availability of the natural resources, and the effects of various degrees and ways of the utilisation of these resources by humans.

A major part of the problem is to understand the cultural values and cosmology of the society concerned. These values and perceptions determine the needs and dispositions of members of the society, and consequently also the way in which they will value and exploit the resources in their environment. Different cultures will, therefore, have different ways of valuing and utilising certain resources. On the other hand, the possibilities and limitations of the resources must also be investigated. The adaptation of societies to their environment can to a large extent be understood in terms of the possibilities for survival offered to them.

Research must also shed light on the problem of the mutual influencing between culture and environment. David Bidney (1953:375) says: "I maintain that culture is essentially a polar concept and is unintelligible apart from a reference to nature, human and cosmic... Culture involves the integral development of the potentialities of human nature, as well as of the cosmic environment, with a view of fitting man to nature and nature to man." Another problem relates to the possibility of an imbalance between society and nature, resulting in the over-exploitation of resources. Creative manipulations of culture and environment by people can foster a more secure economy. But it can also deplete strategic resources and threaten the long-term survival of the group as well as the sustaining of subsistence resources.

1.3.1 Culture and environment

Anthropologists have always concerned themselves with the interaction between culture and environment. Miller (1979:196-7) describes the various stages through which the nature/society dichotomy developed: Around the turn of the century they believed that cultural institutions were mainly caused by the environment to which they adapted. This

approach to the study of culture is called environmental determinism or environmentalism. As comparative cultural data accumulated early in the century, the theory called environmental possibilism began to displace environmentalism. Possibilism is based on the assumption that environmental factors limit the adaptive possibilities for a given culture but does not determine which adaptations or choices a society makes. Different cultural groups may, therefore, adapt in different ways to identical environmental conditions by the eclectic exploiting of resources.

Possibilism advanced but did not resolve the environment-culture question. By the middle of the 20th century, anthropological thought was moving towards a more balanced concept of the interplay between the physical environment and cultural systems. The latter approach, which has become known as cultural ecology, concerns itself with the ways in which particular environmental features are interwoven with specific aspects of culture, selecting only those environmental characteristics and those particular cultural arrangements which can be functionally related.

1.3.2 Cultural ecology

The approach of cultural ecology, as well as the tremendous impact that societies may have on their ecosystem, is explained as follows by Miller:

> Humans are part of a larger community that includes plants and animals as well as the physical features of the environment. This community is called an ecosystem... Whenever humans are part of a given ecosystem, they are its most dynamic members. Ecology studies the ways in which all living organisms interact within the environment (1979:195).

A critical concept in ecological studies in Anthropology is that of adaptation. Human societies have to adapt to their habitat in order to survive. Cultural institutions result from the way in which people adapt to their social and natural environment (Ember & Ember, 1996:32). The problems that have to be dealt with in this regard concern the way in which a particular group value and exploit the resources in their habitat. Cultural values,

needs and practices have to be understood and duly taken account of. On the other hand the nature, capacity and renewability of the natural resources are also a problem that needs to be investigated. Kottak (1994:44) says that creative manipulations of culture and environment by people can foster a more secure economy, but it can also deplete strategic resources. Adaptation can, therefore, become maladaptation and threaten the long-term survival of the group as well as the sustainability of subsistence resources. Various factors such as overpopulation and the heavy exploitation of resources for purposes of internal and external trade, can give rise to maladaptation (Kottak 1994:44). This problem is escalating to the point where many of the heavily exploited species are endangered and some are already extinct. Plotkin (1995:147) says that species extinction is increasing at an alarming rate.

Problems of maladaptation and the consequent threat that it poses to certain plant species in the Bushbuckridge area will also have to be researched.

1.3.3 Indigenous knowledge systems

Indigenous knowledge systems (IKS) are the demarcation of a field of study which also includes ethnobotany as one of the major cultural knowledge systems which has enabled people to survive economically throughout many centuries. It is necessary to review the nature and theoretical concepts of IKS as a framework for studies of this nature. Indigenous knowledge (IK) is the local knowledge that is unique to a given culture or society. It is a systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments and an intimate understanding of the environment in a given culture. It contrasts with the international knowledge system which is generated through the global network of universities and research institutions. Indigenous knowledge reflects the dynamic way in which the residents of an area have come to understand themselves in relationship to their natural environment and how they organise that folk knowledge of flora and fauna, cultural beliefs and history to enhance their lives (Warren et al. 1995: xv).

Morgenstern (2003:45) says that indigenous knowledge is "a very broad term that comprises all aspects of life – food, farming, hunting, medicine preparation and treatment, arts, crafts and technologies used by indigenous cultures around the world. What distinguishes this knowledge from western knowledge systems is its integration in the culture and cosmology as a whole. Each aspect of IK is but one strand of knowledge, intricately linked to the whole web of existence. In contrast, western technology prides itself in its detached and analytical mode of thinking... in which each part can be examined as if it had no bearing on the whole... In recent years scientists have increasingly been turned to the keepers of IK, realising that their age-old systems have managed to preserve an ecological balance, or that their medicines might have tremendous potential for the development of modern drugs."

Nevhutanda (2004:206) says that in Africa, indigenous knowledge "may be substituted by the term 'the system of local wisdom' or 'African wisdom' which means the body of knowledge, abilities and skills of African people accumulated through many years of experience, learning, development and transmission. This body of knowledge has helped solve problems and contributed to the development of people's way of life in accordance with the changing time and environment."

Africa's drive for the development, promotion and protection of IKS comes at a time when major transformation and democratisation processes are being implemented. IKS resources are used for the purpose of identity reconstruction and innovation, the refining and upholding of human rights, achieving a greater degree of democratisation, and ensuring sustainable development. Several global imperatives also underpin the need for renewed attention to IKS. The world needs new, human-centred visions of development in health, conserving the bio-diversity, respect for human rights and in the alleviation of poverty. All agencies of the United Nations are seeking to promote paradigms of sustainable human development that build on knowledge resources that exist in local communities. Africa is seeking its own renaissance by establishing the terms of its development. Despite the affluence that globalisation has brought to a small minority, we live in a world in which subjection, suffering, dispossession and contempt for human

dignity are at the centre of human existence (Odora Hoppers 2002:2-3). To this the author adds:

> Knowledge is a universal heritage and universal resource. It is diverse and varied. The acquisition of Western knowledge has been and still is invaluable to all, but on its own, it has been incapable of responding adequately in the face of massive and intensifying disparities, untrammelled exploitation of pharmacological and other genetic resources, and rapid depletion of the earth's natural resources. For its part, IKS represent both a national heritage and a national resource that should be protected, promoted, developed and, where appropriate, conserved. But it is also a resource that should be put at the service of the present and succeeding generations. By way of definition, the word indigenous refers to the root, something natural or innate (to). It is an integral part of culture. Indigenous knowledge systems refer to the combination of knowledge systems encompassing technology, social, economic and philosophical learning, or educational, legal and governance systems" (2002:9).

Indigenous peoples are making choices about the resources in the environment they live in – an environment which has been for centuries the source of food, water, medicine, and other natural resources that sustain them and their families. They know what valuable knowledge to meet their multiple needs is. From experiences gained through trial and error they know how to treat disease, tend livestock, manage water resources, provide health therapies, and how to preserve and pass on such local knowledge from one generation to the next (Semali & Kincheloe 1999:6). Sigot (2004:147) confirms this conclusion by saying that IK comprises "knowledge that people have inherited from their ancestors. It is a people-derived science and it represents people's creativity, innovations and skills." Grenier (1998:1) says: "IK systems are also dynamic: new knowledge is continuously added. Such systems do innovate from within and also will internalize, use, and adapt external knowledge to suit the local situation."

In the light of the above, the main characteristics of IK can be defined as follows:

- IK is generated within communities.
- IK is location and culture specific.

- IK is the basis for decision-making and survival strategies.
- IK is not systematically documented.
- IK concerns critical issues of human and animal life, and resource management.
- IK is dynamic and based on innovation, adaptation and experimentation.
- IK is oral and rural in nature.

Grenier (1998:2-3) says that although each IK system consists of an integrated body of knowledge, researchers tend to focus on specific aspects of it, such as the following:

Learning systems – indigenous methods of imparting knowledge, indigenous approaches to innovation and experimentation, indigenous games, and indigenous specialists.

Local organisations, controls and enforcement – traditional institutions for environmental management, common-property management practices, traditional decision-making processes, conflict resolution practices, traditional laws, rights, taboos and rituals, and community controls on harvesting.

Local classification and quantification – a community's definitions and classification of phenomena and local flora and fauna, and indigenous methods of counting and quantifying.

Human health – nutrition, human-disease classification systems, traditional medicine and the use of herbal remedies in the treatment of diseases, the locations of medicinal plants, the proper times for collection, the most useful parts, and the methods for preparing and storing medicines.

Animals and animal diseases – animal breeding and production, traditional fodder and forage species and their specific uses, animal-disease classification, and traditional ethno-veterinary medicine.

Water – traditional water-management systems, traditional techniques for irrigation, use of specific species for water conservation, and freshwater and saltwater fisheries.

Soil – soil conservation practices, the use of specific species for soil conservation, and soil fertility enhancement practices.

Agriculture – favourable time to prepare, plant and harvest gardens, land-preparing practises, seed storage, indigenous methods of sowing, seedling preparation and care, crop harvesting and storage, food processing, exchange and consumption.

IK needs to be preserved and expanded. Nevhutanda (2004:206) says:

> "There are three main reasons why African indigenous knowledge has faded away from our African way of life. The first of these was the system of education that we adopted from the West, which focuses on modern knowledge such as mathematics and the sciences. The system is accompanied by professional teachers, who have also been trained in the modern system of teacher training. The second factor was the lack of research and development in the field of indigenous knowledge. Most of the research, both in educational and research institutes, is conducted in the field of post-modern science. Thirdly, the status of indigenous knowledge specialists was not recognised when compared to post-modern knowledge educators."

1.3.3.1 The relevance of IK

Grenier (1998:6-8) explains the relevance and value of IK as follows:

IK has been described as an "alternative collective wisdom" relevant to a variety of matters at a time when existing norms, values and laws are increasingly called into

question. The need for some alternative wisdom in development initiatives is supported by the following observations:

- Ecological deterioration, economic decline at the local level, poorer diets and nutritional losses resulted from the eradication of traditional foods and their substitution by non-traditional foods.
- Development as planned and implemented for the last 30 years has placed unprecedented pressures on the planet's soils, watersheds, forests and other natural resources.
- Some development solutions from outside are based on incorrect assumptions, are not economically feasible or culturally acceptable, and are often abandoned (for example, techniques are too complex or require too much maintenance).
- Some technical solutions are introduced to solve problems not perceived on the local level and are abandoned.
- Development interventions tend to benefit small numbers of people from relatively privileged groups.
- Some critics observe that communities receiving the most externally driven development assistance become less capable of handling their own affairs.
- Top-down planning fails to promote effective natural resource management on the local level.

Development practitioners argue that paying attention to local IK can:

- Create mutual respect, encourage local participation, and build partnerships for joint problem resolution.
- programmes, avoiding costly mistakes.
- Identify techniques that can be transferred to other regions.
- Help build a more sustainable future (Grenier 1998:8).

The main strength of traditional practices for sustainable development is that they have evolved within specific cultural and environmental conditions. Certain techniques have

proved to be sustainable as they have given good results over a long period. Traditional methods, however, do not always guarantee sustainability. Slash-and-burn agriculture, for instance, can become unsustainable when cultivated areas do not lie fallow long enough for soil regeneration to take place. Like modern techniques, indigenous practises have to meet certain conditions in order to be sustainable.

1.3.3.2 Indigenous food systems

Sigot (2004:146-147) says: "Plants continue to provide most of the rural population's food ingredients. Traditional societies have always exploited edible wild plants to provide an adequate level of nutrition. These plant resources play a very significant role in nutrition, food security and income generation. For many generations, throughout the African continent, small plots of land near homesteads have been used as home gardens. Because these gardens serve a family's own needs, they contain a whole range of plants that provide food and medicine... Indigenous food, also referred to as 'traditional' or 'local', is deeply imbedded in the community and is unique to a given culture, location or society. The term refers to the large body of knowledge, skills (indigenous knowledge systems and practice) and indigenous technological knowledge about certain foods that enable communities to survive. These include the basis for agriculture, healthcare, food preparation, education, environmental conservation and a host of other activities."

1.3.4 Ethnobotanical adaptation in Bushbuckridge

The problems that were investigated in the Bushbuckridge area constituted a typical ethnobotanical inquiry as indicated by Martin:

> There are four major interrelated endeavours in ethnobotany:
> (1) basic documentation of traditional botanical knowledge;
> (2) quantitative evaluation of the use and management of botanical resources;
> (3) experimental assessment of the benefits derived from plants, both for subsistence and for commercial ends; and
> (4) applied projects that seek to maximise the value that local people attain from their

ecological knowledge and resources (1995:3).

1.4 Hypothesis

Martin explains the relation between theory and hypothesis as follows:

> Research should be guided by theories and hypotheses. A theory is a general model or set of principles that describe natural and social phenomena. From theory, we derive hypotheses – the tentative assumptions which can be explored through observation and empirical testing and which lead us on to more sophisticated ways of collecting data and deeper interpretations of research results. When a hypothesis is supported by our analysis of the data, the theory stands. When a hypothesis is rejected through discovery of information that contradicts our tentative conclusion, the theory must be modified or discarded (1995:24).

The following hypotheses will be considered in the target community:

- that the culture of the Tsonga-Shangana community has its own value system and needs that will account for its economic and other needs;
- that the people adapt to their natural environment and exploit species of the flora selectively in terms of their needs;
- that their knowledge of the flora forms the basis of an ethnobotanical system of classifying plants, being part of a more comprehensive ethnobiology;
- that factors such as population increase, the increase in economic needs, as well as the expansion of trade, have given rise to serious over-exploitation of the flora;
- that as a consequence of communal practises of exploitation, renewable resources are not afforded the opportunity to recover from the impact on them;
- that the traditional system of resource management may be completely inadequate to address the present problems resulting from maladaptation; and
- that regional and national strategies to manage, preserve and protect natural resources are also inadequate and should be reconsidered.

1.5 The naming of plants

The Tsonga vernacular names will be analysed to determine the different principles used to name plants. The meanings of these names will obviously reveal some of the perceptions about plants in the Tsonga-Shangana culture. In his ethnobotanical research among the Venda, Mabogo (1990:197-199) identified the following categories of the naming of plants:

Names based on functional significance. The name may indicate the purpose for which the plant is used, the taste or effect when used, and the method of medicinal or magical application.

Names derived from morphological and anatomical features. Typical features used to name certain trees include spreading branches, very hard wood, black colour of roots, and leaf texture.

Names based on the morphological, utilitarian, behavioural or nutritional relationship of the plant with others or with animals. Examples include the **Muangasese** which has leaves similar to those of *Peltophorum africanum*, known as **Musese**, the **Tshitoni** of which the flower head appears like the hair on the body of the hedgehog, and the **Mulanotshi** which is always swarmed by bees when in flower.

Names based on the chemistry of the plant. Names are often derived from the presence of aromatic compounds in the plant, for instance the **Munukhatshilongwe**.

Names based on the response of the plant to environmental factors or touch. Examples include **Mulambatshipalo** (never loses all its leaves at the same time), **Tshiteaduvha** (follows the direction of the sun rays) and **Murialu** (it is shy, for *Mimosa pudica*).

Names based on the habitat. Examples include **Muendanathavha** (grows on mountain sides), **Mutumadi** (grows on river banks and other moist places), and **Musalamarubini** (it remains growing in abandoned settlements).

Names with an onomatopoeic derivation. Examples include **Muunga** (sound made by wind against its bark), **Muthethenyua** (breaks cracking when dry), **Murera-vhusiku** (rustling sound of leaves when blown by the wind), and **Mushushaphombwe** (the rustling sound of its leaves frightens adulterers during the night).

Rankoana (2000:114-117) listed the following identification criteria for plants among the Dikgale of the Limpopo Province:

Functional significance. There are extensive medicinal and magical uses of the flora in Dikgale culture, and in many cases these applications of plants gave rise to their naming. Examples of such names are: **Maime** (self-strength). A medicine prepared from this plant is used to strengthen the dignity of a person. **Mohlakola** (the rescuer). Medicine derived from this tree is applied to rescue one from a malicious condition caused by witches. **Phela** (to be alive). This herbal remedy cures cough and helps one to stay alive. **Bjere** (powerlessness). The name of this shrub conveys the idea of beating one's opponent in a court-case, or in other contests, by making him powerless. The quality of powerlessness is magically transferred to the person who takes the powder made from the plant's root bark. **Morarwano** (tangled). The root of this climber serves as magical means to tangle enemies such as thieves and witches. There are also uses of plants which are related to their names, for instance **lefielo** (broom). Its culms are bound together and used as a broom to sweep (**go fiela**). **Maswi-a-pudi** (goat's milk). This potherb is only palatable when cooked with goat's milk.

Morphology. The names of some plants are derived from their appearance, colour or other characteristics. The following are examples: **Moselaphala** (a buck's tail). The shape of *Acacia permixta*'s branches resembles the tail of a buck. **Letelele** (a slimy

texture). The leaves of *Amaranthus spinosus* have a slimy texture. **Mosehla** (yellow-whitish). The African wattle, *Peltophorum africanum*, has a yellow-whitish crown.

Habitat. There are also species that are named after the habitat where they are naturally found, such as the following: **Phelalegolana** (live in the veld). This species, *Dicoma gerrardii*, only grows in the veld. **Lehlakanoka** (river-reed). The river-reed only grows in very moist areas, particularly in the shallow water along rivers.
The criteria for the naming of plants among the Tsonga-Shangana will be investigated with a view to establishing the principles applied.

1.6 Cultural classification of plants

Many ethnobiologists have proposed ways of analysing local people's categorisation of plants and animals. According to Martin (1995:215-216) a scheme of folk classification devised by Berlin (1992) is gaining general acceptance among researchers. It comprises the following categories: The most general category is the plant **kingdom** in contrast with, for instance the animal kingdom. Secondly, **life forms** are distinguished, such as trees, vines, or grasses. Thirdly, **intermediates** are identified, being small groupings of several generics that are perceived to be similar in some way. This is followed by **generics** which are the most salient category in folk botany. They are the first to be learned by children and are frequently mentioned in interviews. Some generics are further divided into **specific** categories. In English, the generic that corresponds to 'oaks' is divided into many specifics such as 'pin oak', 'black oak', 'burr oak', etc. Vary rarely, specifics are partitioned into **varietals.** For example, a specific corn called 'ancient corn' is sometimes subdivided into varietals known as 'yellow ancient corn' and 'white ancient corn'.

Mabogo says: "The classification of plants by the Vhavenda is both utilitarian and natural. Utilitarian systems tend to classify plants into food plants... medicinal plants... and plants that are utilized for building purposes, firewood or fibres, among other things... Indigenous plants are also classified according to habitat in which case a

distinction is made between trees (**miri**), shrubs (**zwitaka**), grasses (**hatsi**), and vines (**khumbe**). There is no Venda term that relates to herbs." Mabogo says the following about vegetation types: "The classification of vegetation types is very general and loose. A distinction is made between **daka** (forest), **vuvhu** (a field lying fallow and overgrown by a few shrubs and abundant grass, **bulu** (a forest on sandy soil with isolated patches of grass and undershrubs), **dzunga** (dominated by sedges, reeds and grass, especially *Sporobolus* spp., on clayey, salty soils with poor drainage), **tshifhale** (with dark, clayey and salty soils usually dominated by prostrate growing grasses such as *Cynodon dactylon*, and palms...), **tshikhwa** (with thorny shrubs and trees on dry and rocky soils)" (1990:199-201).

Rankoana (2000:117-119) described the following indigenous classification system of plants among the Dikgale of the Limpopo Province: **Mehlare** (trees), **mehlasana** (shrubs), **mabjang** (grasses), **mahlaka** (reeds), and **dikgopha** (aloes). Other generic terms are derived from the utility of plants, for instance **dikgonye** (firewood), **dihlare** (plant medicines), **phulo** (fodder), and **merogo** (vegetable dishes).

In this survey, the various indigenous categories of plant classification in the Bushbuckridge area will be identified in an effort to better understand perceptions about the indigenous flora which relate to its culturally-determined value and utilisation.

1.7 The significance of ethnobotanical research

Vietmeyer (1995:9) makes the strong statement that plants have always been more important than politics – both to human daily living and to history. He argues that millions of subsistence farmers have no idea who their nominal political leaders are, but they know a great deal about their plants. The great historical significance of plants is explained as follows:

> An excellent example is provided by the few wheat seeds of an unknown Mennonite who stuffed his (or more probably, her) pockets before leaving the Russian steppes in the 1870's.

> Those seeds grew into plants so tolerant of cold that they made winter wheat a practical reality for the United States and Canada. By 1919, Turkey red, resulting from the gift of those destitute foreigners, accounted for 98 percent of US winter wheat (1995:9).

Alcorn (1995b:23, 29) says that ethnobotany initially constituted a form of economic exploitation and only later developed into a practice which also serves development objectives:

> In its early days, ethnobotany was implicitly shaped by imperialist motives: collectors were sent to gather useful plants from areas occupied by traditional cultural groups and the collected plants were used for commercial exploitation by the modern world. In today's developing world, however, ethnobotany is shaped by an explicit concern for collecting data within a framework whereby those data will contribute to the development of all classes in all nations and especially to planned development in the region from which specific data are collected... Economic and financial benefits derived from the use, sale, and maintenance of plants are receiving increasing interest as researchers investigate incentives to conserve biodiversity.

It is also emphasised by researchers that ethnobotanical knowledge is important for development planners and policy-makers who devise solutions to local and regional problems with regard to the utilisation of natural resources (Alcorn 1995b:32). During the last two decades the significance and relevance of ethnobotanical research with regard to the protection and management of culturally important plant resources has greatly increased. Lipp (1995:52) says that "in the 1980's, ethnobotanical mitigation, which comprises the protection and transplanting of plant resources valuable to American Indians, became a major component of federally mandated vegetative management and environmental impact programs.

Davis strongly formulates the great significance of ethnobotanical research in solving many of the pressing ecological problems of our times:

> It is to the contemporary environmental crisis that ethnobotany promises to make what may turn out to be its most significant historic contribution. Tropical forests are being destroyed

> at an alarming rate. The result is extinction not only of plants and animals but of human societies... Economic arguments will continue to dominate the public policy debate. Conservationists must seek an environmental policy consistent with these economic realities by showing that the long-term income-generating potential of the standing forest equals or exceeds the short-term gain resulting from its destruction. Ethnobotany can contribute to this strategy in two ways. First, ethnoecological studies may provide models for profitable and environmentally sound multiple use land management programs. Second, ethnobotanists can invoke the considerable economic potential of as yet undiscovered or underdeveloped natural products... Of an estimated 75 000 edible plants, for example, only 25 000 have ever been eaten with regularity, a mere 150 have entered world commerce, and a scant 20, mostly domesticated grasses, stand between human society and starvation... Possibly, the greatest economic potential of ethnobotany lies in the area of folk medicine. Annual world-wide sales of plant derived pharmaceuticals currently total over $20 billion, and a great many of these drugs were first discovered by traditional healers in folk contexts (1995:46-47).

An African ethnobotanist of Kenya, John Kokwaro (1995:217), says that one of the leading ethnobotanical practices in Africa has been, and still is, the use of herbs as a source of medicament for health care (ethnopharmacology). This is the kind of ethnobotany that has given scientists some challenging background for modern drug development. The significance of ethnobotanical research in South Africa has been expressed in strong terms by Van Wyk and Gericke (2000:7) who referred to the great socio-cultural changes that are taking place in the country. Among these are the population shifts from rural to urban areas, changes from subsistence farming to cash-crop production, migrant labour, and unprecedented environmental degradation. These changes have severely eroded traditional knowledge, including ethnobotany. This knowledge urgently needs to be scientifically documented before it is irretrievably lost to future generations.

1.8 Categories of plant uses

To demonstrate the full significance of the utilisation of the flora in the culture of a people plant uses must be categorised as comprehensively as possible. The following are examples of such categories, as cited by Brouk (1975:3-4):

- **Food plants** include cereals, vegetables, fruit, nuts, plant extracts (oil, sugar, gum, dyes, starch, etc.), flavouring plants, beverage plants, and fermentation agents.
- **Shelter plants** include living plants in the form of hedges or other screens around gardens, yards, playgrounds, etc., as well as wind-breaks and shade trees.
- **Ornamental plants** include living whole plants or cut flowers for internal or external decoration.
- **Industrial plants** yield material for industrial use such as timber for building, furniture making, construction of boats, vehicles, etc.
- **Animal fodder plants** provide food for domesticated animals.
- **Medicinal plants** are used in the treatment of human and animal diseases.

In their survey, Malan and Owen-Smith (1974:164-165) identified the following 25 categories of plant uses among the Himba of the Kunene Province in Namibia:

Food; beverages; Curdling, separating and fermentation agents; medicine; medical instruments;	toys and games; twine and roping; tanning agents; Fire-wood, fire sticks, bellows and ovens; smoking requirements; digging utensils;

religious uses; magic and superstition; hygiene; Cosmetics, including perfume, body powder, soap, hairdressing and hair straighteners; beads and art; bedding and clothing; household utensils and containers;	walking and carrying-sticks; weapons; poison; building material; fencing; drinking-troughs; and Stock-feed.

The ethnographic material gained from the survey in the Bushbuckridge area will also be categorised, thereby clearly revealing the nature and extent of plants used.

1.9 Medicinal plants

One of the important categories of plant uses is medicinal. Du Toit (1998:145) says that if there is one area of human study that has been neglected, it is ethnopharmacology. He adds that in spite of the fact that anthropologists over the past century have reported on folk healing, plant remedies, and nature-products, the recognition of products such as quinine, Rauwolfia, digitalis, and the creosote bush – to mention but four – are vastly overshadowed by the neglect of this vast source of medicines.

Plants were once a primary source of all the medicines in the world, and they still continue to provide mankind with new remedies. Today about 75 % of the world's population relies on plants or plant extracts for medicine. Prescription and non - prescription drugs worth $40 million (about R264 million) per year, i.e. roughly half of the medicines used in the world, have active ingredients extracted from plants (cf. Miller, 1994:419). A large amount of day-to-day medicine in our country is still derived from

plants and it is an open secret that large volumes of plants or their extracts as it will be reflected below, are sold in the informal and commercial sectors of the economy. According to Van Wyk, et al. (1997:8), natural products and their derivatives represent more than 50% of all drugs in clinical use in the world. Higher plants contribute no less than 25% to the total. Well-known examples of plant-derived medicines include quinine, morphine, codeine, aspirin, atropine and reserpine. Recently, important new anti-cancer drugs such as taxol (derived from *Taxus brevifolius* and *T. baccata*) and vincristine (derived from *Catharanthus reseus*) have been developed (Van Wyk, et al. 1997:8).

Various African countries are taking active measures to develop IK resources. In Kenya, for instance, a workshop on traditional medicine and its practice was held in November 1992. According to Ntuli (2002:65) the objectives of the workshop were as follows:

- To explore traditional medicine, its practice and organisation.
- To review the utilisation of traditional medicine.
- To examine the legal aspects of traditional medicinal practice.
- To sensitise policy-makers and scholars about previous and ongoing research in traditional medicine.
- To provide recommendations to guide future policy, legislation and research on traditional medicine.

The total medical resources available to and utilised by a community or society, including popular, traditional and biomedical forms of therapy, can be said to constitute its ethnomedical system. An ethnomedical system evolves from a people's world-view. It incorporates theories of illness and patterns of illness behaviour that reflect socially constructed systems of meaning, values, norms and interpersonal relations. Ethnomedical systems are maintained by an array of supporting social institutions and therapy specialists, including traditional healers. A primary function of the traditional diviner/healer is to identify and neutralise the power of witchcraft, which is a perceived cause of much illness and disruption within individuals and communities. The traditional

healer is held in the highest respect because of his/her unassailable social and moral character, and for being dedicated to the community's welfare and peace. His/her ability to divine and interpret visible and invisible signs of spiritual and supernatural phenomena, renders the traditional healer indispensable in societies with strong cultural beliefs about the supernatural causation of most human afflictions, suffering and distress – being either perpetrated by evil individuals or angry ancestors. The cultural significance of ethnomedicine in Africa, of which a large percentage is plant-based, ensures that the services emanating from it will remain functional for a long time to come (Good 1987:20-23).

1.10 Underlying causes of biological environmental changes

It is common knowledge that human impact on the global environment has increased greatly in recent centuries. Miller (1994:261) mentions that since agriculture began about 10,000 years ago, human activities have reduced Earth's forest cover by at least one-third to about 34 % of the world's land area. It is undisputed that forests have been exploited and cleared. Cropland has increased in extent, and its use has intensified. Domestic livestock have increased in number, and their grazing pressures have increased in severity. Quite a significant number of factors greatly contribute towards the changes of the environment.

This study shall focus on the following significant factors:

1.10.1 Population growth and poverty

In his environmental monograph, Van der Watt (1998:39) explains population growth as follows:

> From about two to five million years ago till the Middle Ages the human population did not grow significantly. There used to be a high level of infant mortality and death because of illness, environmental hazards and wars. This kept

the population growth in check. During the Middle Ages many people died of the Black Death or The Plague, an illness that was spread by rodents.

Van der Watt (1998:39) points out that since the technological age however, the human population has grown exponentially. He ascribed this to the better medical care and fewer environmental hazards emanating from technological advancement. Two forms of population growth, viz linear and exponential growth (cf. Miller 1994:6) also are recognized.

Population growth in the study area should be viewed and understood in the light of the global current rate of exponential growth reflected by Miller as follows:

> It took 2 million years to reach a billion people, 130 years to add the second billion, 30 years for the third, 15 years for the fourth, and only 12 years for the fifth. At present growth rates the sixth billion will be added during the 10 year period between 1987 and 1997, and the seventh only 9 years later in 2006 (1994:7).

Viljoen (1996:2) on the other hand mentions that the maximum capacity of the earth is 30 billion people with 10 billion as the maximum that can be supported with any degree of comfort and with a decent standard of living. Based on this assertion it is estimated that children who were born in 1980 for instance will be 50 years old when the saturation point is reached (1996:2). This will be by the year 2030, provided no unforeseen natural calamities unfold and the status quo of the crude death rate and crude birth rate remain static.

Population growth and its concomitant deforestation at Welverdiend in particular and the study area in general should be understood against the background of the following words of the Welverdiend headman, L.M. Mlambo. Mlambo was about 78 years old when interviewed on this issue in July 2004. In his own words he said:

Case 1: *I was born at* Guernsey *in* Klaserie. *Families (households) were fewer in numbers. (***A wu ngo bala kunene hi tintiho** *- they were easy to count). I knew almost everyone in the vicinity. The area between the* Drakensberg *and the* Kruger National Park *had an extremely low density population but densely forested. In 1931 all families were forcefully removed from* Mdasiri (Klaserie*). We scattered all over the eastern farms of* Welverdiend, Clare, Islington *and* Cottondale. *Some of these farms like* Welverdiend *and* Clare *were so densely forested that they were referred to as* **mananga** *(bushes) with an abundances of game and old growth forests. All game species existed here. At night lions became regular guests invading cattle kraals and killed our stock. By then I knew almost every household at* Welverdiend, Clare *and* Manyeleti *(*Gottenberg*). I knew most of the households at Islington,* Cottondale, Ludlow, Edinburg *and* Rolle. *These households had scattered all over the area and were adjoined by footpaths. Between* Welverdiend *and* Buci *(referring to the* Bushbuckridge *town where magisterial offices and a police station were situated) there were just networks of public footpaths. The area was fearful because of the dense forests with scattered households/families. Some families were 10 miles (16 kms) apart. Our nearest railway station at* Rolle *was also difficult to reach because of dense forests. Rumours about the presence of cannibals were regularly spread, though I cannot recall a single incident of human attack by cannibals. This situation of low density population and heavy forestation prevailed for several years until late 50s and early 60s when people all over the* Bushbuckridge *area were resettled in lots (***malayeni***). The entire process of resettlement involved the setting up of new dwelling structures, construction of new kraals and the clearing of new fields. With the passage of time new communities like* Dixie, Seville, Thorndale, Cork, *and* Ultah *evolved. It then became impossible to know all households in other trust lands. Meanwhile game gradually became depleted. The last vestiges of the big game like antelope, zebra, gnu, etc. were carried away with helicopters*

and relocated elsewhere, possibly in the game farms or sanctuaries in the 1970s. The **malayini** *accelerated population growth as boys and girls readily met. Since settlement in* **malayenini**, *households have multiplied tremendously. The influx of the* Mozambican *refugees in the 80's also resulted in a further population expansion. Grazing land is no more. People have also cut off all forests. From here (*Welverdiend*)* Bushbuckridge *is just like a savannah area. You can literally see* Bushbuckridge *from* Welverdiend - no *forest but households only (***I miti ntsee***!). It is no longer scaring to go to* Bushbuckridge. *Even a youngster can walk from here (*Welverdiend*) to* Bushbuckridge *without any fear.* **Vanhu se va tele ngopfu** *(people are just too many).*

(The headman L. Mlambo outlines the physiographical background of the Bushbuckridge area).

The description above is understandably based on personal experience and observation. Although no statistical figures were provided to support the description, the information is useful and provides an overall picture of population growth and its impact on the natural vegetation of the area in question. According to this account population growth had been consistent for some decades. With the influx of the refugees from Mozambique, population growth suddenly became exponential. The table below gives a clear picture of population growth in the Bushbuckridge area from 1950 to 1990, as well as estimated figures for 2000 and 2010.

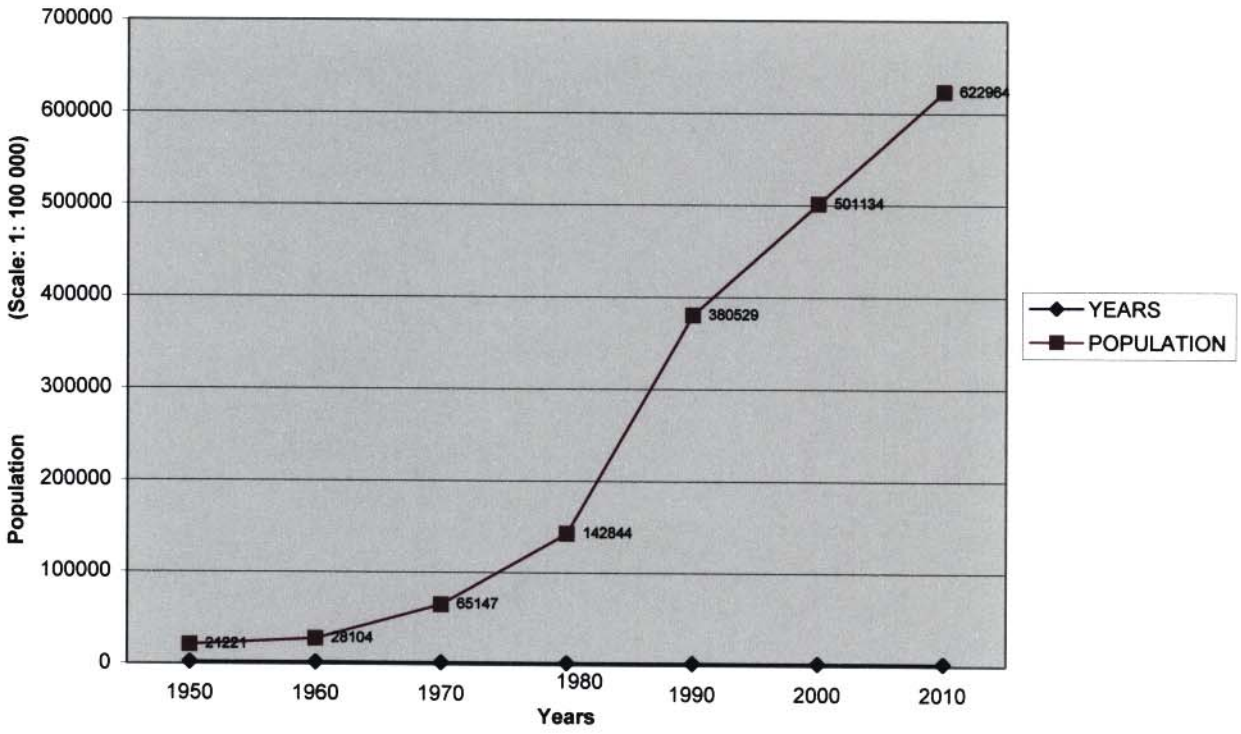
Table 1: Population growth in the Bushbuckridge area (1950 – 2010)

Year	Total population	Differences	% Growth
1950	21 221	X	X
1960	28 104	6 883	32,43
1970	65 147	37 043	131,80
1980	142 844	77 697	119,26
1990	380 529	237 685	166,39

2000	501 134	120 605	50,74
2010	622 964	121 830	24,31

Population growth in the Bushbuckridge area also assumes a near J-shape curve of exponential growth as shown in the ensuing graph (Figure 1):

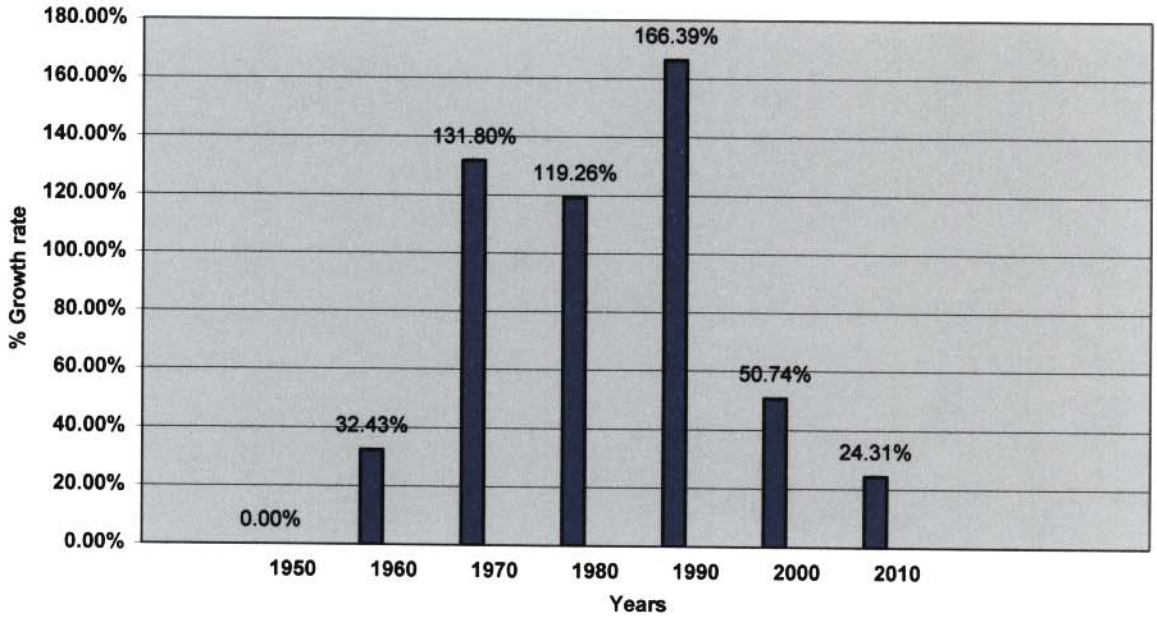
Fig.1 Population growth of the Bushbuckridge area



The table above is based on the figures provided by The Development and Infrastructure. Admittedly, a population figure for 1950 has not been given. To arrive at this figure (21 221) the 1951 census figure of 21 810 provided by the Development and Infrastructure (DI) has been considered, thereby subtracting its 2.7 % growth rate. The same method was used for the 1991 figure to determine the 1990 figure. The 2000 and 2010 figures are projections based on the 2.6 % and 2.2 % growth rate respectively as per suggestion by Pieterse, et al. (1999:1.2). The 1990 population figure of 380 529 is a combination of the *de facto* census number and the number for Mozambican refugees i.e. 246 459 + 134

070 = 380 529. It is therefore not a surprise that the 1980 – 1990 decade figure shows the highest point of population increase. The ensuing decades show fluctuating increases. The following bar chart is used to illustrate the description of population increase above:

Fig.2: Growth rate (%) in the Bushbuckridge area



Given the 1996 census figures of population and Mozambican refugees as 294 421 and 158 000 respectively which total 452 421 and assuming that the growth rate of 2.6 % p.a. is maintained until 2000 and 2.2. % for 2001 until 2004 as assumed by Du Toit et al. (1999:1.2) the population growth in the following years will be as follows:

Table 2: Bushbuckridge population growth and the number of people per hectare

Year	Population	Population number/ha
1997	464 184	0,26
1998	476 253	0,26
1999	488 435	0,25
2000	501 134	0,24
2001	512 159	0,24

2002	523 427	0,23
2003	534 942	0,23
2004	546 711	0,22

Population per hectare also gives a clear indication of population growth. As the population increases the living space decreases. In this study we are currently concerned with the population of between 534 942 and 546 711 with a living space of 0,22ha per capita. In 1951 for instance, the area was less populated with a higher living space of 5,6ha per capita. By 2010, with a projected population of 622 964, the living space shall be 0,19ha per capita. Population growth unfortunately impacts on the natural environment. More and more space is required for dwelling and cultivation. Not only does the space diminish, deforestation also becomes the order of the day. This is a gradual unnoticeable process, which in the end has a telling effect on the natural environment as a whole as described by the headman L.M. Mlambo above.

1.10.2 Land cultivation

The Tsonga-Shangana are traditionally and emotionally agriculturalists with each family owning a cropland, **masimu**, which is usually within a walking distance from the homestead. The sizes of **masimu** vary from 1-5ha.

Since the 1980s there has been a sharp increase in the population of the Bushbuckridge area (Fig.1). More land is required for cultivation, resulting in the felling of trees. Although a few big trees are usually left standing in the **masimu**, for shade, and not necessarily preservation, most of them are cut down and removed completely. The remaining stubs are burnt flat to the ground. At Gottenberg and Seville which are predominantly *Acacia* species areas, these species have been completely destroyed from the **masimu**, with the belief that they negatively affect the growth of crops. River side cultivation, introduced by the Mozambicans, has caused the destruction of riverine trees like *Schotia brachypetala*.

1.10.3 Use of wood for building and construction

Building of huts and other related structures and the construction of animal's enclosures requires material from plants. Although western material is becoming more common, many people use plant material, especially the Mozambicans. Because licenses for cutting poles are readily available, trees are cut any time of the year. Three species with long straight trunks and shrubs or small trees with straight and long stems are used in building and construction. Species like *Terminalia sericea*, *Albizia harveyi* and *Accia nigrescens* are on sharp decline because of their suitability for building and construction. On the other hand, species like *Pterocarpus angolensis* are so scarce, and yet valuable, that they have been protected.

1.10.4 Collection of firewood

Fire plays an important role in the life of the Tsonga-Shangana. As a basic need, it is essentially used for cooking, baking of clay pots, light and warmth, and the preparation of medicine. The Tsonga-Shangana usually prefer hardwood for fire purposes. Species of *Combretum, Dichrostachys*, and *Acacia* are generally preferred. These species produce less smoke. A perception is held among the Tsonga-Shangana that smoke, if not excessive, is generally good for cleansing the eyes. Species like *Sclerocarya birrea, Lannea schweinfurthii*, and some *Ficus* species are used as firewood for warmth and eye cleansing. Plants producing excessive smoke like *Mundulea serecea* are always avoided. The majority of plant species in the study area is used for firewood, resulting in the depletion of these trees.

1.10.5 Veld fires

The veld ecosystem of the Bushbuckridge area is affected by two types of fires: ***surface fires***, which usually burn only undergrowth and leaf litter on the forest floor, and ***crown fires*** which burn whole trees and leap from treetop to treetop (Miller, 1994:398). .Crown fires are more frequent in the study area due to the thick vegetation. These rapidly

burning fires usually destroy all vegetation (Plate 9), kill wildlife, and lead to accelerated erosion.

1.11 The impact of plant utilization

Ethnobotanical surveys also form a major part of impact studies on natural resources. Rankoana (2000:120-124) identified the following activities as having a major impact on the flora among the Dikgale:

The clearing of land for settlement and cultivation. The rapid population growth as well as the influx of people from outside has greatly increased the process of deforestation to clear land for settlement and cultivation purposes.

The collecting of wood for construction purposes. Extensive use is made of timber for the wooden frames of traditional mud huts, as well as the beams and wicker-work of the roofs. Fences and cattle-enclosures are also erected with tree trunks or thorny branches. The main trunks of young trees are often cut, thereby destroying the entire plant. Some species can re-sprout from their roots or stumps while others are unable to do so.

Livestock grazing. Grazing was not found to be a major factor of environmental degradation in this area. However, no transhumant system is followed to ensure the quick recovery of overgrazed areas.

Gathering of plant products. Products of the veld are free to all, and every member has the right to use whatever he or she has gathered. There is much reason for concern in this area. Rankoana (2000:122-123) says: "The harvesting of medicinal plant products is controlled by certain taboos as well as the recognised methods of gathering followed by traditional healers. Only plant parts identified for a specific use are collected. A taboo is observed on the entire removal of medicinal plants. However, these methods have of late drastically changed since the demand for certain species has become much higher than the supply. Illegal gatherers (those from outside the tribal area) have aggravated the situation. They often harvest the whole plant, or remove so much bark from a tree that it

dies. The roots of certain species are sometimes also removed to the extent of seriously harming or even killing the plant. The result is that traditional healers now have to walk many kilometres in search of certain scarce plants. Some of them are even forced to search beyond their own tribal abode, adding pressure on these species wherever they occur."

The gathering of firewood. Rankoana (2000:123) says: "The growing human population gives rise to severe competition in the collection of firewood, which leads to the indiscriminate cutting of trees. This practise has notably decreased the number of trees that are available for grazing and gathering of other plant products. Though certain tribal laws have been passed which forbid the collection of live plants for firewood, many of the villagers still cut live trees and leave them to dry for use as firewood."

Veld-fires. "Veld-fires have both positive and negative effects on the habitat. The controlled burning of dry, course grass proved to be beneficial in killing certain livestock parasites, while stimulating the growth of palatable green shoots. It also improves the quality of fire-resistant species such as *Pappea capensis.* On the negative side, uncontrolled veld-fires under hot and dry conditions destroy the woodlands, thus greatly altering the nature of the habitat and vegetation. It results in the decline of the number of species that are available to foragers and traditional healers" (Rankoana 2000:123).

Mabogo (1990:204) refers to the effects of the over-utilisation of plants among the Venda: "The originally dense and floristically rich forests were first subjected to deforestation through clearing for new settlements and agriculture... Large trees were felled to obtain fencing posts, with only a few left for shade. This created large open spaces which allowed, among other things, high surface wind speeds and rapid drying of the soil surface."

An impact study will likewise have to be done in surveying the ethnobotany of the Bushbuckridge area as information of this nature is vital for the determining of proper management and conservation strategies which will ensure the sustained use of this vital

resource. The impact of plant utilisation among the Tsonga-Shangana of the Bushbuckridge area is reviewed in Chapter 7.

1.12 Ethnobotany and development

Martin (1995:23) says that ethnobotany's contributions to the welfare of humanity have not been trivial. Today, in an era marked by the massive destruction of diversity, not only of plants and animals, but of human cultures as well, basic plant exploration remains a vital and essential contribution of the ethnobotanist. In his book, Cotton (1996:313-346) devotes an extensive section on different forms of commercialisation and conservation in the field of applied ethnobotany, thus emphasising the great relevance of studies of this nature. The applying of ethnobotanical knowledge is also vital in the process of formulating and enforcing management strategies for the controlled utilisation and conservation of the plant resources, particularly in rural areas. Laws should be passed by local authorities to protect and preserve endangered species that are economically important. The indiscriminate felling of trees for construction purposes as well as for firewood should also be controlled. Rankoana (2000:127) says that certain control measures have been instituted by the Dikgale, but says that they are not enough to check the present process of environmental degradation: "Innovative measures will have to be instituted to curb the deterioration of the flora in the Dikgale area, and to promote the recovery of this essential resource."

Ethnobotanical knowledge will be applied in a similar way to emphasise the need for institutionalised control over plant resources, as well as the needs of educating the wider public in observing utilisation practises which will ensure this objective. The application of ethnobotanical knowledge to meet development goals can play a very significant role in rural development. Alcorn (1995a:11) says that ethnobotanical knowledge can be used to improve rural livelihoods, especially in marginal areas, by providing the basis for integrating useful plants and low-input technologies in development programmes aimed at meeting basic needs of societies. Rural health and nutrition can be improved by encouraging the maintenance of gardens and natural plant resources that produce a wide

variety of foods and medicinal plants. The use of proven herbal medicines in the healthcare system can also be encouraged among people who do not have access to pharmaceuticals.

The sustainable exploitation of these resources calls for a broadening in the orientation of development planners. Alcorn (1995a:11) says: "They should look at the landscape with a botanical eye. They should assume that any patch of wild vegetation (wasteland, forest, grassland, or path side swath) is providing something of use to someone. They need to find out what this something is and who that someone is before they replace that patch with some other land use system."

1.13 Research methodology

A combination of qualitative and quantitative research methods were employed to gain the information needed for this survey (cf. Bernard 1994:136-288). Observational, interviewing and questionnaire methods were used, as well as the application of botanical techniques for the collection, preservation and description of plant specimens for identification by the University of Limpopo Hebarium (Turfloop campus). The vernacular names and cultural uses of all species were carefully recorded and later verified. Research was conducted between January1997 and February 1998. From March 1998 to 2006, visits to the field were made intermittently when need arose.

The diverse uses of indigenous flora by members of the local communities necessitated the interviewing of various informants from different societal groups. A questionnaire (see Appendix A) was compiled to facilitate structured interviews with 250 respondents on relevant aspects of their culture, natural environment, needs and the utilisation of botanical resources. Stratified sampling was done to avoid the possibility that important sub-populations may be underrepresented, as may be the case in a simple random sample (Welman and Kruger 2001:55-56).

A total number of 250 respondents were randomly selected – 50 each from the following five categories: traditional healers (25 male and 25 female diviners), men, women, boys and girls. The ages of boys and girls ranged from 15 to 32 years, of who all were unmarried. In the Tsonga-Shangana culture, any person who is not yet married at the age of up to 35 years is regarded as a boy or a girl. The adult group were all 35 years or older. Literate respondents were handed the questionnaires to complete by themselves. Illiterate adults, as well as all the diviners, were personally interviewed.

Apart from the above, extensive interviews were also conducted with a number of key-informants about aspects of their culture. Individuals vary a great deal with regard to their knowledge and interpretation of their culture. They also differ in their willingness and capability of expressing cultural information. Consequently only a few individuals were competent key-informants. They were selected among stock farmers, herdsmen, builders, collectors of veld-food, wood-carvers, collectors of medicinal plants, and traders in wooden products.

A total number of 200 plant species were randomly collected throughout the entire research area. The initial collection period lasted for a full year to ensure that all the changing cycles of the species are captured. Specimens were pressed instantly after collection before the leaves shrink. The specimens were later taken to the herbarium for analysis and classification.

In the determination of the pH-values of the plant species, their leaves were collected; taken to the laboratory; grounded and calibrated. In the case of bulbous plants such as *Boophane disticha* their scales were used to determine their pH-values. The entire process lasted for a month to be accomplished.

In various cases the method of participant observation was used by accompanying people who exploit resources as suggested by Pelto & Pelto (1978:36). The 'hands on' learning of traditional techniques is regarded an important part of the research. Cotton (1996:91) says that the successful collection of anthropological data requires a close and sustained

observation of a people over a considerable period of time. Visitation to the key-informants never ceased as this took place whenever the need arose.

Ethnobotany is by its very nature an interdisciplinary subject, demanding a holistic approach which integrates techniques from botany, anthropology, geography, nomenclature and other fields (Prance 1995: xvi). Martin says:

> Specimens of all species represented in the study must be collected, identified and deposited in a herbarium. The local perception and classification of diverse aspects of the natural environment should be recorded... (1995: xix).

Wade Davis, a Canadian ethnobotanist, has explained why ethnobotany still depends a great deal on extensive data and specimen gathering: "...the act of compiling raw information provides the foundation of any natural science and without a basic inventory theoretical formulations are not possible" (1995:7, 23).

Davis (1995:44) also emphasises the qualitative and interdisciplinary nature of this kind of research, which does not only entail the recording of lists of plants and their uses "but a vision of life itself... to understand not just how a specific group of people uses plants but how that group perceives them, how it interprets those perceptions, how those perceptions influence the activities of members of that society, and how those activities, in turn, influence the ambient vegetation and the ecosystem upon which the society depends."

Ideally, ethnobotanical research should be done by a multidisciplinary team of researchers, with at least a botanist and an anthropologist working together. Davis explains the need for this collaboration as follows:

> Seldom do botanists have the opportunity or inclination to spend a year or more in a single location, and almost never do they have the time or training necessary to master indigenous languages. Yet the depth of one's knowledge of any aspect of a people's ethnobotany is

> directly proportional to one's overall knowledge of the culture... The only means to circumvent this dilemma is the active collaboration of an ethnographer already fluent in the native language (1995:45).

Various benefits may arise from using a researcher who is a member of the local community, thereby indigenising the operation (Shilubane, 1997:207-210; also Hartman 1996). In this way an objective, impersonal approach to the community can be replaced by one of sympathetic involvement with their needs (De Jongh 1991:105). According to Prance (1995: xvi) a sympathetic approach to the local people is needed in order to avoid many of the arrogant approaches of the past and to encourage a fair deal for the group which is being studied. To this statement Martin adds:

> A. Barrera, one of the first promoters of ethnobotany in Mexico, wrote: "The best ethnobotanist would be a member of an ethnic minority who, trained in both botany and anthropology, would study... the traditional knowledge, cultural significance, and the management and uses of the flora. And it would be even better – for him and his people – if his study could result in economic and cultural benefits for his own community" (1995:xix).

The researcher in this project is a member of the local Tsonga-Shangana community in the Bushbuckridge area who is also fluent in their language. He also accepts the moral obligation towards the community to engage in research that will, in a humble way, promote the interests of the community. His training as an ethnographer has acquainted him with the theories and research methods necessary to conduct a project of this nature. The one area in which he lacked sufficient knowledge is that of botany, including the techniques on how to collect plant specimens for later identification at the herbarium of the University of Limpopo. In this regard, valuable training and advice was received from Prof. D C J Wessels, the former Head of the Department of Botany at the University of Limpopo, as well as Mr. P Winter, a former member of the same department.

1.14 Objectives

The proposed research project aimed at determining and analysing the ethnobotany of the Bushbuckridge area as one of the major aspects of the ecology of this region. All the institutions and practices of the resident Tsonga-speaking society's culture that concern the relationship between societies and the natural resources of their habitat, in this case more specifically the flora, will be researched and reviewed. Information on and understanding of the following aspects of the investigation constitutes the following main objectives:

- The major cosmological perceptions with regard to nature and the people's relationship towards it. The relevant ethical values observed in this relationship are also to be identified, and its effects taken into account.
- The culturally determined needs of the people that can be fulfilled by resources in the floral component of the habitat. All major categories of the utilisation of floral products are to be described.
- The listing of all major plant uses. Its cultural significance in the fulfilling of human needs will be indicated.
- An ethnic plant taxonomy in which indigenous generic terms will be used to classify species. The meanings and significance of plant names are to be recorded.
- The impact of the local society's exploitation of plants. The extent of over-exploitation, if it does occur, will be investigated. Endangered and extinct species will be reviewed as part of this process.
- Indigenous strategies of resource management with regard to the flora of the region.
- The effects and control of communal exploitation practices are to be considered.

1.15 The natural environment of the Bushbuckridge area

The word Bushbuckridge is an English translation of the Afrikaans word *Bosbokrand*, which is the original and official name of the area. The name Bosbokrand (Bushbuckridge) has reference to nature:

Bosbokrand is a town situated in the Limpopo Province of South Africa. The name, which means Bushbuck ridge, was given because of the large herds of antelope that were found there in the 1880s. The town grew around a trading store which opened in 1884. Tobacco, cotton and vegetable farming took place in the surrounding countryside (Wikipedia 2007:1).

The name Bosbokrand (Bushbuckridge) is associated with the natural environment as it depicts animal species and a landscape. The Shangana name for Bushbuckridge is Khwahlamba. During the homeland era (1969 – 1994) Bushbuckridge was partitioned into two districts: The Mhala district of Gazankulu for the Tsonga-Shangana and the Mapulaneng district of Lebowa for the Mapulana people. The collapse of the apartheid regime and its homeland structures gave rise to the re-unification of the Mhala and Mapulaneng districts and the re-birth of the Bushbuckridge area which subsequently became known as the Bohlabela district (CBDC 4) (Map 2). Bohlabela constitutes the seventh district of the Limpopo Province. Bushbuckridge has since been divided into 3 local government councils: Bushbuckridge North; Bushbuckridge Midlands and Bushbuckridge South. After the amalgamation nothing significantly has changed. For instance, no tribal or traditional authority has lost or acquired new land.

This study therefore focuses on the four Tsonga-Shangana traditional leaders and their traditional authorities and areas which formerly constituted the Mhala district. The traditional areas in question shall herein be referred to as the Bushbuckridge area or where applicable, as the former Mhala.

The following are the physiographic features of this area:

1.15.1 Geographical location and climate

The Bushbuckridge area lies within the climatic region of the south-east of the Limpopo Province, formerly the Transvaal Lowveld region between 24° 35' to 25° 0' S latitude and 31° 04' to 31° 30' E longitude. On the west it is bordered by the Drakensberg escarpment

and on the east by the Kruger National Park. To the south lies the Sabie River and towns of Nelspruit, Hazyview and White River. To the north is the Klaserie River, the Olifants River and the mushrooming town of Hoedspruit (see Map 3).

Stevenson-Hamilton (1934:11) describes the climate of the Lowveld as tropical in character. For this reason he believes that spring starts on 22nd September, summer on 22nd December, autumn on 22nd March and winter on 22nd June. Bushbuckridge, being part of the Lowveld region, shares these seasons. The Tsonga-Shangana call the seasons **ximun'wana** (spring), **ximumu** (summer), **xixikana** (autumn) and **xixika** (winter). Although they also recognise four seasons in a year, they reckon the starting-point for each season from the first day of the first month of the season.

1.15.2 Rainfall and wind

Although the climate is described as practically tropical, the rainfall in the district is not evenly spread over the period of its incidence. Heavy downpours are usually succeeded by considerable spells of dry weather. Similarly, severe drought early in the season is likely to be followed by heavy rains later, and vice versa. A very wet year will usually be succeeded by an unusually dry one. Stevenson-Hamilton (1934:12) refers to this type of cycle as compensation. Infraplan (1989 Vol. 1:19) summarises the rainfall as follows: "Every 52 years out of 100 years, the rainfall is higher than the mean; 'good' rains occurring 78 years out of 100, 'excessive' rains 15 years out of 100."

The dry season extends from mid-May to the end of August. June and July are usually cloudless and almost windless. Later in September rain showers occur, while in October it usually becomes very hot and dry. October is called **Nhlangula**, a name also given to a tree (*Euclea divinorum*). Another association of this nature is that of December, called **N'wendza-mhala**, which means "the visit (**n'wendza**) of the impala (**mhala**)" which alludes to the re-appearance of the impalas. The annual rainy season is between September and March with an annual rainfall of between 600 mm and 680 mm (Gazankulu Government 1989:14). Infraplan (1989 Vol. 1:16) recognises the period

between September and March as cropping season and computes the mean annual rainfall as between 500 mm and 1000 mm. Although regarded to be having a generally reliable rainfall pattern, the region is not free from droughts of varying intensity. After a careful study and analysis of the region's rainfall, Infraplan (1989 Vol. 1:19) concludes that "if a drought is defined as a situation in which the monthly rainfall is less than 75% of the average rainfall, then the frequency of droughts is on average every 8,7 years."

This calculation is almost in line with the residents' general belief that there is in the area a cycle of seven years of plenty, succeeded by seven years of scarcity or famine. This belief is probably derived from the Bible where Joseph interpreted the king's dream that the seven fat cows and the seven full ears of corn represented seven years of plenty, while the seven thin cows and the seven thin ears of corn represented seven years of famine (Genesis 41:14-32). Some residents believe that this trend is still applicable to date.

Generally, wind conditions appear to take a very regular course throughout the year (Stevenson-Hamilton 1934:15-16). In line with this is the observation made by Infraplan (1989 Vol. 1:23) which indicates that during the summer and winter months, respectively, prevailing winds blow at mean velocities of 3,9 and 3,2 metres per second. In terms of the Beaufort scale, such winds are regarded as gentle breezes. Most common are the south-east and the north or north-westerly winds. Although the north to north-westerly wind usually does not bring rain, residents welcome it in the belief that it will trigger the south-easterly wind which normally precipitates rain. (Stevenson-Hamilton 1934:15-16) made a similar observation and says: "...if it is summer, the hot north wind has become unbearable and the succeeding contrary often brings up a thunderstorm." He adds that after a few days of rainy or cloudy weather, the wind veers round again to the north and the cycle repeats itself. As stated by Infraplan (1989 Vol. 1:23), wind calms are prevalent in the region, particularly during summertime. Under such conditions wind energy is low and this precludes the use of windmills to pump sufficient water for consumption needs. For this reason, only manual or diesel pumps are used. The only windmill that was cited is at the Morgenzon farm, adjacent to the Welverdiend Trust farm.

1.15.3 Temperature

From about the middle of May to the end of August, ideal weather conditions prevail in the Lowveld. June and July usually show a procession of cloudless and almost windless days, when the temperature seldom rises above 26° Celsius. After sunset, however, it becomes cold. In September it becomes rather hot. October is usually very hot and dry (Stevenson-Hamilton 1934:15).

According to Infraplan (1989 Vol. 1:19) the "summers are hot with high humidity (which causes the climate to be oppressive) and winters are mild with moderate temperatures." The following temperatures are given for the various tribal areas:

Table 3: Annual temperature variations (°C) per traditional area in Mhala (Bushbuckridge)

TRIBAL AREA	TEMPERATURES DURING THE MONTHS OF THE YEAR												
		J	F	M	A	M	J	J	A	S	O	N	D
Mnisi	Max	31,1	30,8	29,6	27,7	26,1	24,8	24,0	25,7	27,8	30,0	30,9	30,9
	Min	18,7	18,9	17,8	14,6	10,7	7,1	7,1	9,3	12,3	15,1	16,8	17,9
Amashangana	Max	31,1	30,8	29,6	27,7	26,1	24,0	24,9	25,7	27,8	30,3	30,9	30,9
	Min	18,7	18,9	17,8	14,6	10,7	7,6	7,1	9,3	12,3	15,1	16,8	17,9
Jongilanga	Mean	25,6	25,5	24,3	21,9	20,1	16,9	15,6	17,9	20,4	23,2	24,5	25,0

Hoxani	Mean	25,4	25,3	24,0	21,7	19,2	16,6	15,5	17,7	20,4	23,2	24,2	24,8

Source: Infraplan 1989 Vol. 1:21. (Derived from: Landboubeleid en potensiaal van Gazankulu, Vol. 1. Dept. of Agriculture and Forestry, 1980).

Absolute maximums in excess of 40° C have been recorded (Infraplan 1989 Vol. 1:19). Although the mean temperature is similar throughout the area in general terms, temperature increases from the south-western to the north-eastern part of Bushbuckridge.

1.15.4 Evaporation

The significance of evaporation should be understood against the background of agricultural development. The Tsonga-Shangana are traditionally subsistence agriculturalists and agriculture is practised in agricultural schemes. An analysis of the evaporation pattern in Bushbuckridge shows that evaporation exceeds the annual rainfall (Infraplan 1989 Vol. 1:20). This situation results in a deficit in the water balance which impacts on the agricultural development of the region. Evaporation increases from the south-west to the north-east.

1.15.5 Geomorphology

Geomorphology is understood to be a science that analyses and describes land-forms – their origin, evolution, form and spatial distribution (Christopherson 1994:386). It is not intended to review all aspects of the geomorphology of the Bushbuckridge area, but only those that are pertinent to this investigation. Accordingly, only mountains, rivers, dams and vegetation types will be reviewed.

1.15.5.1 Mountains, rivers and dams

The Bushbuckridge area is characterised by a softly undulating landscape with a few hill features (Infraplan 1989 Vol. 1:26). The area is confined to the north by the Orpen Road

(R531), by the Manyeleti and Sabie Sand game reserves to the east, the Sabie River to the south, and the Drakensberg Mountains to the west. The altitude of the region varies from a high point of 702 metres above sea-level at Acornhoek, to a low point of 316 metres above sea-level at Belfast (Infraplan 1989 Vol. 1:26). An impression is created here of a north to south decrease in altitude since Acornhoek and Belfast are situated in the north and south of Bushbuckridge respectively. The general trend, however, is a west to east or north-west to south-east slope. Els (1996:152) confirms that the flow is predominantly in a southerly or easterly direction.

The rivers and dams of Bushbuckridge are reviewed as per tribal area:

In the Mnisi area there are no big rivers. The Molapokgomo (Mulaphakhomu) stream that orginates on the farm Islington is one of the few major streams in the area. It flows southwards into the Sand River on Allendale farm. As suggested by the Infraplan (1989 Vol. 1:129), dams in this river could supply water to eleven residential areas as well as to Thulamahashe town. The second major stream in the area is the Khokhovela with its source on the farm Leamington. It also flows south towards the Sabie Sand Game Reserve until it converges with the Sand River. The two seasonal streams provide limited quantities of water to people and animals. The Khokhovela supplies the contiguous inhabitants of Eglington, Clare, Anthol and Lephong, as well as their livestock, with ample water when in spate (cf. Els 1996:153). The biggest dam in the area is the Clare (Skukuza) dam situated in the Khokhovela stream. Though mainly a stock-water dam, local inhabitants use the water for building and washing. During drought periods, the unpurified water is used for drinking and other domestic purposes.

Another stream of significance in the Mnisi area is the Manyeleti which originates in Gottenburg near the Tlhavekisa settlement. This river is important since it runs through several inhabited areas such as Seville, Ultha and Dixie before it flows into the Sabie River. The dam, Gottenberg, has been built in this river. It supplies water to the livestock and also to inhabitants who practise small-scale irrigation.

Other streams, though of lesser significance, are the Okkernoot and Timbavati. The Okkernoot stream flows in a north-easterly direction to its confluence with the Timbavati stream on the farm Andover. The latter stream rises in the Acornhoek area from where it flows directly north, out of the Buscbuckridge area. For this reason it is of no direct significance to the members of the tribal area (Els 1996:15). However, its value lies in the fact that a substantial number of its main tributaries such as the Okkernoot stream on the farms Acornhoek and Okkernootboom, the Sesete stream on the farms Andover and Leamington, the Tswalasemotso and Vuchavelo near Welverdiend rise within the Bushbuckridge area (Infraplan 1989 Vol. 1:130). The Sesete stream is mostly famous for its reeds which people use for the roofing of their dwellings and the construction of a fire-enclosure (**xivava**). Although the Timbavati stream yields more reeds, it is out of reach of tribal members, unless permission is sought from adjacent farm owners.

The N'waswitsontso stream rises in the farm Welverdiend and flows directly eastward through the farm Hermitage (205 KU), comes back to the Bushbuckridge border through Gottenberg and the Manyeleti Game Reserve. The Manyeleti Dam is built in this stream. This stream becomes an important river in the Kruger National Park. Another stream of significance is Banana which separates Welverdiend A from Welverdiend B. It has also become a meeting place (**xitikini**) for the residents to discuss community matters. The entire area of Mnisi has five streams with several tributaries, and 31 stockwater dams (Els 1996:154; Infraplan 1989 Vol. 1:127). Most of the rivers in the Amashangana area are part of the Sabie River system, of which the Sand River is an important sub-system. The main tributaries of the Sand River are the Mutlumuvi with its catchment's area in the Drakensberg range, the Sephiriri which rises on the farm Burlington, the Molapokgomo/ Mulaphakhomu and the Khokhovela rising in the vicinity of the Islington and Clare farms in the north, the Manyeleti rises in Gottenberg, and the Snuif stream rising in Arthurstone (Infraplan 1989 Vol. 1:127-129). The Mutlumuvi River has its confluence with the N'wandlamhari River on the farm Rolle, from whence it is referred to as the Sand River. This river passes through Orinoco, New Forest and Rolle. The Orinoco Dam is situated in this river. The Thulamahashe water supply scheme derives its water from an abstraction weir in the Mutlumuvi River. This scheme provides water to about 15 000 rural and

3 500 urban residents, including various schools and business sites (Infraplan 1989 Vol. 1:135).

At the confluence of the Sephiriri and Mphyanyana Rivers on the farm Edinburg is the biggest dam in the Bushbuckridge area. With a gross storage capacity of 3.32 mm^3 and a nett inflow of 18.2 mm^3 this dam is used for agricultural, domestic and stock drinking purposes (Infraplan 1989 Vol. 1:137). Although situated within the Amashangana area, water supply from the dam has been extended to the whole of the Mnisi area, mainly for domestic purposes. In the Amashanagana area, the water is also used to supply irrigation schemes in Allendale and Dumphries A. The supply from the dam is unfortunately not reliable. It is also not properly maintained.

Second in importance is the Orinoco dam which has a storage capacity of 1.87 mm^3 and an inflow of 13.1 mm^3. The water is used for agricultural purposes for the New Forest and Orinoco irrigation schemes, and also for domestic purposes on these farms (Infraplan 1989 Vol. 1:23).

The N'warhele stream is another river of significance in the Amashangana area as it is also a permanent river. The Dwarsloop extraction weir in this river supplies water to the Dwarsloop rural water supply scheme. The scheme provides water to the inhabitants of Dwarsloop, Xanthia, Agincourt, Arthurstone, Newington A and B, and a portion of Merry Pebble Stream (Infraplan 1989 Vol. 1:134).

The perennial Saringwa River is an important water resource in the Jongilanga area. It rises in the Drakensberg Mountains and flows through the Jongilanga area to its confluence with the Sabie River in the Hoxani area. Its main tributaries are the Xingwe-nyana at Xanthia, the Magetthe at Croquetlawn and the Xihoko at Cunningmoor. The following three dams are situated in this area: The Saringwa Dam, the Matsiyani Dam and the Musitlu Dam. The Saringwa is the largest of the three dams and supplies water for irrigation and other primary needs.

The largest river in the Bushbuckridge area is the Sabie River which is found in the Hoxani area. It not only forms the southern boundary of this area but that of the entire region. Because of its size and significance, the Infraplan (1989 Vol. 1:129) describes it as an international river with drawing rights and allocation in both South Africa and Mozambique attached to it. Other streams such as the Ngwenyameni and Bejani at Madras and Calcutta, respectively, as well as the Hoxani near Cork are tributaries of the Sabie River. The Hoxani scheme extracts water from the Sabie River via a small purification works and reticulates it to educational and industrial premises (Infraplan 1989 Vol. 1:135).

The Calcutta Dam on the Ngwenyameni stream serves as a small stockwater dam. The water is also used for domestic purposes such as washing, but not for drinking. The Cork/ Calcutta Irrigation Scheme derives its water from the Sabie River and supplies 40 plots of 10 ha. each (Infraplan 1989 Vol. 1:141).

1.15.5.2 Vegetation

Els (1997:106) says that the area, particularly the eastern parts, is still relatively densely forested. It forms a sharp contrast with the Sotho areas to the west, where the over-exploitation of this resource for firewood and construction purposes has resulted in a virtually complete deforestation. Even at Acornhoek and Okkernootboom with their high population densities, the indigenous tree coverage is still fairly high. This may be attributed to the fact that many of the houses were constructed with bricks and corrugated iron, thus reducing the exploitation of trees for construction purposes. The higher tree cover in the Bushbuckridge area is also the result of a nature conservation law of the former Gazankulu Goverment (Law 5 of 1975, as amended by Law 9 of 1981) in terms of which only dry wood was to be collected for firewood, while the cuttings of live trees for construction poles was controlled by a permit system (Els 1997:106).

The vegetation of the Bushbuckridge area consists of a mixture of trees, shrubs and grasses. It is a typical broad leaf bushveld. (Acocks as quoted by Els 1996:154) describes

this veld type as *Acacia nigrescens – Sclerocarya* savanna, with *Combretum* species preponderant. Yeatman (1997:26) points out that the vegetation of Bushbuckridge is influenced by changing soil types, the low, erratic rainfall and its west-east gradient. The latter feature suggests that Bushbuckridge's vegetation can be classed into two categories: those of the western and central part (topland) and those of the eastern part (bottomland).

Characteristics of the toplands with their deep and well drained soils are the *Sclerocarya birrea* (**nkanyi**), *Pterocarpus angolensis* (**murhotso**), *Terminalia sericea* (**nsusu/ nkonola**), *and Peltophorum africanum* (**nhlahlanhi**) (Infraplan 1989 Vol. 1:34; Yeatman 1997:26). These trees mostly occur on hill crests while in lower lying areas *Euclea divinorum* (**nhlangula**) and shrub-like Silver Cluster Leaf are found (Infraplan 1989 Vol. 1:34). Where erosion has taken place in lower-lying areas and areas underlain by heavy clays, bush encroachment is evident. *Colophospermum mopani* (**nxanatsi**) and different species of *Acacia* are found (Infraplan 1989 Vol. 1:35).

In the bottomlands of the region where shallow soils exist, *Acacia* species predominate on heavier clay soils, particularly *Acacia negrescens* (**nkaya**). Featuring in this part of the region also are the *Combretum* species, *Pterocarpus angolensis* (**murhotso**), *Kigelia africana* (**mpfungurhu/ mvongoti**) and shrubs such as *Dichrostachys cinerea* (**ndzhenga**) and *Maytenus senegalensis* (Infraplan 1989 Vol. 1:35; Yeatman 1997:26-27). *Bauhinia galpinii* are found in places like Xanthia, Edinburgh and Rolle.

The Tsonga-Shangana of the study area, like any rural people, are already heavily dependent on woodland resources to provide a range of benefits. In hut building mention has been made of the wall and roof structures as being made up of long straight poles. Between the late 50s and late 60s when residents of the entire Bushbuckridge area were resettled in stands, *Terminalia sericea* species was plentiful. These trees were invaded by the people for their durable and long straight poles. What remain now are the large old-growth *Terminalia sericea* trees and saplings or the second-growths trying to recuperate (Plate 15b). Currently, *Terminalia sericea* of wall or roof pole size are either penurious

or non-existent throughout the area. Although *Eucalyptus* species are now widely used, some people cannot afford the price and resort to the use of other species like *Diospyros mespiliformis* and *Spirostachys africana*. Threatened species such as *Combretum imberbe* are used in the building and construction of cribs and cattle enclosures. Wood carvers use it for the manufacturing of household utensils. A wood-carver at Clare for instance manufactures mortars and stampers from the species for commercial purposes. He sells the standard size mortar for R120.00 each and the medium size for R70.00. Pestles are sold for R30.00 each. (The author is in possession of a medium sized mortar and a pestle acquired from the carver. The mortar has been bought at the usual price while the pestle has been acquired free of charge). He produces an average of 3 mortars and 3 pestles per month. Sometimes he buys permits which on expiry he does not always renew. From one tree he may produce 2 mortars and 3 – 4 pestles. Such a production is contingent on the type of a tree. He uses the pension payout points as his market places though some of his customers buy from his home. Together with other perpetrators who cut trees for firewood commercialization they inflict an enormous damage to the environment. Threatened species like *Combretum imberbe* which are highly sought for firewood, artefact, and construction are fast approaching the endangered zone. Most of the old-growth trees of the *Combretum imberbe* species are already depleted in the area.

Grasses within the region are commonly of *Aristida* (102-103), *Urochloa* (176-177) and *Eragrostis* (224-225) species (Van Oudtshoorn 1992; Infraplan 1989 Vol. 1:35). Soils in such areas are of the Kroonstad and Escourt forms and are poorly drained (Infraplan 1989 Vol. 1:35). Typical of these grasses is that they are both indigenous and widespread throughout South Africa (Bromilow 1995:24, 46, 76). From observation it was evident that where *Aristida congesta* ssp. *barbicollis* and ssp. *congesta* occur in the region, the veld, gardens, croplands and waste areas are mainly overgrazed and trampled out. Compared to the *Urochloa* and *Eragrostis* species, *Aristida* is not so desirable and palatable (Bromilow 1995:46, 78).

The *Panicum* species which is also described as widespread and indigenous in South Africa (Bromilow 1995:58) also occurs in the region. *Panicum maximum* (**phundze/**

xihundze) is found mainly in the eastern parts of the region (Els 1996:154-155). Like the *Urochloa* and *Eragrostis, Panicum maximum* provides some palatable pastures.

1.15.5.3 Soil types and associated vegetation

As Junod (1927 Vol. 2:5) pointed out, the Tsonga word **misava** has a dual meaning: 'Mother Earth' as well as 'soil'. Perhaps Junod is right in saying that for the Tsonga, the earth is a collection of grains of sand, and also that the word **misava** shows that they come from a sandy region.

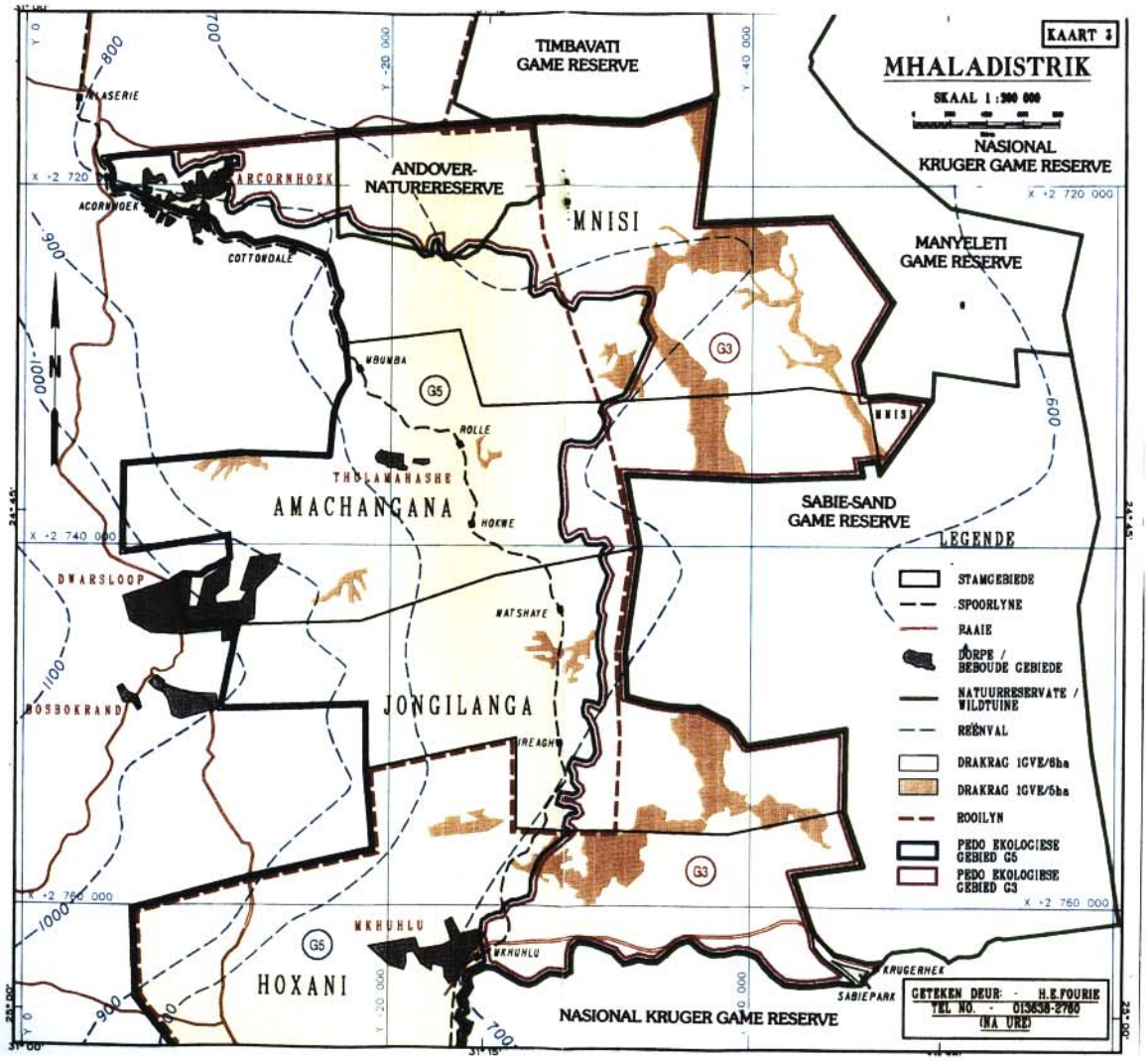
Informants identified the following types of soil: **ntlhava** (sandy soil), **nyaka** (black soil), **hondzosi** (red soil), **xidaka** (clayey soil) and **kwandzasi** (brackish soil). These constitute the primary types of soils found in the region. A secondary type of soil worth mentioning is **xisefa** – a sandy type of soil found on toplands. Soil particles of **xisefa** are finer than those of **ntlhava**.

For the success of their agricultural activities the Tsonga-Shangana depend largely on the association between soil types and natural vegetation. **Xisefa** soil which sustains *Terminalia sericea* for instance is regarded as more suitable for the cultivation of *Vigna subterranea*. **Xidaka** (clayey soil) usually favoured by *Acacia nigrescens* is regarded as more suitable for the cultivation of *Zea mays*. **Hondzosi** (red soil) is commonly recommended for the cultivation of *Arachis hypogea* and *Vigna unguiculata*. **Ntlhava** (sandy soil) which is predominantly favoured by *Acacia exuvialis* is generally believed to be barren and not quite suitable for agricultural purposes.

In its description of the general agricultural conditions of the Bushbuckridge area based on different soil types, the Infraplan (1989 Vol. 1:283) divides the region into two pedo-ecological units. The one unit is called G3 and the other G5. The G3 unit is characterised by shallow coarse soils on granite, and deep and shallow heavy soils on dolerite. The G5 unit, on the other hand, is characterised by shallow and deep, coarse, hydromorphic soils on ferricate. Concerning the agricultural potential of the two units, unit G3 is suitable for

semi-extensive livestock farming with a moderately low production potential. The G5 unit has a moderate potential for crop production in association with semi-intensive livestock production. With an annual rainfall of between 480 mm and 640 mm, the G5 unit has more rain than the G3 unit with a rainfall of 480 to 540 mm annually.

Figure 3: Pedo-ecological boundaries



Source: Els, 1996: Uitvoukaart 3

The soil types and their associated vegetation are described in respect of each tribal area:

The Mnisi tribal area

Soils in this area are mainly sandy (**ntlhava**). There seems to be a common observation among informants that sandy soils stretch from Acornhoek to the Khokhovela River. The entire stretch is characterised by thick vegetation with *Bauhinia galpinii* (**Xiqwendere/ ntshiri**) and *Terminalia sericea* (**nsusu**) as dominant bushes and trees, respectively. Although regarded as generally poor in plant nutrients, the soil is best known for the growing of *Vigna subterranea* (**tindluwu**) and *Arachis hypogea* (**timanga**). The eastern part of the Khokhovela River comprises of black soil and clayey soil, especially at Hluvukani, Welverdiend B and Gottenberg west. Towards the Manyeleti Game Reserve the soil is somewhat reddish. Plants thriving well on these soils include *Zea mays* (**mavele**), *Sorghum bicolor* (**n'wahuva**), *Lagenaria siceraria* (**rhanga**), *Cucurbita pepo* (**kwembe**), *Sorghum* species (**timba**) and *Citrillus lunatus* (**khalavatla**). *Arachis hypogea* also thrive in these soils. The dominant tree species is *Acacia*, particularly *Acacia nigrescens* (**nkaya**). Also found in abundance is *Diospyros mespiliformis* (**ntoma**), *Ficus sycomorus* (**nkuwa**) and *Sclerocarya birrea* (**nkanyi**). From an agricultural point of view there is little good soil in the Mnisi area (Infraplan 1989 Vol. 1:284). This is due to the shallowness of the soil, and also as a result of waterlogging. The best soil east of the Khokhovela River only constitutes a small percentage of the Mnisi area.

The Amashangana tribal area

The soils here are predominantly grey, ferreous soils (Infraplan 1989 Vol. 1:285). These soils have good water intake ability. Without good management, however, the soils have a potential water logging ability and can erode easily when cultivated. Predominant trees in this soil type are *Pterocarpus angolensis* (**murhotso**) and *Carissa edulis* (**ntshuguri**). *Pterocarpus angolensis* is highly concentrated around the Edinburg, Rolle and Arthurstone areas. The western parts of the Amashangana area are better suited for the growing of *Colocasia esculenta* (**marhupi**). More importantly, the soil is best suited for *Arachis*

hypogea (**timanga**). Resultantly the area is known as **Ka Mpisane Timangeni** (Mpisane, the place of *Arachis hypogea*).

The Jongilanga tribal area

The Infraplan (1989 Vol. 1:285) distinguishes two major soil types in the area; that is the sandy soils and the grey ferrous soils. In terms of the pedo-ecological boundary, sandy soils occur from the south-western corner of the farm Kildare to the north-eastern corner of the farm Ireagh on the eastern boundary. The soils are usually shallow and without a secondary layer. To the west of the pedo-ecological line are the grey ferrous soils with a rough and light texture and good water intake ability. The soil is suitable for the growing of sisal, hence the sisal projects at Cunningmoor A and Alicecot. Like in the Mnisi tribal area, soils of Jongilanga are generally of poor agricultural value.

The Hoxani tribal area

Basically, soils in this area are the same as those of other traditional areas. However, the agricultural potential here is higher than in the other areas. The main contributing factor to the higher potential is the soil depths that are generally in excess of 600 mm. A negative factor is that soils in this area are intermittent (Infraplan 1989 Vol. 1:285).

1.16 The research community

The origin of the research community needs to be taken account of before discussing their culture and interaction with their natural environment. Various factors played a part in the origin, composition, migration and present settlement of the Tsonga-Shangana:

1.16.1 The origin and meanings of the concepts Tsonga and Shangana

Two distinct ethnic groups, viz. the Tsonga and the Shangana, existed in juxtaposition for some time. The establishment of the former Gazankulu homeland culminated in the

formation of the Tsonga-Shangana as a cultural group. This maximal group encompasses seven major groups: the Varhonga, Vadzonga, Vahlanganu, Van'walungu, Vabila, Vaxika and Vahlengwe. The latter is composed of three minimal groups, namely the Vahlengwe-Xigombe, Vahlengwe-Madzive and the Vatshwa (Junod 1977:99). The Tsonga-Shangana are encountered in Mozambique, South Africa and Zimbabwe. The highest concentration occurs in Mozambique. The 1970 census indicates the following figures (Junod 1977:109):

Table 4: The 1970 census figures for the Tsonga-Shangana

Country	Population
Mozambique	1 850 000
South Africa	737 169
Zimbabwe	49 770
TOTAL	**2 636 939**

[At the population growth rate of 3% per annum, the Tsonga-Shangana people should be 7 419 984 by 2005].

The naming and meaning of ***Tsonga*** and ***Shangana*** have far reaching implications. The names ***Tsonga*** and ***Shangana*** have meanings rooted in their origin and culture. The naming of individuals and meanings of their names provide a better understanding of the naming and meanings of the two terms in question.

It is customary for the Tsonga-Shangana to give names with reference to a particular event. The name **Ndlaleni** is common among women. **Ndlaleni** is a derivative noun of **ndlala** (hunger or famine). The name refers to a woman born during a famine period. The

association between females and famine is based on the fact that agriculture was traditionally a female activity.

In the same vein people were given names in association with a particular species. A person born under or near the **Ntoma** (*Diospyros mespiliforms*) was named **Ntomeni**. At Clare A in the late 1960 a herd boy fell from a *Ficus sycomorous* (**nkuwa**) and bumped his head on a stone and died. On the same day his sister gave birth to a baby boy. To commemorate this tragic event the newly born baby was named **Xinkuwana**. A child born in the year of plenty was usually named **Mavele** (Zea mays). The name **Misaveni**, meaning the earth or soil is very common among the Tsonga.

Sometimes people were given nicknames which depicted their character and behaviour. Such names were received later in the life of the individual. At Welverdiend a man who became a heavy smoker of *Cannabis sativa* (**Mbangi)** was nicknamed Matshama, a shortened form of **Matshama ti nwi dlele** (He who is always drugged by the marijuana). The young generation does not know his real name and he has accepted it as his name. This is in spite of the fact that he has long stopped smoking marijuana ever since his conversion as a Z.C.C. member.

This trend extends to the naming of places as well. Any place that has a plant species with a remarkable feature is likely to earn the name of that particular species. A railway station at Calcutta, called Mkhuhlu is named after the species *Trichilia emetica* **(Nkuhlu)**, owing to the abundances of the Natal mahogany trees, in the vicinity. The Shimuwini (**Ximuwini**) Bush Camp in the Kruger National Park was given this name because of the situation of the camp near an extra-ordinary huge *Adansonia digitata* **(Ximuwu)** tree.

The relationship between the people and their environment transcends individual association and encompasses a group. In the realm of religion for instance a clan may be associated with either an animal or a plant as its totem. The Mathebula clan, for example, identifies itself with a baboon – *Papio ursinus* (**Mfenhe**) and the Makwakwa with a Black Monkey orange – *Strychnos madagascariensis* (**Nkwakwa**). Among the Northern

Sotho the association and identification is so strong that individual clan members are called by their totemic clan name. A Mamabolo clan member for instance, is addressed as "kolobe", pig (*Sus scrofa*). Other natural phenomena also feature in this association. The Mdaka clan identifies with a clayey soil and the Mlambo with a river. By and large the majority of clans in Bushbuckridge have totems that are either from the animal or plant kingdom. Totems are regarded with reverence and viewed as a sacrosanct for the clan.

The naming and meaning of ***Tsonga*** and ***Shangana*** should be viewed and understood against the background of the naming and meanings of individuals. In his analysis of the word *Tsonga,* Junod (1977:15) finds its variant form, *Ronga,* to be derived from **buronga** (dawn). From this he draws the conclusion that the word *Tsonga* denotes people who come from the east, and was given to clan members who came from the environs of the present Maputo (formerly Lourenco Marques). A similar explanation was given by Reverend Mkhabela of the Assemblies of God who said that Tsonga means 'Dzonga' (south). To him this denoted the place where the Tsonga people originated from (Pers. comm.12.08.2007). Another explanation advanced by Sihlangu (1987:14) and supported by Malan & Shilubane (1986:4) is that the Tsonga got their name from their dwellings or hut structures called **mintsonga** (sing. **ntsonga**). The Tsonga people are known as Vatsonga (sing. Mutsonga), their place of residence is *Vutsonga* and they speak *Xitsonga*. *Vutsonga* also means Tsonga-hood, while *Xitsonga* also refers to the culture of the people.

There are two theories that offer explanations about the origin and meaning of the word *Shangana.* The one suggests that the name was given by Soshangana to the section of the Tsonga that he subjugated (Sihlangu 1987:14). In this sense the name Shangana would mean followers of Soshangana and embraces the Nguni warriors that he led from Zululand. It is probably in this context that the Zulus call this group *AmaShangana* – a derogatory term, as Soshangana was a Zulu fugitive. The other theory is given by Junod (1977:15). He regards the name as older and contends that it belonged to a chief who lived in the Limpopo River valley before the invasion of Soshangana. This valley was called **Ka Changana** or **Nchangana** and its inhabitants **Machangana**, who spoke **Xichangana**.

1.16.2 Early settlement in Mozambique and the invasion of the Nguni groups

By 1544, Tsonga tribes were already settled in Mozambique with agriculture as their mode of subsistence. In the early 19th century, three group divisions were noticeable, namely the southern group (for example the Maputa, the Tembe and the Mpfumo), the central group (for example the Khosa, the Nkuna and the Nhlanganu), and the northern group (for example the Hlengwe and the Tshwa). This classification is given by Kriel & Hartman (1991:7). The Tsonga in Mozambique were a relatively peaceful group until they were invaded by the Nguni fugitives who were largely pastoralists. The coming of the Nguni into Mozambique was directly related to events in the present Natal and Zululand during the *Mfecane* period which was characterised by violence and political turmoil. Kriel & Hartman (1991:7-8) give an account of the Nguni invasion into Mozambique by three distinct groups at different times. The first group was the Jele tribe under the leadership of Zwangendaba. Subsequent to this group was Nxaba of the Maseko and Msene tribes. The last group was the Ndwandwe, or Ngoni, of Soshangana alias Manukosi.

1.16.2.1 The reign of Soshangana and the establishment of the Gaza Empire

The history of the Ndwandwe tribe dates as far back as 1820 when they were defeated by Shaka at the Mhlatuze River. They were incorporated into the Zulu Kingdom until Shaka sent Soshangana to subjugate the AmaThonga (Tsonga) of Mozambique (Jaques, 1982: 6). On invasion, Soshangana encountered little or no resistance from the Ronga around Delagoa Bay and the Dzonga clans of Bileni and surrounding places. He took all the cattle, captured the young girls and drafted the young men into his army. The latter were sent out to clear the way for his regular raids and were known as *Mabuyindlela* (Tsonga: *Mabulandlela*), meaning *Those who clear the way* (Jaques, 1982:6; Sihlangu, 1987:13; Van Warmelo, 1935:56). Soshangana seized the opportunity to establish his own empire and never returned to Zululand. His first settlement was at the Tembe River. After a sojourn he moved further north with his followers, who already included some Tsonga

elements. They eventually settled in the fertile Limpopo valley (Kriel & Hartman 1991:8).

Meanwhile Shaka sent out troops to re-capture the renegade Soshangana, but to no avail. At the Zambezi valley, Soshangana clashed with Nxaba and Zwangendaba and their followers. After two short skirmishes the latter retreated and were driven further north by Soshangana to the present Malawi and Tanzania. Soshangana settled at Musapa in the present Melsetter District of Zimbabwe. His military success enabled him to establish the Gaza Empire which stretched from the Zambezi River in the north to Delagoa Bay in the south, and from the coast in the east to the Sabie River in the west (Kriel & Hartman, 1991:9; Bryant, 1929:452). The empire was named in memory of his grandfather, Gaza. Many of Soshangana's warriors died during the smallpox epidemic of 1838, inducing him to return to his earlier settlement in the Limpopo valley. It was during the period of his return (1838–1840) that various Tsonga groups fled from Mozambique in a westerly direction over the Lebombo Mountains. They were the Nkuna, Valoyi, Mavunda and Hlave, and were the first Tsonga fugitives to enter the area that was later established as Gazankulu, which is now defunct. Soshangana compelled the Tsonga people to abandon their customs and adopt the Nguni custom which, among others, included the piercing of ears by the men and the wearing of skin aprons. The former practice was apparently welcomed by the Tsonga people, as it even diffused to those Tsonga groups who were never subdued by Soshangana. This practice is still common today and has earned the Tsonga-Shangana the name *Maboxa-ndleve* which means *Ear-piercers.*

Nguni was also declared the medium of communication in the tribal courts, mass-meetings, gatherings to celebrate victories, and any other meetings convened by the chiefs or their headmen. The home language, however, remained Xitsonga. This gave rise to what Mathumba (1993:47) described as a diglossic situation in which the men used Nguni for national issues and Tsonga (interspersed with Nguni) in the home environment.

1.16.2.2 The struggle between Muzila and Mawewe

The death of Soshangana in 1858 brought about the collapse of the Gaza Empire. This was exacerbated by the conflicting Tsonga and Nguni cultures on matters of succession. Tsonga culture recognises the principle of seniority of age, which renders the first-born son the legitimate heir to the throne. According to this tradition, Muzila was the rightful successor. Soshangana himself had made a call that he be succeeded by Muzila who, in terms of Nguni culture, did not qualify to do so. In Nguni culture, the seniority of the wife is taken into account in determining an heir. In this case, Mawewe was the rightful heir as the cattle for his mother's bride-prize were contributed by the tribe, thus rendering her the principle woman. The request of Soshangana was ignored, and Mawewe declared himself paramount chief in 1859[1] (Kriel & Hartman 1991:10; Jaques 1982:8; Sihlangu 1987:15)

Muzila fled from Mozambique into the Transvaal and sought refuge from Joao Albasini who settled him at Luonde. Mawewe ruled ruthlessly, attacking the people around him, and also drove away his brothers Modanisa, Mohlabadabuka, Xohono and Yapandwa. He also attacked and destroyed some Portuguese settlements. His behaviour earned him the disfavour of his subjects, who turned to Muzila.

Many people urged Muzila to return to Mozambique. His old friend, chief Magudu, vowed to join forces with him against Mawewe. Muzila lost the first encounter and fled to Tembe and Maputu. The second battle was fought at Vululwane where Mawewe suffered his first defeat against a combined force under the command of Muzila. Mawewe was assisted by Mswati I, who had married his sister (Jaques 1982:9-10; Kriel & Hartman 1991:10-11; Sihlangu 1987:15-17). After this victory, Muzila moved to Musapa where his father Soshangana once settled. This move incited Mawewe who once again entered Mozambique in pursuit of Muzila. After an unsuccessful operation, Mawewe retreated to Swaziland where he settled until his death in 1872. He was buried at the present Lomahasha (Jaques 1982:9; Sihlangu 1987:17).

[1] The fact that a period of one year elapsed after the death of Soshangana before Mawewe took over, is accounted for by the fact that Soshangana's death was only announced a year after it occurred (Jaques, 1982:8).

Mawewe's son and successor, Hanyana, fled back to Gazaland after a clash with the Transvaal government in 1881. Ten years later, in 1891, he was banished to an island by the Portuguese authorities. The remnants of this Shangana splinter group are still resident in Swaziland (Kriel & Hartman 1991:11; Jaques 1982:10).

The death of Mawewe heartened Muzila, and a period of peace and stability ensued in Mozambique. Realising how nearly the Nguni system of succession cost him his throne, Muzila re-instituted and confirmed the Tsonga custom. After his death in August 1884 at Musapa, where he was also buried, Muzila was succeeded by his first-born son, Mdungazi (Nghunghunyana), whose mother was Muzila's first wife (Jaques 1982:10).

1.16.2.3 The fall of the Gaza Empire – Nghunghunyana's reign

About five years after his installation as paramount chief, Nghunghunyana returned to Mozambique with a big following to which the Ndau (Vandzawu) from Musapa had been incorporated. He forced many of the Tsonga people to recognize his authority, failing which they were put to death. At Bileni he avoided staying where his grandfather, Soshangana, resided. Moving eastwards towards the Indian Ocean he built his capital, Mandlakazi, on a hill deep in the forest (Jaques 1982:10).

Like his predecessors, Nghunghunyana attacked the local Tsonga people and conquered the Tshwa, Loyi and Makwakwa tribes to the north and north-east of him. Tension rose between Nghunghunyana and a Khambana chief, Xipenenyana. In their first encounter, Nghunghunyana's warriors retreated after failing to cross the Limpopo (Vembe) River which was in flood. Some of the soldiers drowned while trying to cross the river. An intelligent young man, Magigwana Khosa, devised methods for the army on how to cross the river. His wisdom earned him big fame and he was elevated to the rank of general. Xipenenyana was defeated by Nghunghunyana in their 1895 encounter and sought refuge with the Portuguese. Conversely a Rhonga chief, N'wamatibyana, who refused to accept the authority of the Portuguese, sought refuge with Nghunghunyana.

The Portuguese found Nghunghunyana guilty of provocation, and this led to a confrontation with him. In the ensuing battle, the Shangana were defeated on 7 November 1895 and were driven northwards by the Portuguese (Kriel & Hartman 1991:12; Jaques 1982: 10-11; Sihlangu 1987:20, 22). After his defeat, Nghunghunyana went to Bileni where he wanted to bring a sacrifice at his grandfather Soshangana's grave. Here, he and his senior sons, Godidi, Buyisonto, Manqo, Hlavathi and Kheto, were captured by the Portuguese general, Musinho d'Albuquerque. They were taken to Lourenco Marques, afterwards sent to Portugal, and finally deported to the Azores Islands (Kriel & Hartman 1991:12; Jaques 1982:11; Sihlangu 1987:25; Bryant 1929:458).

Nghunghunyana secured the release of his father's younger brother, Mpisane, and that of his two sons, Mzwazwa and Musinganyeya, by giving some diamonds to his captors (Jaques 1982:11, Sihlangu 1987:25). Nghunghunyana himself died in exile on the Azores Islands in 1907 (Kriel & Hartman, 1991:12). Magigwana and Maswameni staged the so-called **Umzimbuyi** ('until he comes back') battle in the hope that Nghunghunyana would return. This effort was of no avail as they, too, were defeated by the Portuguese (Jaques, 1982:11-12). Magigwana fought a lone battle against the Portuguese from a rubber euphorbia tree (*Euporbia tirucalli*). After killing a few Portuguese soldiers, he was eventually killed and decapitated (Sihlangu 1987:25; and pers. comm.). The defeat in the **Umzimbuyi** battle ended the period of Nguni reign in Mozambique.

1.16.3 The migration of the Tsonga-Shangana and its effects

Factors that led to the migration of the Tsonga vary from those of the Shangana. The routes followed by the two groups also differ. Not only did the Tsonga and Shangana leave Mozambique at different times, but the Tsonga tribes also did not leave simultaneously. Van Warmelo says:

> ...many Tsonga were unwilling to submit, and fled to the Eastern and North-eastern Transvaal in the years 1835-40; again later during the wars of succession (1856-62); in the Portuguese war against Nghunghunyana (1895) and at various other times

whenever things seemed to be going badly (1974:70).

He concludes that refugees mostly headed westwards over the Lebombo range and that they proceeded until they found a suitable place to settle. The first groups to have moved into the ZAR were the Hlanganu and the Maluleke. They settled in the areas that subsequently became part of the Mhala and Malamulele districts. (The Hlanganu will be more comprehensively reviewed later, as they form the main focus of this study). The Maluleke group included the followers of Maswanganyi, Mhinga, Xigalo and Xikundu. These immigrants settled south of the Limpopo River with the permission of the Venda chief Mphaphuli (Van Warmelo 1974:71). Some of the smaller splinter groups that had also moved into the area developed into tribal units that finally became independent and spread over a wide area (Kriel & Hartman, 1991:14). As discussed earlier, the second group moved out of Mozambique when Soshangana returned to Bileni from Musapa. The Nkuna, Valoyi, Mavunda and Hlave were the most notable of this group. They fled westwards over the Lebombo range (Kriel & Hartman 1991:9). The Nkuna fled to Bokgaga near Tzaneen. The Valoyi proceeded to Modjadji while the Mavundla trekked into the North-eastern Transvaal and settled between the Valoyi and the Lebombo mountains (Mathumba 1993:48).

The power struggle between Muzila and Mawewe gave rise to the migration of the second number of Tsonga groups. Like those before them, they also trekked westwards over the Lebombo range and joined earlier refugees in the Transvaal (Kriel & Hartman 1991:11). Joao Albasini, a Portuguese merchant born in Italy, played a significant role in the migration and settling of the Tsonga refugees in the Transvaal. When he moved from Mpfumu in Mozambique to Madras at Bushbuckridge, scores of Tsonga-Shangana followed him (Sihlangu 1987:14). He moved further north in the Transvaal with his following until they reached Luonde (Riyonde) south of the Soutpansberg. Here they came into contact with the Venda. Joao used his followers to build a strong military power and declared himself as their chief (Kriel & Hartman 1991:10; Sihlangu 1987:14-15).

During his power-struggle with Mawewe, Muzila sought refuge from his long-time friend, Joao, at Luonde. Some of the Shangana fled with him while others joined him afterwards. Joao settled Muzila and his followers near his fort at Luonde. During this time many more Shangana immigrated to the Transvaal (Sihlangu 1987: 15).

The greatest exodus of the Shangana occurred from 1896 to 1897, following the capture of Nghunghunyana and his senior sons. The group left Mozambique under the guidance and leadership of Mpisane, Muzila's younger brother, and entered the Transvaal without the permission of the ZAR (Kriel & Hartman 1991:12-13; Sihlangu 1987:27). After entering the Transvaal they settled in the area north of the Sabie River towards the foothills of the Drakensberg. In his new abode Mpisane encountered the Mapfalana, the Khumalo and the Hlatshwayo who had left Mozambique earlier. Mapfalana and Khumalo advised him to introduce himself and report the arrival of him and his followers to the District Commissioner, Abel Erasmus (referred to as Maduvula by the Hlanganu). He was stationed at Orighstad (Mittolo). When Mpisane embarked on this mission he was accompanied by some of his prominent councillors, among who were Tivane, Mhlanga, Mathye and Qhibi (Sihlangu 1987:27-28). The group did not go to District Commissioner empty-handed. There is a Tsonga-Shangana proverb saying: **Mahlweni ka nghala yana u hlomile** i.e. **loko u ya hosini yana ni xanchumu** ('Meet a lion fully armed i.e. when you meet a chief, have a gift in your hand'). Mpisana honoured this tradition and presented Erasmus with a big diamond, a ten pound note (£10), a boy and a girl (Sihlangu 1987:28). These gifts pleased Erasmus so much that he offered Mpisane and his followers an area the size of which they never expected. It stretched from Kowyn's Pass (near Graskop) to the Lebombo range. The name of the area changed from Kwahlamba to Mpisane, the new chief (Sihlangu 1987: 28).

In terms of the origin and settlement of the Tsonga-Shangana, the classification of Van Warmelo (1974:55) of three constituent groups, comprising the Southern, Central and Northern groups, is clearly recognisable. Clans of the Southern section are resident in Mozambique, while those of the Central and Northern sections reside in the RSA. The Southern section include the Maputa, Tembe and Mpfumo, while the Central section is

composed of the Khosa, Nkuna, Mavunda, Nhlanganu and Nxumalo, and the Nothern section of the Hlengwe, Tshwa and others.

Many members of the Central and Northern groups have moved into the interior plateau to Louis Trichardt (Makhado), Pietersburg (Polokwane), Nylstroom (Modimolle), Warmbad (Bela-bela), and a few of them even as far as the North West Province. The Central and Northern section Tsonga-Shangana inhabit a territory, formerly known as Gazankulu, of about 748 400 ha. (7 500 km^2), situated in the eastern lowveld of the Limpopo Province. Officially, Gazankulu existed from 1969 to 1994, when the new dispensation took effect. The former Gazankulu comprised six districts, namely Hlanganani, Ritavi, Mhala, Malamulele, Lulekani and Giyani (Kriel & Hartman 1991:1-2). Various tribal and splinter groups became established as independent geo-political units as indicated in the list below:

Table 5: The Tsonga-Shangana Traditional Authorities (Kriel & Hartman 1991:16)

DISTRICT	TRIBAL/COMMUNITY AUTHORITY	ETHNIC AFFILIATION
Hlanganani	Bungeni Tribal Authority	Dzonga
	Nkhensani Tribal Authority	N'walungu
	Khomanani Tribal Authority	N'walungu
	Msengi Community Authority	N'walungu
	Ribungwani Tribal Authority	N'walungu
	Vuyani Community Authority	N'walungu
	Tiyani Community Authority	N'walungu
	Rungulani Community Authority	N'walungu and N'wanati
Ritavi	Bankuna Tribal Authority	Dzonga
	Baloyi Tribal Authority	N'walungu

	Nyavana Tribal Authority	Dzonga
Mhala	Mnisi Tribal Authority	Nhlanganu
	Jongilanga Tribal Authority	Nhlanganu
	Amashangana Tribal Authority	Shangana
	Hoxani Tribal Authority	Shangana
Malamulele	Madonsi Tribal Authority	Hlengwe
	Mavambe Tribal Authority	N'walungu
	Mdavula Tribal Authority	Hlengwe
	Mukhomi Tribal Authority	Hlengwe
	Mulamula Tribal Authority	N'wanati
	Xigalo Tribal Authority	N'wanati
	Xikundu Tribal Authority	N'wanati
	Mhinga Tribal Authority	N'wanati
	Gijana Tribal Authority	Shangana
	Shigamani Community Authority	Hlengwe
	Mphambo Community Authority	Dzonga
	Mtititi Community Authority	Hlengwe
	Ntlhaveni Community Authority	N'walungu
Lulekani	Majeje Tribal Authority	N'walungu
Giyani	Ndengeza Community Authority	N'walungu
	Xiviti Tribal Authority	N'walungu
	Mathebula Tribal Authority	N'walungu
	Mabunda Tribal Authority	Hlengwe and Dzonga
	Hlaneki Tribal Authority	N'wanati

1.17 Land and settlement

1.17.1 The establishment of the Bushbuckridge area

The history of Bushbuckridge dates as far back to the last decade of the 19th century with the demarcation into farms of the territory between the Sabie and Olifants Rivers, from the eastern slopes of the Drakensberg to the Lebombo Mountains by the then land surveyor, W.H. Gilfillan. As further stated by Stevenson-Hamilton (1934:185), stone beacons were set up to mark the four corners of each new farm. This exercise formed the basis for "a fairly reliable map of the country" which was made available for the first time. The entire territory covered an area of about 5 000 square miles (8 000 km^2) and each farm was about 8 000 acres (Els 1996:90-91).

The ZAR government allocated these new farms to various burghers of the republic who selected European names for these farms. Since the area lies in the fever belt, the burghers earmarked the farms for hunting purposes. Although presently inhabited by Blacks, these farms still retain their original white names, for example:

Acornhoek	212 KU
Welverdiend	199 KU
Gottenburg	221 KU
Orinoco	233 KU
Edinburgh	228 KU
Ludlow	227 KU

Many of the names have however, been Shanganised, for instance:

Welverdiend	:	Vhelevhediya
Croquet Lawn	:	Khulukhuloni
Ronaldsey	:	Rondosi

Thorndale	:	Sondele
Allandale	:	Landela
Dumphries	:	Davirisi

Although local inhabitants pronounce the names in the Shanganised way, the European versions remain official. Ethnologists often find it a bit difficult to associate the Shanganised names with their European counterparts at the first instant. Parallel to this is the manner in which farm owners have been nicknamed by the farm workers. Such names are always representative of one of the characteristics, physical or otherwise, which makes the strongest impression on those who first meet the white man (cf. Stevenson-Hamilton 1938:63-64). The following names can be cited as examples:

Madonori: When reprimanding a worker this farmer always exclaimed: *Jou donner!*

Makhahlele: This name is derived from the Tsonga/Zulu word **-khahlela** (to kick). This farmer was short-tempered and kicked labourers for any wrong-doing.

Mtsotso: **Mtsotso** means eardrums. Naas Maritz of Eglington was hard of hearing and people were to shout so that he could hear them.

Mabrukwana: This is a diminutive noun derived from the Afrikaans "broek". It refers to the extra-ordinary short trousers that this farmer used to wear.

Mafutha: This is a Zulu word meaning "fat". The farmer obtained his nickname from his obesity.

Skukuza: This is a very commonly-used name in the Lowveld. It is a Tsonga/Shangana name which means to "sweep away." This name was given to the chief ranger, Col. James Stevenson-Hamilton, for his renowned act of moving families away in preparation for the establishment of a game reserve. The Skukuza camp in the Kruger National Park

(KNP) is named after him. Residents of Bushbuckridge often use the names 'Skukuza' and 'Kruger National Park' interchangeably.

Mafasitere means 'glasses' and is derived from the Afrikaans *venster*. Mr. Simpson was pet named **Mafasitere** because he was the first person in the area to be seen wearing glasses.

These nicknames became so common that most of the labourers employed later did not know the real names of their employers. The farmers knew about their nicknames and some of them were even happy to be called by such name as it was not regarded to be offensive.

Geographically, the Bushbuckridge as a whole is situated in the lowveld region of the former Eastern Transvaal. Presently, it constitutes the far eastern part of the Limpopo Province. Bushbuckridge is bordered to the west by the Drakensberg mountain range, to the south by the Sabie River, to the east by the Sabie Sand Nature Reserve and the Kruger National Park, and to the north by a plethora of farms in the Pilgrim's Rest District (see also Infraplan 1989 Vol. 1:15).

The area of our concern in this study is composed of four tribal authorities, the Mnisi, Amashangana, Jongilanga and Hoxani. The Infraplan (1989:15) describes the settlement pattern as follows: Thulamahashe (administrative centre), Dwarsloop and Mkhuhlu (industrial development centres), and 72 rural villages of varying characteristics and varying population sizes. This research has identified three more settlements of small towns at Acornhoek, Ludlow and Agincourt, which were developed by the RDP. The entire area is 144 964 hectares, constituted as follows:

Table 6: Subdivisions of the former Mhala District – Bushbuckridge area.

AREA	SIZE

Mnisi Tribal Area	33 142 ha
Amashangana Tribal Area	50 376 ha
Jongilanga Tribal Area	24 691 ha
Hoxani Tribal Area	14 058 ha
Sub-total	**122 264 ha**
Manyeleti Game Reserve	22 700 ha
TOTAL	**144 964 ha**

1.17.2 Ethnic composition

The population of the Bushbuckridge area is composed of four ethnic groups (Map 3), each with its own supreme leader (**hosi**). In Tsonga, **hosi** means a king, a paramount chief, a chief or a firstborn child. For some time a tribal ruler, **hosi** (pl. **tihosi**) was equated with the word *chief.* The House of Traditional Leaders shuns the use of the word 'chief' as belittling to them. Preference is given to the traditional appellations, such as **hosi**, **kgoši**, **nkosi**, etc. depending on the language used. In line with this view, **hosi** shall be used with reference to traditional tribal leaders in this text. None of the four groups originated from the present Bushbuckridge area. Each group has its distinct historical emigration to Bushbuckridge. The ensuing discussion throws light on the origin and development of tribal groups which subsequently settled in the Bushbuckridge area.

1.17.2.1 The Mnisi cultural group

Ethnically, the Mnisi group belongs to the Vahlanganu. There are two groups of the Hlanganu, namely the Vahlanganu-Mnisi of the Mnisi Tribal Authority and the Vahlanganu-Khoza of the Jongilanga Tribal Authority. The Vahlanganu-Mnisi are currently under the headship of **hosi** Phendulane Philip Mnisi (see also Kotzé 1976:24 and Els 1996:67).

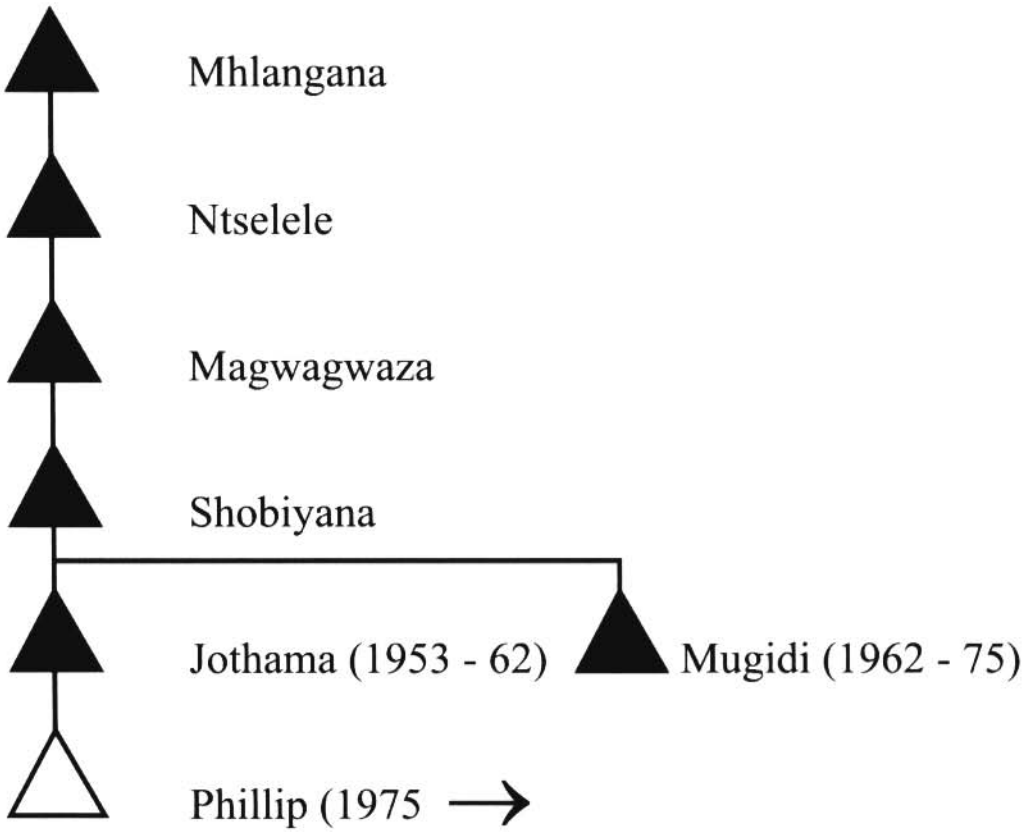


Figure 4: Genealogical succession of the Mnisi traditional leadership

The history of the Mnisi group dates back to the second half of the 17th century when the group migrated from northern Natal in the vicinity of the present Ladysmith under the leadership of Mhlangana. He is regarded as the founder and eponym of the group. Va-hlanganu, therefore, means "Followers of Mhlangana."

Hartman (1978:73) posits that they arrived in Swaziland at about 1670 and settled at Mantjolo in the vicinity of the present Mbabane. Mantjolo is a small stream with a special pool which became famous because of its close association with the royal Dlamini clan of Swaziland. This pool, also referred to as Mantjolo, has ritual properties since it has the supernatural ability to predict the future. It allegedly foretold the death of the late king Sobhuza. It also predicts important events such as droughts, cataclysms, prosperity, etc. The message conveyer is a young Mnisi woman who eventually resigned her teaching

posts to become a full-time messenger and interpreter of predictions derived from the pool. In 1988 the Vahlanganu representatives honoured and invitation from King Mswati of Swaziland to visit the Mantjolo pool. Like the rain-queen Modjadji, Mhlangana was also accredited with the powers of rain-making. When he died he was buried with all his paraphernalia at the Mantjolo stream. The stream has great significance to the Vahlanganu because of this chief's burial there (Els 1996:72).

Shortly after the installation of Hubyanyana, the second born son of Mhlangana, as **hosi**, he trekked to Mozambique with a section of his followers. The remaining section appointed Ntselele as their **hosi**. This group later also migrated and settled at Marhakeni in southern Mozambique (Hartman 1978:73; Els 1996:72; Junod 1927:16). The result is that two independent but related groups of the Vahlanganu existed in Mozambique. Els (1996: 72) say that the two groups lived under the influence of the Tsonga for about six generations before sections of these tribes finally moved to the Transvaal. This account is supported by Hartman (1978:73), who describes their movement as a flight. Like his forefather Mhlangana, **hosi** Mabana also had the ability to make rain – an art he partly acquired from Mhlangana and partly from the rain-queen, Modjadji. At the request of Soshangana, Mabana made rain in Mozambique. This earned him the name, Dumezulu Mnisi ('He who makes the rain fall from the thunderous heaven'). Dumezulu is a contraction of **liyaduma izulu** (the heaven is thundering), while Mnisi means 'He who makes the rain fall'. Mabana is the founder of the Mnisi clan name **-xivongo**.

Part of the Mnisi tribe left Mozambique around 1838 under the leadership of **hosi** Mafohlo and settled in the Lydenburg district. This was shortly after the return of Soshangana from northern to southern Mozambique (Hartman 1978:76). The group fled simultaneously with a section of the Nkuna tribe. The exodus was apparently prompted by fear for Soshangana. Hartman's account suggests that the second group of the Vahlanganu trekked from Mozambique to the Transvaal in 1896 under the leadership of **hosi** Magwagwaza. Their departure coincided with the conclusion of the Nghunghunyani war and what Stevenson-Hamilton (1934:80) regards as the cessation of the self-made native history.

Although the account of Hartman differs from that of Van Warmelo who states that the Vahlanganu of Magwagwaza left Mozambique around 1856, they concur that these groups settled on both sides of the Lebombo Mountain. The 1890 border line which separates the Transvaal and Mozambique therefore split the Vahlanganu of Magwagwaza into two groups (Stevenson-Hamilton 1934:181). The greatest threats to the Vahlanganu in Transvaal were the Swazi who constantly raided them. Stevenson-Hamilton (1934:173-174) describes the worst attack, at which occasion they were nearly wiped out. These raids scattered them and rendered them a 'wild people' who lived in the bush and subsisted mainly from hunting. After the cessation of the Swazi raids, the Vahlanganu recovered remarkably and greatly increased in numbers. Stevenson-Hamilton (1934:174) says that in the quarter of a century after the end of the Swazi hostilities, the Vahlanganu had multiplied to the extent that large numbers of them occupied the flats under the Lebombo Mountains.

In the Transvaal they settled at various places. They first occupied a vast area which is part of the present KNP. It was here that Stevenson-Hamilton earned himself the name of Skukuza from the Vahlanganu when he drove them away for the envisaged game park (Sihlangu 1987:18). After a sojourn in the Lydenburg district, Magwagwaza retreated to the Lowveld and settled on the farm Guernsey, from whence he moved to Buffelshoek where he died on 5 August 1917 (Els 1996:81). His eldest son and successor, Shobiyana Mathavi Madizi, was installed as **hosi** on this farm. Els (1996:81) further mentions that Shobiyana was formally recognised as **hosi** in terms of Article 4 of Act 4 of 1885 (ZAR) on 21 July 1919 by the Union Government, with Rooyboklaagte as his headquarters. After a succession of movements, Shobiyana finally settled on Islington farm which was bought by the South African Native Trust (SANT) for settlement by the Mnisi people. To date, this farm serves as the headquarters of the Mnisi Tribal Authority (Els 1996:84). The royal graveyard is also on the farm.

Owing to his state of debilitation which hampered the execution of his responsibilities as **hosi**, Shobiyana requested his family council (**xigodlo**) to entrust his firstborn son, Jotham, with these responsibilities. The latter effectively assumed leadership of the tribe on

5 January 1953. However, his reign was short-lived as the **xigodlo** terminated his office on 31 March 1961. Jotham's younger brother, Willie Mgidi Mnisi, acted as regent for Phendulane Philip Mnisi from 11 August 1962 until his death on 29 July 1975. Philip was installed as **hosi** on 13 September 1975 by the Chief Minister of the former Gazankulu, the late Prof. H.W.E. Ntsanwisi.

The former Mhala district was formally established during the reign of **hosi** Willie with the constitution of the Gazankulu homeland in 1970. After a series of consolidations the Mnisi tribal area finally comprised of 14 farms: eleven residential farms, two sanctuary farms and one recently incorporated farm, envisaged as an additional game reserve farm. The 14 farms are: Acornhoek 212 KU, Okkernootboom 211 KU, Burlington 217 KU, Islington 219 KU, Welverdiend 206 KU, Ludlow 287 KU, Clare 220 KU, Eglington 225 KU, Gottenburg 221 KU, Seville 224 KU, Dixie 240 KU, Andover 210 KU (nature reserve), Leamington 207 KU (nature reserve) and Morgenzon 199 KU. The farm Jeukpeulhoek 222 KU (Manyeleti Game Reserve) is patronised by the Mnisi Tribal Authority and should form the 15th farm. Morgenzon has just recently been incorporated. The incorporation was done with the understanding that it should be used as a game farm.

1.17.2.2 The Amashangana cultural group

The arrival of the Machangana together with their Nguni leaders under the guidance of the regent, Mpisane, in the Transvaal in 1896 marked the beginning of the Amashangana history in the Bushbuckridge District. Their arrival culminated in the subsequent establishing of the Bushbuckridge area. Their westward migration from Mozambique was precipitated by the fall of the Ngoni Empire and the resultant arrest of Nghunghunyana and his elder sons.

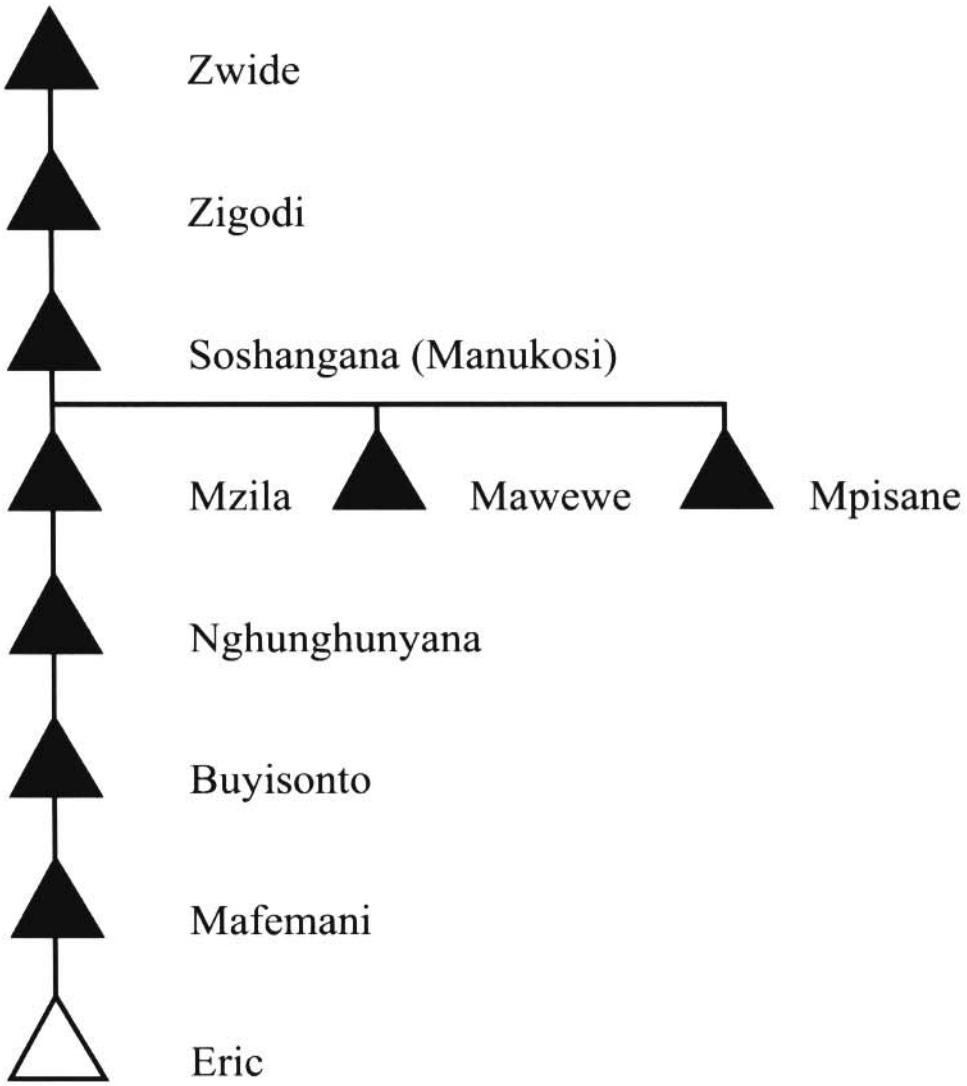


Figure 5: Genealogical succession of the Amashangana traditional leadership

Mpisane was given a vast tract of land between Kowyn's Pass (near Graskop) and the Lebombo Mountains. The entire area was renamed Mpisane. Mpisane himself settled on the farm Orinoco while the rest of his followers were scattered on the farms Dwarsloop, New Forest, Rolle, Newington, Cunningmoor, Lillydale, Dumphries and Somerset (Sihlangu 1987:27-29). When Mpisane led the Vangoni-Machangana to the Transvaal, the then possible successor to the throne, Thulamahashe, was still a minor (Stevenson-Hamilton 1934:181). The legitimate heir was Buyisonto who was incarcerated in Portugal. When Thulamahashe came of age, he was accepted by all the Ngunis and

Shanganas as their **hosi**. When Buyisonto was sent to Angola in a menial capacity, he seized the opportunity to escape from the Portuguese. He made his way to the Transvaal where he arrived in 1922 (Stevenson-Hamilton 1934:181). The *compos mentis*, Mpisane, adeptly persuaded Thulamahashe to relinquish the throne in favour of Buyisonto who was soon acknowledged by Thulamahashe and the Ngoni headmen as their **hosi**. The Amashangana tribal area is composed of the following farms: Orinoco 233 KU, Newington 255 KU, New Forest 234 KU, Rolle 235 KU, Edinburg 228 KU, Allandale 237 KU, Athol 238 KU, Ultha 239 KU, Dwarsloop 248 KU, M.P. Stream 246 KU, Agincourt 254 KU, Arthurstone 247 KU, Dumphries 245 KU and Xanthia 253 KU.

1.17.2.3 The Jongilanga cultural group

Like the Mnisi, the Jongilanga belong to the Hlanganu. The Vahlanganu under **hosi** Philip Mnisi is the one tribe, while the Vahlanganu under the jurisdiction of **hosi** Jongilanga Khoza is the other tribe (Kotzé 1976:24). Mhlangana, a renowned rain-making **hosi** had four sons with his senior wife: Ntselele, Hubyanyana, Shibalana and Mavungwana (Els 1996:72). In terms of the primogeniture, Ntselele was supposed to have been his father's successor. However, he was lackadaisical as his main interest was directed towards herbalism and rain-making. The declaration of his ambitious and power-hungry brother Hubyanyana as **hosi** led to the polarisation of the tribe. Shortly after his pronouncement as **hosi**, Hubyanyana and his followers left Swaziland and settled in Mozambique. Ntselele and his section of the tribe also followed. The latter group established itself at Marhakeni.

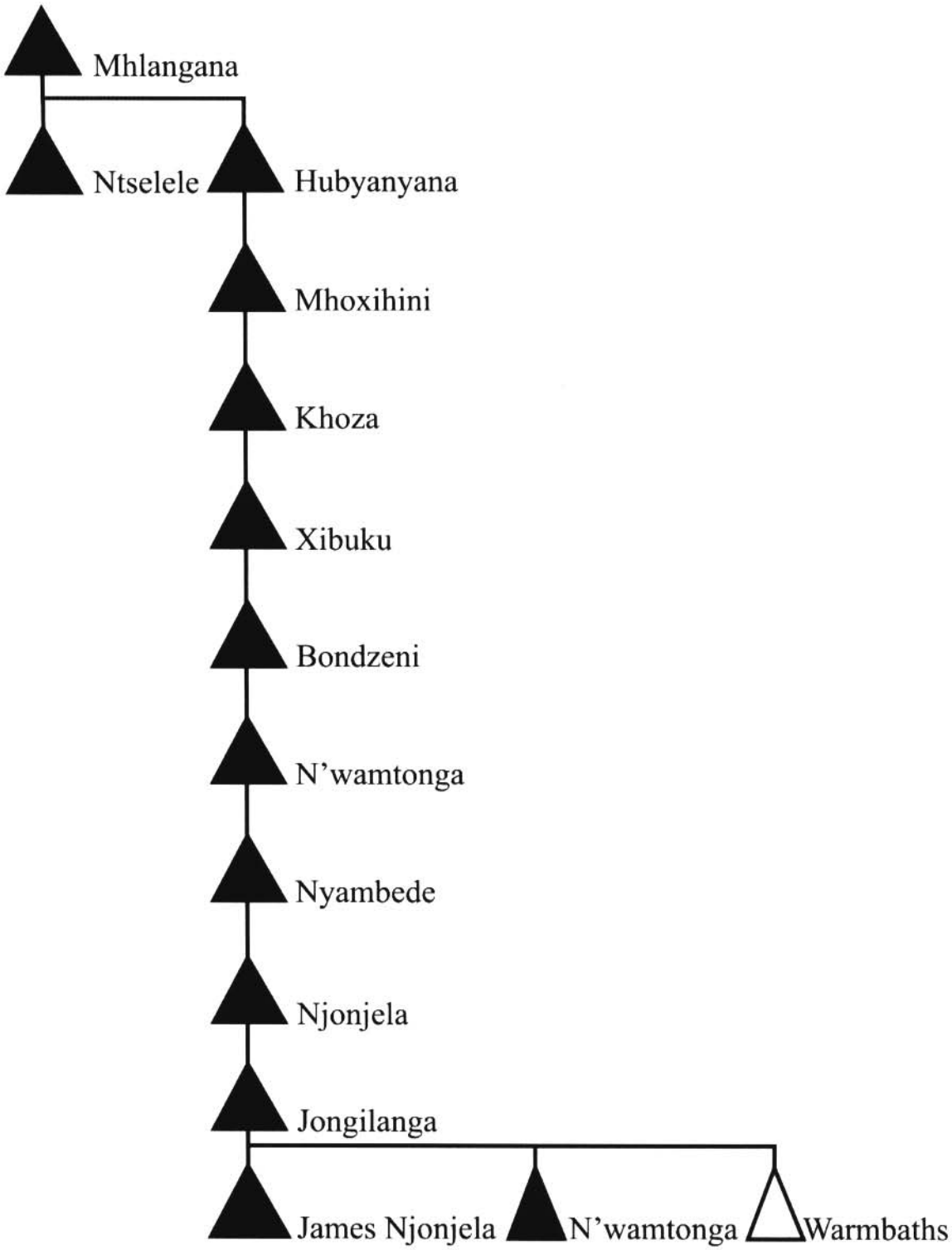


Figure 6: Genealogical succession of the Jongilanga traditional leadership.

From the diagram above it is clear that Hubyanyana is the founder of the Jongilanga lineage with the name of Khoza. Kotzé (1976:26) says that Khoza was the **induna** of the Mnisi group. The genealogical diagram above depicts Khoza as Hubyanyana's grondson and successor. That the Jongilanga-Vahlanganu belong to the junior section is quite logical since Hubyanyana was Ntselele's younger brother. Whereas the Vahlanganu-Mnisi left Mozambique during the reign of Magwagwaza, those of Khoza vamoosed during the reign of Njonjela. Hartman's statement (1978:73) that the two Vahlanganu groups resided in Mozambique for almost six generations under the influence of the Vatsonga and have thus became tsongaised is unchallengeable. The Jongilanga area is composed of the following farms: Cunningmoor 275 KU, Ireagh 263 KU, Huntington 281 Ku, Somerset 282 KU, Croquetlawn 265 KU, Lillydale 278 KU, Justicia 280 KU and Kildare.

1.17.2.4 The Hoxani cultural group

The Nkuna tribe originated in Zululand at a place called Nghome. They left Zululand during the reign of **hosi** Mabuse. They settled temporarily in the Lydenburg district before resettling at Sabie where Mabuse died and was buried. Soon afterwards they migrated to Mozambique and settled among the Tsonga of Rikhotso. The ensuing conflict with the latter induced them to move to Timambana. Since the death of Mabuse the tribe was without a recognised **hosi** of its own, whom they desperately needed. Their settlement at Timambana coincided with the installation of Rinono as **hosi**. After his death at Timambana he was succeeded by his son, Kulaleni.

Mbangwa had two sons, Nyantshiri and Shilubana. At his death, Mbangwa was succeeded by his younger brother, Ribye, after whose term of office the chieftainship reverted to Mbangwa's son. Nyantshiri, the rightful heir to the throne, had died, leaving behind two sons, Majuvana and Maswakhomu. Because of the Tsonga law of succession that all the younger brothers of the deceased **hosi** must reign before his eldest son, who is the true heir, so Shilubana was enthroned instead of Majuvana. Some years later Majuvana died,

being survived by his younger brother Maswakhomu and his own son, Mbokota, who was later to be the rightful heir to the throne (Junod Vol. 1 1912:384-385).

It was during the reign of Shilubana when his Nkuna tribe, together with two other Tsonga tribes, were crushed by Soshangana in 1836. After being pushed northwards to the Baloyi region between the Olifants and the Limpopo Rivers, Shilubana and his followers subsequently crossed the Sabie River before they finally arrived at Bokgaga in 1839. It is argued that it is in the Sabie vicinity where Hoxana Nkuna lost touch with the main body of the tribe.

There are conflicting accounts on the social standing of Hoxana. Junod (Vol. 1 1912:384) states that there were three brothers: Hoxana, Mbangwa and Ribye. His statement places Hoxana in the senior position, and thus the rightful heir according to custom. Junod's source of information was Mbokota. The Government Gazette of 23 March 1962, as well as Hartman (1978) provides different information which places Hoxana in some junior position. Shilubana and Ntsanwisi (1958:25) also mention that Hoxana belongs to the junior house. Junod's informants, Mbokota and Mankhelu, further allege that Hoxana drafted during the Ngoni disturbances when he fled to the Moamba country and lost touch with the main body of the clan that settled in the Transvaal. Although the information provided by Junod's informants cannot be dismissed, this account is based on Hartman's and Ntsanwisi's submissions that Hoxana belonged to the junior house and also that he drafted from the core group of the tribe in the Sabie vicinity.

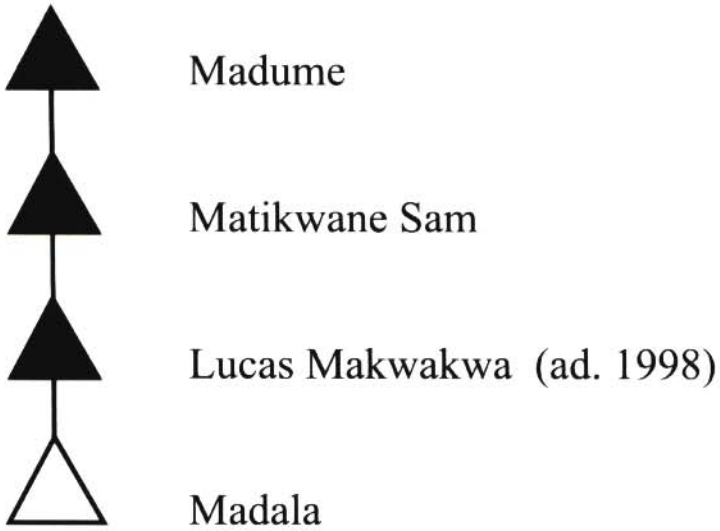


Figure 7: Genealogical succession of the Hoxani traditional leadership

The Hoxana area is composed of the following farms: Calcutta KU, Cork 295 KU, Ronaldsey 283 KU, Belfast 296 KU and Madras 292 KU.

1.17.3 Population

When considering the population figures of the Bushbuckridge area, cognisance should be taken of the migrant labourers and the Mozambican refugees. To this end, Infraplan (1989 Vol. 1:42) suggests that the former Mhala district consist of three different elements of population, namely:

De facto population;
Migrant population; and
Mozambican refugees.

The inclusion of the third element (Mozambicans) is necessitated by the fact that they heavily impact on the natural environment. Their dependence on and utilisation of natural resources clearly surpasses that of the *de facto* population due to their greater needs for

shelter and survival. During the marula (**vukanyi**) period, for instance, the refugees start collecting the fruit at 04h00 daily, whereas the residents start with their collection at about 06h00. Because the Mozambicans are not provided with electricity, the restrictions on the chopping and gathering of firewood do not apply to them. They also cut trees and grass for house-building. Furthermore, many of the refugees are herbalists who collect plant material for medicines. They are renowned for their superior knowledge of medicinal plants that can cure complex diseases.

Some of the diviners and herbalists among the refugees have risen to fame and prosperity in their profession. Mahanuke, alias Mandhevana, because of his lush beard, receives an average of 12 clients per day who come for divination (bone throwing) and medicine. Within a short spell of time he had made enough money from his clients to enable him to purchase a second hand 4x4 pick-up (bakkie) for R39 000,00 cash, while also having 64 head of cattle and 20 goats. However, those refugees who do not have special skills are content with a basic subsistence economy in which they rely heavily on natural resources.

The population figures for Bushbuckridge in general and the former Mhala in particular, are notoriously inaccurate (Yeatman, 1997:16). Du Toit et al. (1999:1.1) give reasons for the controversy surrounding the census figures for Bushbuckridge as a whole. It is firstly due to the difficulties associated with surveys in densely populated rural areas with low levels of services and high rates of illiteracy. The second reason is the large number of illegal immigrants from Mozambique. Although many of these refugees reside in the former Mhala area and require basic services, they are not reflected on any census forms. Of late, foreigners from Pakistan, Somalia and Nigeria have begun infiltrating the area.

Using the official census reports, Du Toit & Steyn (1999:11) compiled the following census table for the former Mhala and Mapulaneng for the years 1951 to 1996:

Table 7: Census figures for Mhala and Mapulaneng: 1951-1996.

Census	Mhala	Annual growth rate (%)	Mapulaneng	Annual growth rate (%)	B.B. Ridge: Total population
1951	21 810		17 175		38 985
1960	28 104	2.83	24 509	3.9	52 613
1970	65 147	8.8	55 700	8.6	120 847
1980	142 844	8.2	106 396	6.7	249 240
1985	145 327	–	178 614	10.9	323 941
1991	253 298	9.9	215 246	3.2	468 544
1996	294 421	3.1	245 388	2.7	539 809

It is suggested that growth rates of over 3% are biologically virtually impossible (cf. Pieterse, et al. 1999:1.2). This assumption is reflected in their projected population growth rates for the Limpopo Province, which are as follows (Bushbuckridge is listed separately):

Table 8: Projected population growth rates for the Limpopo Province and Bushbuckridge.

PERIOD	POPULATION ROWTH RATE: LIMPOPO PROVINCE	POPULATION GROWTH RATE: B.B. RIDGE
1995 – 2000	2.6%	2.7%
2001 – 2005	2.2%	2.3%

2006 – 2010	1.9%	2.1%
2011 – 2015	1.7%	1.9%
2016 – 2020	1.5%	1.8%

The projected growth rates do not exceed 3%. The nearest to this figure is the 2.7% for the 1995 – 2000 period in Bushbuckridge. The official census figures in Table 7 on the other hand, have extremely high growth rates of up to 10.9%. These growth rates resulted from various secondary factors such as the resettling of families from so-called white spots in the Graskop and Sabie districts, the influx and settling of the Mozambican refugees, and also changes in the magisterial district boundaries.

It also has to be assumed that the recording of some of the population figures reflected in Table 7 were incorrect. The 145 327 figure for Mhala in 1985, for instance, is clearly an undercount. For that reason, the annual growth rate is not shown. It is suggested that an annual population growth rate of 4.6% for Mhala between 1980 and 1996 would be a more accurate reflection of the population dynamics in this area (Du Toit et al. 1999:1.2). In terms of this calculation, the present growth rate for Mhala (Bushbuckridge area) is estimated at 2.7% as indicated in Table 8.

According to Table 7 the 1996 former Mhala population stands at 294 421. Accepting 2.7% as the annual growth rate, the 1997 population would be 302 370. The Development and Infrastructure which conducted a house to house count in the former Mhala, arrived at a figure of 259 644 for 1997. Although this figure may be accepted as closest to the real situation, it may also not be completely correct. This source, for instance, gives similar figures for Okkernootboom A and Okkernootboom B with regard to the total number of women (1205), men (1095), boys (2875) and girls (3123). The acceptance of this report is largely because it is not only recent but also quite elaborate as it gives the number of families, widows, women, men, boys and girls in every ward of the various trust farms. The population census figures below are derived from this report:

Table 9: Mnisi Traditional Authority: 1997 Population Census.

FARM	TOTAL HOUSEHOLDS	POPULATION	AVERAGE FAMILY SIZE
Dixie	113	370	3,27
Seville	326	1915	5,87
Thorndale	107	653	6,10
Gottenburg	682	3815	5,59
Eglington	810	4262	5,26
Clare	671	4110	6,12
Welverdiend	441	4121	9,34
Islington	983	4394	4,46
Ludlow	1316	6186	4,70
Acornhoek	3975	20021	5,03
Okkernootboom	3774	22314	5,91
Burlington	1049	4451	4,24
TOTAL	**14 247**	**76 612**	**5,37**

Table 10: Amashangana Traditional Authority: 1997 Population Census.

FARM	TOTAL HOUSEHOLDS	POPULATION	AVERAGE FAMILY SIZE
Athol	312	1596	5,11

Dumphries	1938	6231	3,21
Rolle	2580	14029	5,43
Dwarsloop	1690	4002	2,36
Orinoco	2860	8570	2,99
New Forest	826	6006	7,27
Arthurstone	1473	10141	6,88
M.P. Stream	1089	10199	9,36
Newington	1744	6624	3,79
Xanthia	1281	5306	4,14
Agincourt	2329	7458	3,20
Utah	145	2547	17,56
Allandale	1081	4427	4,09
Edinburg	1061	6871	6,47
TOTAL	**20 409**	**94 007**	**4,60**

Table 11: Jongilanga Traditional Authority: 1997 Population Census.

FARM	**TOTAL HOUSEHOLDS**	**POPULATION**	**AVERAGE FAMILY SIZE**
Cunningmoore	1674	9742	5,81
Croquetlawn	424	3013	7,10
Ireagh	1595	6095	3,82

Justicia	1041	3207	3,08
Huntington	508	1789	3,52
Somerset	584	2477	4,24
Lillydale	2321	8624	3,71
Kildare	1756	10206	5,81
TOTAL	**9 903**	**45 153**	**4,55**

Table 12: Hoxana Traditional Authority: 1997 Population Census.

FARM	**TOTAL HOUSEHOLDS**	**POPULATION**	**AVERAGE FAMILY SIZE**
Calcutta	4160	21799	5,24
Madras	922	6496	7,04
Cork	1531	8356	5,45
Ronaldsey	608	4739	7,79
Belfast	1112	4775	4,29
TOTAL	**8 333**	**46 165**	**5,54**

At an annual growth rate of 2,7% the increase of the former Mhala population since 1997 is as follows: for 1998: 266 654, for 1999: 273 854 and for 2000: 281 248. Pieterse et al. (1999:1.2) mention that the total number of illegal immigrants in the Limpopo Province is estimated at 525 000 people of whom 30% are presumed to be in the Bushbuckridge area. In the former Mhala there were an estimated 158 000 illegal immigrants in 1996. At a growth rate of 2,7% per annum, these figures would increase as follows: 162 266 (1997), 166 647 (1998), 171 146 (1999) and 175 767 (2000). Added to the projected 281

248 of the former Mhala population, the projected total population for this area in 2000 (illegal immigrants included) is 457 015. This study, therefore, deals with the relationship of almost half a million people with the plant resources in their natural environment.

1.18 Presentation of the data

Chapter 1 gives the general introduction to the study and comprises the nature and significance of ethnobotanical research, the delimitation of the field of study, the theoretical problems that are addressed in the investigation, the hypotheses, objectives and research methodology, a review of the salient features of the natural environment, as well as a discussion of the origin, settlement and demography of the research community.

Chapter 2 deals with the cultural component of the ecological situation under consideration. The review of the Tsonga-Shangana culture focuses on those aspects that are relevant to understanding the relationship of the people with their natural environment.

In Chapter 3, the central core of this study, a list and description of 200 plant species, is provided. These species have been collected during fieldwork in the Bushbuckridge area (the former Mhala), identified and classified at the herbarium of the University of Limpopo. This chapter shows the dependence of the Tsonga-Shangana on their natural environment.

Chapter 4 reflects on the extent of plant uses by the local residents. The percentage use (medicinal and food and/or beverage) per species has been determined. This chapter determines not only the uses but the knowledge of plant species of the local inhabitants.

Chapter 5 gives an analytic review of plant species and their uses described in Chapter 3. It serves as a summary of Chapter 3 and provides the basic functions of each species. It also indicates the different principles used by the Tsonga-Shangana to name plants.

Chapter 6 gives comparative information on the uses of medicinal plants by the Tsonga-Shangana and other selected groups, i.e. the Zulu, Venda and Tswana. The chapter therefore shows the similarities and differences between medicinal systems of various cultural groups.

In Chapter 7 the effects of plant utilisation and the management of veld resources are discussed. Prior to the occupation of the Bushbuckridge area, the entire region was densely forested with a lot of animals at its disposal. This chapter outlines the underlying causes of the biological environmental changes that took place over a time period.

Chapter 8 gives a summary of the entire study and suggests some recommendations and proposals to curb environmental degradation.

CHAPTER 2

CULTURAL REVIEW OF THE TSONGA-SHANGANA

In the following synopsis of the culture of the Tsonga-Shangana communities in the Bushbuckridge area, emphasis is placed on those aspects that are most relevant to a better understanding of their relationship and interaction with the plant resources in their natural environment. The culturally-based needs and values of the people determine the adaptive strategies that they follow and therefore have to be taken account of in understanding their exploitation and management activities. Owing to the synchronic nature of the study, a structural-functional description of contemporary villages and families has been provided. It includes those that are based on traditional principles as well as the transformed, modern villages.

2.1 Social organization

The following social groups are discernable in the Tsonga-Shangana community:

2.1.1 Kinship groups

This is a group of consanguineal kin who are patrilineal descendants of a common ancestor extending beyond two generations. Kin groups have important functions in the organization of domestic life in general. Kin groups can be classified as follows:

2.1.1.1 The family

The basic social unit among the Tsonga-Shangana is a family known as **muti** or **ndyangu** as described in 2.1.2. It was customary among the Tsonga-Shangana for the first born son to reside in his family of origin after marriage. Shortly after the marriage of the second born son, their father declares that the first born son **I handze matala** (he has scratched in the ash heap), i.e. he has grown fully independent. The following day, the man, in the company of a few relatives, takes his son to a nearby spot where there is

either a *Diospyros mespiliformis* or *Sclerocarya birrea*. Here he should establish his family of procreation with the tree species on the spot as an ancestral shrine. The process of building a traditional homestead ensues (as outlined in Section 2.1.2). All basic structures (hut, granary, fire enclosure and the cattle enclosure) are built and constructed from a plant material. The process is repeated to the second born son when the third born son marries. The last born son however, resides with his parents even after his marriage and inherits the homestead from his parents. For this reason, the last born son among the Tsonga-Shangana is commonly nicknamed Madala (old man), because of his customary right to inherit and look after the oldest homestead.

Although these structures are quite durable and may last up to the time when the last son gets married, some of them may be dilapidated and require renovation. Roof structures, particularly those attacked by wood-borers, need to be replaced. Thatching grass like *Hyparrhenia dichroa*, *H. hirta* and *Hyperthelia dissoluta* are often replaced as their durability hardly extends beyond ten years.

The establishment and spreading of nucleur families pre-suppose the clearing of new fields. The cleared shrubs and trees are used in the construction of **rithangu** or **rihlampfu** enclosures as described below (2.1.2), which are temporary structures that last only for one ploughing season. In the subsequent seasons, the dilapidated fence is revitalized with new branches from nearby tree and shrub species. Thus, year after year, plant materials are in constant use by the Tsonga-Shangana.

2.1.1.2 The patrilineage

As a male dominated society, lineages among the Tsonga-Shangana are patrilineages representing the family at macro level. A new patrilineage comes into being when married sons with their wives and children leave their family of origin and establish their family of procreation patrilocally as per *modus operandi* outlined in 2.1.1.1. Before resettlement in stands (**malayeni**) a patrilineage usually occupied a common **muganga**. Hartman (1987:105) describes **muganga** as "'n wyk wat gewoonlik op 'n hoogte (bult)

gelee is" and mentions that "riviere twee **miganga** van mekaar skei". A similar explanation of this term is given by Cuenod (1982:113) who describes it as a "small district in charge of a **ndhuna**, generally high ground between two rivers". At Welverdiend for instance, the **muganga (ganga) wa ka Mahlale** consists mainly of the Mahlale partrilineages. Although a **muganga** is usually occupied by several patrilineages, it is commonly known or called by the dominant patrilineage. A **muganga** is usually named after the first lineage to settle on it. The following **miganga** are mentioned as examples: **Ganga ra ka N'wa-Madleke, ganga ra ka Skhonkhwane, ganga ra ka Sokisi, ganga ra ka Boesman** and **ganga ra ka Teyishi**. Natural resources like dams are also named after the first settler, e.g. **Damu ra ka Sokisi (**Sokisi Dam; **Damu ra ka Mahlale** (Mahlale Dam), **Damu ra ka Teyishi** (Teyishi Dam) or **Damu ra ka N'wamkhelemba** (N'wamkhelemba Dam).

The patrilineage controls and manages the natural resources in its area of jurisdiction entrusted to them by the chief-in-council. Although a sense of ownership in the true sense of the word does not exist, patrlineage ownership is somewhat recognized. A foreigner intending to settle at another person's **muganga** seeks permission from the owner. Permission for settlement obtained from both the **hosi** and headman does not guarantee free settlement. The owner of the **muganga** has to be negotiated with. Acceptance into the **muganga** is a prerequisite to the participation in and utilization of the respective natural resources. The onus is on the entire membership of the patrilineage to ensure that important tree species like *Sclerocarya birrea*, *Diospyros mespiliformis* and *Strychnos madagascariensis*, for instance, are protected. Although strangers are allowed access to grasses like *Hyparrhenia dichroa*, *Hyparrhenia hirta* and *Hyparhenia filipendula*, they are restricted by members of the relevant patrilineages to utilize these resources before maturity. No restrictions are however imposed on hunting and gathering. A hunter, even if a stranger, is not obliged to share his kill with patrilineage members of the **muganga**. In the same vein food is collected freely from any **muganga** without any strings attached. Grazing and the use of water resources remain communal. It is evident therefore that patrilineages exercise a measure of control over the utilization of natural resources.

2.1.2 The village

As posited by Junod (1912 Vol. 1:280), the Tsonga village (**muti**) is not a haphazard conglomeration of people but a social organism with a well defined composition, which is regulated by strict laws. Over the last few decades, the social organisation of the Tsonga-Shangana has gone through a phase of intensive transformation. The traditional village constitutes a patrilineally extended family (**ndyangu**) consisting of the eldest male member, his wife or wives, his younger brothers and their wives and children, his married sons with their wives and children, and his unmarried children.

Contemporary changes have led to the fragmentation of villages into smaller units which may only include a man and his wife (occasionally wives), his married sons (or at least some of them) with their wives and children, and his unmarried children. The two main factors responsible for this trend are: (1) the drastic decrease in polygynous marriages; and (2) the earlier economic independence of married sons who prefer to establish their own villages – in many cases near their places of employment.

Traditional villages are constructed according to a basic plan, and fenced in. A circular enclosure (**rihlampfu/ rithangu**) is made from branches, usually of *Dichrostachys cinerea* (**ndzhenga**), for its durability and strong thorns. Junod (1912 Vol. 1:281) says that thornless branches were used as well. As is the case with the Zulu, the Tsonga-Shangana also have more than one entrance to their village. The main entrance (**sango/ nyangwa**) is customarily located on the eastern side of the fence (see Junod 1912 Vol. 1:282 for the construction plan of a traditional village). The wives acquire their status through the order in which they are married. The woman married first is the *ex officio* principal wife. Her dwelling hut is constructed directly opposite the **sango**, facing towards it. This hut is known as **yindlu leyikulu** (the senior hut). Children born in this hut inherit the status of their mother, and are therefore regarded as seniors. The hut of the second wife is situated to the right of the senior hut, while that of the third wife is on the left side of the senior hut. The hut of the fourth wife is situated adjacent to the second hut.

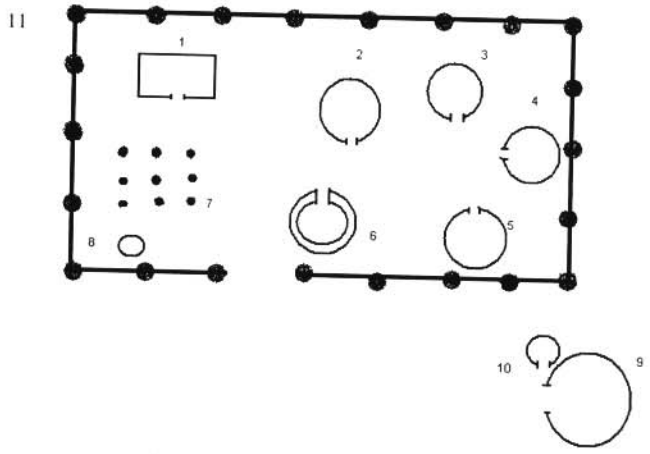
Such alternating positions continue, depending on how many wives the man has married. These and other structures in the village are made of poles and are thatched with grass.

The introduction of stands (**malayini**) in close settlements, or *nedersettings,* with its accompanying westernisation, has greatly altered the structure and composition of traditional settlements. The social units are smaller, while neighbours are in most cases not members of the same kinship group. A rectangular, barbed wire fence has replaced the circular **rihlampfu**. Because wood is still readily available, many residents use wooden drop poles in the erection of a barbed wire fence. Some families with modern houses still construct a traditional hut called **ndhumba**. This hut is dedicated to the Ndau spirits who are highly revered. A forked pole (**phandze**) of *Gardenia volkensii* (**xitsalala**) is planted in this hut diagonal to the entrance (Shilubane 1990:112). The paraphernalia of the spirits are hanged on a stalk (**mugiva**) of the size of a broom stick, which is suspended from the roof. A tree kept in the family yard is generally used as an ancestral shrine (**gandzelo**). Kriel and Hartman (1991:24) make the same observation when they say that sacrifices to the ancestral spirits are made at a sacrificial place (**gandzelo**) under a tree in the residential complex. The following tree species are commonly used as **gandzelo**: *Sclerocarya birrea* (**nkanyi**), *Diospyros mespiliformis* (**ntoma**), *Strychnos spinosa* (**nsala**), *Strychnos madagascariensis* (**nkwakwa**), and *Trichilia emetica* (**nkuhlu**). The **gandzelo** is always a fruit-bearing tree, but the fruit of that particular tree is often avoided because of its ritual nature.

The construction plan assumed a new shape altogether since the introduction of the nedersettings in the mid 1950s until the 1980s when wood became a bit scarcer and corrugated iron houses introduced. This is a period during which wood was more extensively used, because patrilineage families were broken down to several/separate and independent primary families. In terms of the new order, a primary family consisted of a man and wife with their unmarried children and the grand parents.

The family plan therefore usually consists of the following family structures which can be diagrammatically represented as follows:

Fig 8: The construction plan of a Tsonga-Shangana homestead



1 Main hut
2 Girls hut called **nhanga**
3 Granny's hut
4 Boy's hut, called **lawu**
5 Spirits' hut, called **ndhumba** (N.B. hut always faces west)
6 Fire enclosure, **xivava** or **guma**
7 Maize crib, **xitlati**
8 Granary, **dulu**
9 Cattle kraal
10 Goat kraal
11 Fence

In the building of a typical Tsonga-Shangana hut, **yindlu**, the wall and roof structures are made up of long straight poles, **timhandze**. A roof structure usually takes between 24 and 30 poles with more than 50 saplings. The wall structure usually requires between 15 and 20 poles (7.6.1 & Plate 22a). (For comprehensive details see Chapter 7). Hardwoods of *Terminalia sericea*, *Acacia caffra*, *Combretum hereroense* and young or second-

growth *Combretum imberbe* are commonly used. Long saplings of *Acacia exuvialis*, *Combretum hereroense* and *Colophospermum mopane* are freshly cut and used while they are still pliable to construct a skeletal wall as in Figure 16 (5b). Such saplings are called **timbalelo**. They are tied or nailed horizontally on the upright main poles. The bark fibre of *Acacia karroo* is highly prefered as a rope. It has a reputation of being strong and durable. The bark-fibre of *Acacia exuvialis* takes second preference. *A. exuvialis* is important for its fibre and lath. The species therefore serves dual purposes and is in danger of complete destruction. These do not only stabilize the wall but also ensure that the mud is well supported. For a sturdier structure about 300 saplings of *Dichrostachys cinerea* measuring about a meter each are required and put together zig-zagly on the poles as in Figure 16 (5a). This is known as **fenisi**, in contrast to **timbalelo**. An added advantage of such a structure is the facilitation of wall plastering. The centerpiece of the roof is called **xihlungwa** or **xichungwa**. This crown is commonly carved from *Diospyros mispiliformis.* Varying opinions were expressed why specifically Jackalberry wood: the wood is strong; the wood does not crack; it is soft and workable; it is durable; etc. Informants mentioned that the second alternative, but rarely used is the wood of *Gymnosporia buxifolia*. While under construction the crown is supported by a long pole to give the right height and for temporary support during the building phase (cf. Du Toit, 2001:8). The trusses, usually made from *Terminalia sericea*, *Acacia erubescens* or *Spirostachys africana* are nailed on to the centerpiece. Due to the dangerous effects of its latex indicated in Chapter 3, *Spirostachys africana* is always used with caution. Because of the scarcity of these species and the restrictions imposed on the utilization of flora, which forbid people to cut down trees for building or land clearing, timber from hardware merchants has largely replaced these species. The laths of *Combretum hereroense* are nailed on the trusses. Once the roof trusses and laths are in place *Themeda triandra* grass woven into long rolls, called **makenya** are unrolled spirally from bottom to the top. Sometimes *Hyperthelia dissoluta* or *Hyparrhenia dichroa* is used. For the hut to look more beautiful and sturdier, *Phragmites mauritianus* is used as undercover for the grass.

Nowadays timber and other building materials like trusses, roof tiles, corrugated iron, is available from hardware shops and wholesalers at Acornhoek, Greenvalley, Thulamahashe and Dwarsloop. Private shops also sell building material. Also available in these shops are fencing material like barbed wire, wire mesh, drop poles and posts.

Soil from termite mound, **xidulu**, which has high clay content, is used for the walls. Termite soil is mixed with water to form mud cakes, which are packed between the saplings. It is then left to dry out before being plastered on with a couple of a few layers of termite mound mud known as **mbopfu**, to thicken and smoothen the wall. The floor has a termite mound solid base. A wooden floor-beater called **xichayi**, made from *Combretum imberbe*, *Colophospermum mopane*, *Dalbergia melanoxylon* or any other strong and heavy wood is used to level and batten down mud floors. A smooth stone known as **mbhokoda** is used to harden the floor by rubbing it to and fro. This is called **ku rhidela**. Fresh cowdung is mixed with water and smeared on the floor. This is called **ku sindza** or **ku koputela**. A typical Tsonga-Shangana hut therefore is a complete wattle and daub structure.

The enclosure for the fire and cooking place (**xivava** or **guma**) is constructed entirely of wood (7.6.3; Plates 24a & 24b). This has replaced the **xigurumbana** or **xitsumba** and fulfils the functions of both **xigurumbana** and the square of the men, **bandla**. While vestiges of **xigurumbana** can still be traced the same cannot be said of **bandla** which is not only rare but completely unknown to the younger generation. The *modus operandi* in the construction of the cattle enclosure (**xibala/ tshanga**) did not change but its position has been altered. The smaller dimensions of the stand as well as the restrictive health measures inevitably compel people to build cattle enclosures outside the family yard. Poles and branches of *Albizia harveyi* (**ndzhololwane**) and *Combretum imberbe* (**mondzo**) are highly preferred in the construction of a cattle enclosure (Plates 6 & 23).

Two types of store houses exist, the crib (**xitlati...**Plates 20a; 20b; & 21a) and the granary (**dulu**...Plate 21b). The **xitlati** or **xihahlu** is an elevated wooden framework, the size of which measures that of a dwelling hut. The shape resembles the Zulu watch hut

(Krige 1950:195). The **xitlati** is constructed of poles of *Combretum* and *Acacia* species as well as *Terminalia sericea*. *Hyparrhenia filipendula* (**nanci**) is used in the thatch. In the absence of *Hyparrhenia filipendula* use is made of *Heteropogon contortus* (**xilungwa**). The **xitlati** is used as a storage hut for unthreshed mealies and as a fireplace. Fire is made beneath the **xitlati** for the smoke to serve as a deterrent for weevils. The granary on the other hand, is much smaller, and constructed from the poles of *Terminalia sericea* and *Combretum hereroense*. The **dulu** is easy to construct and is found in almost every homestead. It is also thatched with *Hyparrhenia filipendula* or *Heteropogon contortus*. The present trend is to construct the roof of both storage huts with corrugated iron. Residents say it is faster than thatching and does not attract or harbour mice.

2.1.3 Household utensils

House-hold utensils are necessities of life and every known house-hold in the area is in possession of some. Although the trend nowadays is to have modern utensils, rural people like those of the study area still make extensive use of traditional utensils carved from plant material. Mortar (**tshuri**) and pestle (**musi**) are largely carved from the robust trunk of *Pterocarpus angolensis, Combretum imberbe* or *Dalbergia melanoxylon*, for durability purposes. These are usually kept as life-long utensils. Nowadays some wood carvers are selling these utensils; a wood-carver at Clare makes mortars and pestles, using *Combretum imberbe*, for commercial purpose. A standard sized mortar is sold for R120.00 and the medium one for R70. Pestles are sold for R30 each. His average monthly production is 3 mortars and 3 pestles.

Other utensils of value like the conical basket or bushel (**xirhudzu**), winnowing basket (**rihlelo**), wooden spoon (**nkombe**), a stirring stick (**rifeto**) and wooden dishes called **tinqhombo** are widely used. Bushels are made from *Cocculus hirsutus* (**Risotse**) while winnowing baskets are made from *Acacia ataxacantha* (**Nuko**) and *Cocculus hirsutus*. Although many plant species could be used for carving wooden spoons and bowls, those of *Gymnosporia* (**Xihlangwa**) *Berchemia, Spirostachys africana* (**Xilangamahlo**) and *Pterocarpus angolensis* (**Murhotso**) are preferred. Tranditonal mats (**masangu**) made from a wide variety of plant species also play a significant role in the life of the Tsonga.

They are used for a variety of purposes including spreading of freshly grounded meal for drying. Traditional mats are generally made from the material of *Schoenoplectus brachycerus* (**Rixakwa**), *Cyperus immensus* (**Rikhwana**), *Cyperus textilis* (**Mizi**), and twines or strings from *Acacia gerrardii* (**Bota**) *Agave sisalana* (**Xikwenga**) and some *Ficus* species.

2.1.4 Games

The Shangana people have many games for their amusement. There is a wide variety of games which are mostly categorised in terms of the gender and age of the participants. Possibly because of their agility, boys have a wider range of games than any other group. Marolen (1954:7-8) lists 39 games for boys, 25 of them (65%) involve the use of plant parts. In addition to the 25 games, three more were encountered in Bushbuckridge: **n'wa-giligidela**, **mbhakanani** and **ntilima**. The following is a concise description of some selected games:

2.1.4.1 **Dema**

Cuenod (1982:27) describes **dema** as a tuber of the **xihaja** plant used as target in the game of the same name. The boys form two opposing teams. The members of each side queue up, each wielding a sharp pointed wand called **khanji/ khandju**. The first player of the first team sends the **dema** rolling to the opposing team who should transfix it before it passes them. The sharp pointed sticks are made of *Grewia* spp. The *Grewia* wood is hard and strong and easy to sharpen. The **dema** target could also be a fresh fruit of *Citrillus lanatus* (**khalavatla**) or *Cucurbita pepo* (**kwembe**).

2.1.4.2 **N'wa-giligidela**

In this game a round shaped fruit of *Lagenaria siceraria* (**rhanga**) is used. A hole is pierced through the centre of the fruit. The pulp and seeds are removed so that the fruit is hollow and thence referred to as **n'wa-giligidela**. The stalk of *Sorghum bicolor* (**n'wa-huva**) or *Panicum maximum* (**maxalana**) is used as an axle and also to push the 'wheel'.

When pushed the hollowed object produces a strong sound. Boys race with these 'wheels' and enjoy the sound it produces. A boy can cover a reasonably long distance pushing an **n'wa-giligidela**, running without tiring. The rim of a bicycle wheel, pushed forward with a short stick or a piece of *Phragmites mauritianus* (**nhlanga**) has, to some extent, replaced the **n'wa-giligidela**.

2.1.4.3 Xiwhewhe

Not every boy can play this musical instrument since it requires certain skills that first have to be mastered. It is played with either a fresh or dried fruit of *Strychnos spinosa* or *Strychnos madagascariensis*. The fruit is of the size of a tennis ball, or slightly smaller. A hole of about 10 mm in diameter is made into the fruit on the place where the tige was broken off. The contents of the fruit are removed through this hole. Two more holes of a small size are made close to the first hole, on opposite sides of it. Two fingers are used to close the smaller holes of the **xiwhewhe** while air is blown through the main hole. The air is systematically and intermittently released and blocked with the two fingers to produce different musical sounds resembling that of a flute. No two **swihwehwe** can produce identical sounds, yet the differing sounds are always harmonious and complementary. Pleasing melodies are created when the **swihwehwe** are played in pairs.

2.1.4.4 Ku tlhontlha mipfi

Junod (1912 Vol. 1:68-69) and Marolen (1954:27-28) give detailed information about this game. Boys go out into the veld to look for wasps. They arm themselves with sticks and shields made of leaves of *Hyphaene coriacea* (**nala**) or *Combretum collinum* (**ndzhuva**). They stand in a straight line about three metres from the nest. One of them strikes a heavy blow on the wasps. The exasperated insects rush on their assailants and sting them. The boys fight back with their sticks or crush them when they land on them. Junod (1912 Vol. 1:68-69) says that "sometimes, overcome by the pain, they run away; sometimes, resisting to the last, they kill and exterminate their winged enemies."

2.1.4.5 **Ku gava**

This game is played by girls. They gather some stones of *Sclerocarya birrea*. These fruits are usually called **timfula**, but when used in this game they are called **tinconga**. Sometimes the fruit of *Solanum lichtensteinnii* (**ndhulwana/ nthumana**) is used. Ten or twelve **tinconga** are used in this game, and to this collection one fruit of *Strychnos spinosa or S. madagascariensis* is added. The latter is referred to as **ngavo**. A small shallow hole is dug and filled with 10 **tinconga**. The **ngavo** is thrown upwards and all the **tinconga** are scooped out of the hole and the **ngavo** is caught before it falls to the ground. If it touches the ground before it is caught, the player is declared to have fouled and she stops playing until her next turn comes. The next step in this game is to return the **tinconga** to the hole, one by one. The return of each **nconga** is known as **mazi** 1. If the player successfully accomplishes this step without committing a foul, she progresses to the next step whereby she scoops out all the **tinconga** from the hole simultaneously and returns them in twos. This second step is called **mazi** 2. In the third step the **tinconga** are returned in threes. In the last step - **mazi** – 10, the **tinconga** are returned all at once. The player then shouts "**khaceee**!" This is an interjection derived from the verb **khaca** (to win).

2.1.4.6 **Minkhavi**

This game is called **ku ba nkhavi** (to hit a switch) or **ku tlanga nkhavi** (to play a switch) i.e. playing with a switch. The game is played by adult men at a circumcision school. The switch, or flexible rod, is cut from *Strychnos madagascariensis, Grewia* species (**Nsihana**) or *Combretum hereroense* (**Xikhavi**). Participants and spectators stand in a circle. A challenger jumps to the centre of the circle with his switch and shield. He shouts insults or announces his fighting skills. The challenge is directed to anyone present. The game requires that the fighters be top naked. Injuries sustained during the fight are left unattended as a sign of bravery and manhood.

2.2 Political organization

In the study we deal with four traditional authorities which constituted the defunct Regional authority of the former Mhala district. At the apex of each authority is a traditional leader, **hosi**, whose functions are similar to those documented by Mönnig (1967:273) as wide and varied. As an absolute ruler, the onus is on the traditional leader to protect the natural resources in his area of jurisdiction. In the execution of these responsibilities, the **hosi** is assisted by his headmen (**tindhuna**) and wardmen (**swibonda**). If the situation demands, other members of the community may be appointed to assist with the execution of these responsibilities.

The basic traditional village layout of the **hosi** resembles the traditional homestead described in Section 2.12. However, the royal village commonly known as **ntsindza** consists of more huts and other structures than of any other homestead. His (**hosi**) status and social standing empowers him to have more wives and children and to receive VIP's and accommodates the destitute at his royal village. Granaries and cattle enclosures are very big and a lot of plant material is used for the construction of these structures. The traditional leader therefore is the biggest consumer of the natural resources.

The **hosi** owns the largest fields which are cultivated collaboratively by all community members before they turn to their own. The produce from the field is not only for consumption by the royal members, but geared for the maintenance of the destitute as well, hence the Tsonga expression, **I swisiwana swa hosi** (the destitutes belong to the **hosi**), i.e. the responsibility to care for the needy lies with the traditional leader.

After harvest the most prosperous families voluntarily contribute part of the corn towards the communal granary at the royal kraal, thereby assisting the leader with the maintenance of the destitute. During famine, the corn from the granary is redistributed to the community according to the needs of members.

In clearing the fields care is taken to preserve fruit-bearing trees. Multi-stemmed fruit-bearing shrubs like *Ximenia* species, *Carissa* species and *Flueggea virosa* may be cut off but it is an offence punishable by the **hosi** to fell tree species like *Sclerocarya birrea*, *Diospyros mespiliformis* and *Strychnos madagascariensis* which are regarded to be of primary importance for their food supply (cf. 2.5.4). It is also punishable to plant jugo beans before 25 December each year. It is strongly believed among the people of Bushbuckridge that jugo beans, if planted before the festive period, have a deterrent effect on the rain. The flowers of the jugo beans have a repelling effect to lightening that is associated with rain. But if planted after the festive season, the flowers are considered harmless to lightening. This belief is still adhered to even today. If it is suspected that some people might have planted the beans before the festive period, the **hosi** will appoint some members of the community to inspect the fields (Chapter 3 Case 12). If any beans are found to have blossomed before 25 December, the appointees would uproot all the plants and a heavy fine would be imposed on the owner of the fields. The management and control of natural resources are therefore the responsibilities of the **hosi**.

Trees are of vital importance to traditional leaders. Large trees like *Diospyros mespiliformis* or *Ficus sycomorus* usually found within the court yard of the **ntsindza** are commonly used as tribal courts (**bandla** or **hubyeni**) where communal cases are tried. A large tree stump of *Sclerocarya birrea* placed against the trunk of the **bandla** tree is used by the **hosi** as his stool during the court proceedings. Either dead logs or smaller tree stumps known as **swiqowani** are placed semi-circularly facing the stool. The **swiqowana** are made from a variety of trees such as *Gardenia volkensii*, *Gymnosporia* species, *Pterocarpus angolensis* and *Terminalia* species. One or two logs habituated by large and vicious ants called **remenyo** are usually kept at **hubyeni**. Culpirits who refuse to speak the truth are stripped naked and tied to the log. The prosecutor would then shake the log for the ants to come out and continuously bite the culprit until he/she reveals the truth. The log is thus used for disciplinary purposes.

2.3 Cosmology and religion

2.3.1 Cosmology

Cosmology can generally be explained as "a theory about or the study of the nature and origin of the universe" (Cambridge International Dictionary of English, 2002:309). Malan gives a more comprehensive explanation of the concept. To this end he says:

> Cosmology comprises the entire world-view of a people, accounting for all categories of a phenomenon of which they are conscious. It offers an explanation of the origin of all things, mostly in mythological form because of the lack of verifiable facts; it accepts the existence and interaction between natural and supernatural forces in the universe; it elucidates the nature and potential of human and spiritual beings, as well as the relationship that is ideally to be observed between them... and it also entails a functional view of the natural world with various resources that may be exploited to sustain human life on earth (1985:8).

It is evident from the explanation above that cosmology is not only about the origin of creations, but also involves the relationship between human societies and their environment, which is our major concern in this study.

The Tsonga do not see a distinction between nature and themselves. To them, nature and the human society are manifestations of the same principles of order in the universe, interdependent and validating one another – a similar view held by the Swazi as indicated by Malan (1985:9-10). Various aspects of the natural world feature invariably in their cosmology. This is evident in Fischer's description of the healing practice of the Va-Nhlanganu. To this Fischer says:

> Ten einde heling te bewerk maak die Nhlanganu gebruik van **mirhi** – magiese middele wat hoofsaaklik uit 'n groot verskeidenheid plantaardige material bestaan maar ook komponente uit die dierewêreld en minerale ryk kan insluit (1980:36).

Other natural objects like the sun, the moon, stars, the sky and space (cardinal points/directions); topographical features like mountains and rivers, elements like fire, water, wind, temperature and rain as well as human creations like footpaths are all endowed with magical powers which can be ritually transposed to humans by knowledgeable people like the **n'anga**.

In Chapter 3, the core of this study, various functions of plant species, including their utilization for medicinal purposes are described. There is therefore no need to describe medicinal function of trees or plants in this chapter. Some natural objects are believed either to cause illness or aggravate the condition of a patient. A patient who is very ill for instance, must not lie on his/her back facing upwards or the sky, lest the condition worsens. A similar view is held against a patient lying with the head facing the west. The Tsonga-Shangana believe that such a position presages death to the patient. The Tsonga-Shangana associate the west with death and the east with life. This fact is clearly explained by Fischer who writes as follows:

> Die weste waar die son sak sodat die nag oor die landskap kom, is vir die Nhlanganu die simbool van wanhoop, ongeluk en ook van die dood; die ooste van waar die son verskyn om 'n nuwe dag te bring, simboliseer hoop en lewe" (1980:173)

In the preparation of medicine from bark, it usually has to be hacked off from the east and west of the tree. The Tsonga-Shangana therefore combine 'life' and 'death' in the treatment of a disease, in order to sustain life.

The position of the moon at the crescent phase is very significant to the Tsonga-Shangana. As the moon is generally believed to be containing disease, if it faces upwards during crescent, it is said to be carrying disease away (**wu rhwala mavabyi**). But if the crescent faces downwards, it is believed to be pouring out diseases (**wu halata mavabyi**). The menstrual cycle of a woman is likened to the moon. A menstruating woman is said to be 'seeing the moons' (**u vona tinhweti**) and having sex with such a woman is dangerous as she is ritually impure. It is believed that contact with a woman of this

nature causes defilement. The woman therefore must abstain from sex, should not prepare food for someone who is ill, should as far as possible stay secluded, etc. At this condition, she is regarded to be ritually 'hot'. She will only resume her normal duties at the end of her menstruation when her body becomes 'cold' again. Zionists and other related sects are very particular about the phenomena of 'heat'. Female members who are in their menstruation always miss church sermons because they are not allowed to attend church.

The Tsonga-Shangana also believe that mountains, rivers, and lakes have mystical powers. To this end, a medicine obtained from the vicinity of these natural environments is more potent. A tiny root of about 10cm in length, which is believed to be ritually transformed to a snake called **mamulambo**, is obtainable from a tree plant grown in these resources. Small as the root might be, once it assumes the form of a snake, it becomes big and dangerous. Any person can acquire **mamulambo** through **ku khendla** i.e. through sale by a traditional healer who is in possession of this root-snake. In a root form the **mamulambo** is always clandestinely kept in the house by the owner without the knowledge of other family members. In a snake form it resides either in the mountain, dam or river. The identity of the monster keeps on changing depending on its whereabouts. Whilst the **mamulambo** protects its owner from disease, misfortunes, calamities, etc., it is disastrous to the other members of the family. It is believed that **mamulambo** sucks the blood of a family member or close relative once every year, resulting in the death of the victim. A situation develops where such a family looses a member every year until such time that a concern is raised and a diviner is consulted that will identify the source of the problem.

Perennial rivers, pools and big dams are also believed to be inhabited by powerful spirits called **nzunzu** or **nzunza**, also known as **swikwembu swa le matini** (spirits of the water). An individual possessed by **nzunza** merely disappears into the water where he/she will spend a few months or even years under the training of the spirits. The entire process of initiation (**ku thwasa**) is accomplished in the water. By the time he/she emerges from the water she/he has completed her/his training and is a full-fledged

diviner. Diviners initiated in the water are highly regarded and believed to be able to cure a wider range of disease than an ordinary diviner. She/he emerges from the water with medicine not commonly found terrestrially.

Rain water obtained from a tree hole is believed to be more effective in illness treatment than its plant material counter-part. Ring worms, for instance yields better to a tree hole water treatment than to the bark decoction of *Pterocarpus angolensis*. Zionists widely use water derived from a river. They distinguish between **mati ya pongo** (noisy water) and **mati yo rhula** (still water). **Mati ya pongo** is caught at a water-fall and is believed to be an effective treatment for a variety of illness. Zionist prophets usually keep this water in bottles and plastic containers. Sea water is kept by both prophets and traditional healers as an important medicine.

As part of a healing process, a patient is, in some instances, required to jump over the fire, first to the easterly and then the westerly direction. Ash, commonly known as **xiwacho**, is extensively used in both African traditional healing and religious faith healing.

The Tsonga-Shangana, as also mentioned by Fischer (1980:45) distinguish between three dimensions in the living human beings, i.e. **miri**, **moya**, and **xindzhuti**. These concepts can tentatively be translated as body, soul and spirit, respectively. The translation of **miri** as body is without doubt more precise, but those of **moya** (soul) and **xindzhuti** (spirit) pose serious problems. To this end, Fischer writes:

> Die konsepte **moya** en **xindzhuti** behels egter veel meer as wat gewoonlik onder siel en gees verstaan word (1980:45).

His suggestion that these concepts be retained as thus is acceptable so that their original meanings can be maintained.

To the Tsonga-Shangana, the body (**miri)** represents the physical presence or the actual existence of a human being in this world. The **miri**, which is believed to have its origin from a reed (*Phragmites mauritianus*) **rihlanga**, as also mentioned by Fischer (1980:47), is therefore placed in the same order as natural phenomena and elements. As a physical entity, it is liable to external influence like disease, injury and death. For the same reason, the body can undergo some changes. It can for instance, be 'hot' (**hisa**) or 'cold' (**titimela**). Both conditions are undesirable. A person, who is ill, is described as '**u hisa miri**' (his/her body is hot). As also indicated above, a woman during menstruation is described as **u hisa miri**. The condition of **ku hisa miri** applies to various critical situations/ periods like pregnancy, mourning and widowhood, etc. This condition of **ku hisa miri** can only be removed ritually by using medicine with magical qualities. The other undesirable condition, **ku titimela** is connected with death. The Tsonga expression, **ku titimela miri**, means to be dead.

The **moya** which is not in itself liable to external influences is perceived by the Tsonga-Shangana as the life-giving and human attribute of the physical body and is associated with breath. As pointed out by Kriel (1992:123) **moya** is also associated with emotions as a uniquely human attribute.

The **xindzhuti**, an individual-personal attribute, is as mentioned by Fischer (1980:54), '*met die skaduwee assosieer*" and is seen by the people as alive. For this reason, the **xindzhuti** can be either 'heavy' (**tika**) or 'light' (vevuka) as also found by Kriel (1992:124) among the North Sotho. Like **miri**, **xindzhuti** is also liable to external influences and change. Thus, a person with 'light' **xindzhuti** can, through magical means, make it 'heavy'. This is achieved in the following ways:

Ku tlhavela - to be incised and rubbed on with medicine

Ku hlambisiwa – to be washed with medicated water for a certain period of time

Ku swekiwa – to be cooked

The third method assumes two forms. With his legs astride, an individual sits by the fire with a traditional clay pot, called **mbita**, filled with medicated water. He is covered completely with a blanket and perspires from the steam. The second form is performed by very powerful diviners like those in **Phafuri** near Punda Maria around Malamulele. It is alleged that the body of the client is cut in parts and cooked in a big clay pot for a desired time. When the lid is opened the parts shall have re-assembled magically and the individual alive. People of this category, their **xindzhuti** are believed to be the heaviest and are almost feared even by witches.

The **xindzhuti**, being liable to external influences, is targeted by witches. Such a victim is spoken of as **va nwi teke xindzhuti** (they have taken away his spirit), i.e. he has been magically bewitched through his spirit. Unlike **moya**, the **xindzhuti** may leave the body temporarily in certain circumstances without the person's dying.

From above, it is quite evident that the nature of humans (body, soul and spirit) is also part of the cosmology and that these human attributes are closely interwoven. These beliefs regarding the nature of humans and how it can be influenced, are, as indicated by Kriel (1992:124) for the North Sotho, and as it also relates to the Tsonga-Shangana, the basis of the use of all magical means in order to prevent, counter-act, and treat misfortune (including disease) and regaining, promoting and maintaining good fortune (including good health).

The three human attributes must be in harmony with one another for good health. If the body is affected by illness, the problem is regarded not just for the body, but, rather, one that affects the soul and spirit as well. Remedial medicine is of a holistic nature as it also treats disorders on a spiritual level.

2.3.2 Religion

2.3.2.1 God

According to traditional views, the creator God, commonly known as **Nkhubyana**, is a figurehead topping the list in the structure of the supernatural world, but not active. He is regarded as the creator of heaven and earth, all living things (humans, animals and plants)

as well as spirits and supernatural powers. Afterwards he is perceived to have withdrawn himself, leaving his self-sustaining creation to be run by the people, spirits and powers created by him. Thorpe (1994:108) describes such a supreme being as a *deus otiosus* or a *deus remotus*. In olden times the Tsonga performed rituals to appease **Nkhubyana** when they were confronted by insurmountable problems. National catastrophes such as wars, epidemics and severe natural disasters called for the intervention of **Nkhubyana**. However, these rites are no longer observed and **Nkhubyana** is not the object of direct worship in the Tsonga-Shangana religion.

2.3.2.2 Human beings and spirits

It has been indicated above (Section 2.3.1) that a human being is composed of a body (**miri**), a spirit (**moya**) and a soul (**xindzhuti**). The soul is often likened to a shadow and a spirit to the wind or breath. During death the soul and spirit depart from the body and unite to form an ancestral spirit (**xikwembu**). These spirits are believed to be endowed with special powers by God, which enable them to influence their living descendants.

The beliefs in ancestral spirits form the core of the Tsonga-Shangana's traditional religion. Three types of spirits are recognized by the Tsonga-Shangana: The patrilineal ancestors, matrilineal ancestors and foreign spirits. Patrilineal ancestors are commonly known as **swikwembu swa le kaya** (home spirits) and matrilineal ancestors are referred to as **swikwembu swa vakokwana** or simply **vakokwana** (spirits of the grannies). Foreign spirits are distinguished in two categories, i.e. spirits of the Ngoni origin (**swikwembu swa Vangoni**) and spirits of the Ndau origin (**swikwembu swa Vandzawu**). The three types of spirits are accommodated in the life-world of the Tsonga-Shangana and regarded to be beneficial. The spirits therefore are worshipped through prayer (**ku phahla**) and sacrifice (**ku gandzela**) in order to appease them and ensure their benevolence. It is evident that the spirits are more often than not associated with diseases and disasters than with blessings.

Possessing spirits on the other hand 'annex' an individual with the sole purpose of herbalism. Shilubane (1990:63) mentions that on the first day of the manifestation of the spirit in a novice during exorcism, the spirit complains that **mirhi ya mina yi tshame**

handle (my herbs or medicines are left outside) i.e. his herbs are neglected since there is nobody perpetuating his divinership.

The **swikwembu** directly affect the lives of their living descendants who depend on them for their survival. Their daily lives and activities are guided and controlled by these spirits. The link with the deceased members of the family is a very real one which is also supported by positive sentiments. Mulago (1969:139-140) articulates this common feature of African cosmology, which also applies to the Tsonga-Shangana: "Living is existence in community, it is participation in the sacred life of the ancestors, it is an extension of the life of one's forefathers, and a preparation for one's own life to be carried on in one's descendants ... The dead constitute the invisible part of the family, clan or tribe, and this invisible part is most important... The fact of being born in a particular family, clan or tribe plunges us into a specific vital current... ontologically modifies our whole being, and turns it in the direction of the community's way of life and behaviour."

2.3.2.3 Supernatural powers

Apart from the spirits there are also magical powers that permeate the entire creation. Certain natural objects, plants, animals or humans are believed to be endowed with magical properties. These magical powers can be ritually manipulated by knowledgeable people such as diviners, medicine-men, witches and sorcerers – either in a benevolent way to heal and protect people and their property, or in a malevolent way to harm or kill them. A blind mole, known as **mfukuzana** for instance, is regarded as the best treat of cancer (also known as **mfukuzana**). The Tsonga-Shangana word **mfukuzana** is derived from the verb stem –**fukuza** (moving through with difficulty). The spread of cancerous cells in the human body is likened to the movement of a blind mole in the soil. The cells cannot see but have the ability to move like a blind mole which does not have eyes but is able to move through.

In the late 60s and early 70s, Bernard Ngobese (not his real name) known to be the fastest athlete around the Bushbuckridge area then, claimed to be using a **muthi** for his speed. Powdered bones of an ostrich and cheetah were amongst the ingredients used in the

muthi. The use of an ostrich and a cheetah bones for athletes was confirmed by **n'anga** Mahanuke during fieldwork. While very potent magical expedients are prepared from animal and certain natural objects, most of the magical potions used by the Tsonga-Shangana are of plant origin. Infusions of the bark of *Adansonia digitata* for example, are used to wash lean babies with, in order to fatten them. *Adansonia digatata* is renowned for its huge trunk which represents an obese human body. The use of the thick oblong fruit of *Kigelia africana* is believed to have the potency to enlarge the size of a small male organ. Natural objects and life forms all have a potential supernatural or magical quality, which explains the mystical perception of reality.

2.4 Magic and Medicine

2.4.1 Magical practitioners

Certain people among the Tsonga-Shangana of the Bushbuckridge area act as diviners, healers and other kinds of magical practitioners. The general term for a magical practitioner in Tsonga is **n'anga** (pl.: **tin'anga**). Magical practices are based on the belief that people have to be ritually initiated and introduced to the traditions and secrets that will enable them to gain secular as well as supernatural knowledge to manipulate magical forces to the advantage or detriment of other people. Anthropologists have long distinguished between white magic and black magic. The distinctions among the categories of practitioners are based on such factors as the way of initiation, the kind of rituals they perform, their disposition towards society and the type of service that they render. The Tsonga-Shangana have basically similar categories of practitioners to those of the Swazi as outlined by Malan (1985:68-71). The categories of **tin'anga** discussed below feature strongly in the life-world of the Tsonga-Shangana.

2.4.1.1 Diviners and medicine men

Diviners (**sangoma** or **xingomantanda**) are people who are possessed by spirits and therefore have supernatural abilities to perform their profession. It has been indicated under Section 2.3.2.2 above that three categories of spirits exist in the life-world of the Tsonga-Shangana. This notwithstanding, only two categories of spirits, i.e. the Nguni

and Ndau spirits afflict Tsonga-Shangana diviners. A diviner initiated in Nguni spirits only is referred to as a **sangoma**, but if initiated in Ndau spirits as well is called **nyamusoro**. It must be realized that not all **sangomas** are **nyamusoros,** yet all **nyamusoros** are **sangomas**. A person cannot become a **nyamusoro** without having gone through the position of a **sangoma.**

The term **n'anga** is mostly used to refer to a medicine man. The difference between a diviner and a medicine man is found in the following expressions: **ku thwasa vun'anga** (to be initiated into divinership and **ku tsema vun'anga** (to cut herbalism) i.e to become a medicine man. Another notable difference is that diviners are mostly women while herbalism is a profession mainly for men

Both categories employ a similar method of divination, **ku hlahluva,** viz divination by bones, as described by Junod (1927:Vol.II:495) the set of bones is divided in two kinds: the bones, most of which are astragalus bones, and the various objects which are not bones. Among the various objects are sea shells. No fixed number of bones was found among the diviners. Some had many, others few. The average number of bones is around 20.

The Tsonga-Shangana believe that the divining set, when used by a properly trained specialist, has no limits in its ability to divine or predict. It can, for instance, deduce whether the cause of a mishap should be ascribed to witchcraft or to the dissatisfaction of the ancestor spirits. It will also show who the witch is, or which ancestor is dissatisfied. It can indicate what type of magic should be applied and how it should be used against the witch, or what sacrifice should be made to the ancestor. Furthermore, it may indicate the cause of a disease, the nature of the disease and the curative methods to be administered.

In divining, a small traditional mat, **xisangwana**, made of cyperus material, or a skin of a goat is spread on the floor. Clients sit opposite the diviner with legs stretched and shoes removed, as in Plate 13. The fee charged (many diviners charge between R50 and R70 nowadays) is paid in advance and placed under the **xisangwana** or goat skin. The diviner holds the set firmly in two hands, chews a little piece of an ordoriferous root or

Siphonochilus aethiopicus, spits on them in order 'to awaken them', or 'to make them see'. Whilst holding them firmly, the diviner (**n'anga)** utters some spells and throws them on the mat. For interpretation she considers the side to which they face, the position they have taken in regard to each other, and the relation of the male and female bones to each other.

As she interprets the bones and relates the problem about which they have consulted, the diviner speaks in short phrases. The party responds at the end of each phrase by shouting: **savuma** or **siyavuma**, i.e. we agree. The diviner will deduce from their response whether or not they agree with the bones. If they agree, they shout enthusiastically, but if not they respond softly.

The second method of divination is through the 'chest'. It is thus called because the individual in this method divines through spirits, believed to be located in his/her chest. Only individuals who are possessed by spirits can practise this method. The diviner speaks in short phrases, to which the party respond by shouting '**He zake**', if it is the Nguni spirits divining, and '**ndawuwe** in the case of the Ndau spirits. '**Ndawuwe'** may also mean 'thank you' as applied in the acknowledgement of this study, (piii). During chest divination, the diviner always holds her switch of a gnu-tail (**chovo**) in her hand which she constantly waves steadily.

Diviners and medicine men have a broader knowledge of plant species and their medicinal uses in the community as shown in Section 4.2.1 and 4.2.2. In some instances, the **tin'anga** refers to plants by names peculiar to them rather than the common name. For instance, they refer to *Balanites maughamii* as **Vambangoma** instead of **Nulu**. Other examples are **Phalata-ngati** (*Maerua angolensis*) for **Xiyima-na-murhi** and **Mahlalakufeni** (*Cucumis africanus*) for **Xiyakayani**. These medicinal names usually depict what the plant is used for. The medicinal name, **Vukabafile** for **Phipha** (*Rapanea melanophloeos*), for instance, is used for treatment of **midlukulo**, a kind of insanity caused by witchcraft that usually leads to instant death as per description under Section 2.4.2.5. In the event of the victim dying, the medicine, also called **vukabafile**, which literally means "resurrection", is applied in the belief that the deceased shall come back

to life, provided he has not been taken to a mortuary or has not been buried yet. Another example is **Phindumshaye** for (*Adenia gummifera*). The term **phindumshaye** means to hit back. The medicine from this plant also known as **phindumshaye** is used in retaliation for bewitchment. Another plant is **Nanjani** which is called **Bhekamina** by the diviners. **Bhekamina** literally means "look at me" and is used by a man who woos a woman to accept his love proposal.

These plants are ranked by Mander (1997:11-15) in accordance with popularity. **Phindumshaye** for instance, is ranked 6th while **Vukabafile** and **Bhekamina** are both ranked 7th. For medicinal purposes these plants are mixed with parts of other plant species, but they remain the principal ingredients, hence the medicine earns the name of the plant.

Mander (1997:10) mentions that 130 species were reported by healers and traders to be popular and regularly traded in Bushbuckridge. This number is based on the 900 registered healers (registered with Traditional Healers Organization). This study found that most of the Mozambican refugee healers were not registered with THO. The total number of healers in the Bushbuckridge area therefore is above 1000 with the total number of all medicinal plants species exceeding 1300. This study already identified 143 species as used medicinally. The 450 tonnes estimated by Mander (1997:15) as the total yearly collected quantity is certainly conservative.

The supply of medicinal plants in the Bushbuckridge area is largely through prescription by healers or by consumers collecting their own materials and to a lesser extent, buying medicinal plants for self-determination (Mander 1997:10). Traditional healers, however, with established and recognized skills in the collection and preparation of traditional remedies for disease are the main collectors. They harvest and collect plant material with greatest sensitivity. When harvesting roots for instance, they remove only a few of the secondary roots and never tamper with the tap root. Over and above they put back the soil or refill the hole to give the plant an opportunity to regrow new roots. Likewise the bark is not removed entirely in a ring form. Only a small portion is removed to allow regrowth. Of great significance is collection during the appropriate season, as the active

compounds of some plants vary from one season to another. *Hypoxis rigidula* for instance, is collected during summer and autumn. Such seasonal plants are collected and stored for future use. These are usually grounded or kept in their root or corm form in the **Ndhumba** hut as illustrated in Plates 13 and 14.

2.4.1.2 Witchcraft

Witches and sorcerers

Witches and sorcerers are specialists in the use of magic for malevolent and anti-social purposes. Their evil disposition is prompted by jaundice against prosperous members of society. Their practice is referred to as **vuloyi**. Writing about **boloi** among the Pedi, Mőnnig (1967:71) says that night-witches are born with an inherent quality of heat. The situation is different among the Tsonga-Shangana as witchcraft is not congenital but something acquired ritually after birth. Future witches and sorcerers are therefore born normal, whereafter their mother-witch makes incisions with a blade on the joints of their limbs and on the spinal cord. A concoction of medicine is rubbed into the incisions. The medicine will turn the child into a witch (**noyi**). This entire process is known as **ku tlhavela** (to equip someone to become a witch or a sorcerer). It is often said that once equipped, the process can never be reversed and the individual shall remain a witch or a sorcerer for the rest of his or her life. A member of the Welverdiend Nazarene Church who, together with her sister, have often been accused of witchcraft, once confessed in her testimony that they had been ritually equipped by their mother when still young and it was therefore impossible for them to abandon their malevolent practice (pers. comm.).

Witches use medicine to tame certain wild animals and birds as familiars which they use to ride on at night when busy with their nocturnal activities. Animals often used as familiars include the baboon (**mfenhe** – *Papio ursinus*), hyena (**mhisi** – *Crocuta crocuta*), spotted eagle owl (**khuhunu** - *Bibo africanus*), barn owl (**xikhova** – *Tyto alba*) and a small, human-like creature called **tokoloshe**.

Witchcraft can only be countered ritually by using medicine with magical qualities. A medicine man is often called upon to magically protect a new homestead against

witchcraft. Four pegs (**timhingu**) of the Transvaal gardenia (**xitsalala**, *Gardenia volkensii*) are each smeared with grounded medicine coated with the fat of a lion (**nghala** – *Panthera leo*) or pig (**nguluve** – *Sus scrofa*). Each peg is inplanted at a cardinal point. This practice is known as **ku biya muti** (to fence a homestead, i.e. to magically protect a homestead against witches).

A witch or sorcerer trapped in his/her victim's homestead can only be released magically. Informants cited an incident of a man at Welverdiend who was accused by his brother-in-law of being a sorcerer and troubling him. The suspect ignored the warning from his brother-in-law not to come to his place during the night any longer. One morning he was found trapped (**xwela**) inside the grass thatched hut of his brother-in-law and sister. He was standing at the centre of the hut completely naked, holding a cast-iron pot in one hand and a knife in the other hand. Residents came to spectate at him. At about 10h00 the brother-in-law tapped him on his naked buttocks with a small medicated stick. He immediately levitated to the roof where he disappeared. Although informants could not speculate on the type of medicine applied to the stick, they indicated that the stick was of *Ehretia rigida*, *Strychnos spinosa* or *Strychnos madagascarensis*.

The daily life of a Tsonga-Shangana is always threatened by their fear of witchcraft which is believed to feature in every aspect of life. Idiomatic expressions such as **ndzi ta ku vona** (I shall see you), **u ta ndzi tiva kahle** (you shall know me very well), etc, particularly if said during a quarrel, are usually interpreted as having reference to witchcraft. Any misfortune befalling the individual is seen to be the fulfilment of the utterances.

Case 2: *Xichuza Khosa of Gottenberg was a great hunter with an amputated leg. He used a donkey as his means of transport. Khosa quarrelled with his female neighbour over the money she had loaned from him but she could not repay. The woman told Khosa that she would send him her 'boys' if he kept on demanding his money. Four days later, Khosa went to the bushveld on his regular hunting expedition. He had just tied his donkey to a tree; about 30m from where he had laid his traps when he noticed two leopards walking past just a stone throw from*

him. Amazingly the male leopard veered to his (Khosa's) direction with the dogs vanishing. Alone, the hunter had to face the merciless animal which pounced instantly. In an attempt to chop it, the axe slipped out of his hand and dropped about 3m away. Balancing well on his crutches, Khosa began fisticating the animal. His punches seemed to have not much telling effect as the leopard kept on charging. Khosa was more in danger when the leopard dug its nails into his head and de-scalped him. Although bleeding profusely, Khosa did not give in but continued struggling with the animal until he wrestled it to the ground and dragged it to where the axe was laying. He hit it with the axe until it died. His relief was short-lived as he also fainted afterwards. When he regained consciousness he found his dogs lying nearby – much to his surprise. He put the carcass on the back of the donkey and took it to a white farmer by the name of Gert Maritz of Eglington who transported him to the local Tintswalo Hospital where he was transferred to Garankuwa Hospital where he spent 6 months receiving treatment for his scalp and the left eye which continually shed tears until he died a few years ago.

(The hunter and the leopard)

To Khosa, the incident was not an accident in nature. He blamed it on the witchcraft of the female neighbour. He interpreted the two leopards as the 'boys' the woman referred to. The disappearance of all the dogs from the scene provides further proof of witchcraft involvement because under normal circumstances, dogs would fight viciously to save the life of their owner when in trouble. Furthermore, like in all other days, Khosa had a **Rixiriri** (*Senecio latifolius*) in his possession which should magically deter dangerous wild animals from attacking people. Khosa attributed all these failures to witchcraft.

Stories of this nature are very common among the Tsonga-Shangana who always live in fear of witchcraft.

Care is always taken to be on the alert for witches. Other precautions include avoiding walking over suspicious-looking objects like sticks and stones put across the footpaths. They also do not walk over powdered substances spread on the footpaths.

Although they know and believe that only the targeted victim shall be affected, they always avoid walking over the object since they do not know who the victim is. The process of putting medicine or medicated objects across the path is known as **ku rhiya** (setting up a trap) and is believed to be effective during daylight. On "setting up the trap", the witch calls out the name of the intended victim.

The Tsonga-Shangana believe that witchcraft is not innate or congenital but acquired matrilineally after birth. The expression **vuloyi byo mamiwa** (witchcraft is suckled) attests to this belief. Among the Tsonga-Shangana, women are commonly associated with witchcraft. A relationship between maternal parallel cousins for instance, is described as **vuxaka bya vuloyi** (witchcraft relationship). A possibility also exists that an individual may become a witch of her own volition in which case she acquires the medicine from a traditional healer. This process of becoming a witch is known as **ku khendla**. From the above it is evident that the Tsonga-Shangana distinguish between two categories of witches. Informants mentioned that witchcraft acquired through **ku khendla** may easily be abandoned while witchcraft acquired from the mother is virtually impossible to part with.

Witchcraft is closely associated with the use of medicines derived mostly from vegetation. Medicine is used to tame animals and birds. It is again medicine that is used to make people ill or to kill them. The **valoyi** use medicine to turn their victims to zombies. For them to succeed in their evil activities, they rely entirely on medicine.

Some unnatural events and phenomena like witchcraft that instil fear to people gave rise to the extensive use of medicine as protection against the **valoyi**. The Tsonga-Shangana believe strongly in witchcraft as evidenced in the table below.

Table 13: Belief in witchcraft

People believing in witchcraft	235 (94%)
People not believing in witchcraft	15 (6%)

Not only do the Tsonga-Shangana people believe in witchcraft, but they fear it as well.

Table 14: Fear for witchcraft

People fearing witchcraft	225 (90%)
People not fearing witchcraft	25 (10%)

The research also established that a large number of the informants had incision marks on the joints of their limbs to strengthen and protect themselves against any evil attack. This process is known as **ku tlhavela** and is usually done by the family traditional healer. It is however, commonly believed that the protective medicine may, in the course of time, loose its virility and become ineffectual. The renewal of the medicine, (**ku pfuxeta**) therefore becomes necessary. The process is revived on a yearly basis or when a need arises, for example, if people are suddenly threatened by the **valoyi.**

Table 15: Inoculation against valoyi

People inoculated against witchcraft	208 (83.2%)
People not inoculated against witchcraft	42 (16.8%)

It is not only members that are magically protected against witchcraft but their homesteads also need protection. In the study area the majority of the homesteads were magically protected against the **valoyi**, with some homesteads renewing the protective medicine annually. The table below shows the rate of the protection of families in the area.

Table 16: Homesteads magical protected

Homesteads magically protected	208 (83.2%)
Homesteads not magically protected	42 (16.8)

Plant species featuring prominently in the protection of homesteads is *Gardenia volkensii* whose branchlets are cut to size to make pegs that are medicated and drilled into the four corners of the homestead. Every renewal presupposes the use of new plant material.

Livestock, particularly cattle, are also doctored so that they are not vulnerable to witch attack. Sometimes medicine is applied with the belief to increasing their fertility so that they can multiply faster. In other instances medicine is administered to cattle to protect them against animal attack like lions. In this instance **Rixiriri** (*Senecio latifolius*) is used.

Natural phenomena like plants, animals and objects are used by witches during their nocturnal activities. This includes *Mundulea sericea*; baboon (*Papio ursinus*) and an owl (*Tiyo alba*). Informants mentioned an owl as used most by witches, followed by a baboon and the *Mundulea sericea*. This is reflected in table as follows:

Table 17: Plant and animal species mostly used by witches

Plant/Animal	Number/% of informants
Owl	200 (80%)
Baboon	175 (70%)
Mundulea sericea	158 (63.2%)

Household utensils like stirring sticks and winnowing baskets are also used by the **valoyi** for flying while they use baboons to ride on. A bird like the night owl (**xikhova**) is associated with witches and if it lands in the tree near the homestead it is suspected to have been sent by the witches.

Informants expressed divergent opinions in dealing with witches. Three different opinions were expressed, viz report witches to the police or magistrate; employ the services of a diviner or traditional healer and witch purging, although not easily used. The third opinion was regarded to be the most effective and quickest method to deal with the problem.

Table 18: Methods used to deal with witches

Method	Number/% of informants
Report to the police	20 (8%)
Employing a diviner/Traditional healer	135 (54%)
Witch purging	95 (38%)

Traditional methods used to punish witches included ostracism, expulsion from their home villages and public execution. Early missionaries denounced the latter methods as evil and barbaric. The subsequent promulgation of the Witchcraft Suppression Act No. 3 of 1957 amended by Act No. 50 of 1970), made it a crime to accuse anyone of witchcraft practices (Minnaar, 2001 vol.2:2). For fear of these consequences, the majority (54 %) of the Tsonga people resorted to fighting fire with fire. Witchcraft largely involves the use of herbs by witches to harm people and the use of herbs by the afflicted persons to counter the malicious practices of the witches.

2.4.2 Medicine

Gibson (1975:1) describes the term medicine as a name given to the study of all kinds of diseases – of how they are caused, where they occur, the frequency of their occurrence the way they affect the patient, how they are treated, what happens to the patient, the whole of the healing art (1975:1).

The term medicine is generally broad but is used here in a more limited sense to describe those diseases that are particularly 'medicinally' and not 'surgically' treated. Medicinally treated diseases are treated with drugs or herbs. The Tsonga-Shangana have four words with which they describe medicine: **mirhi** (trees), **swihlahla** (shrubs), **timitsu** (roots) and **tluka** (leaf). In this context, **tluka** is always used in a singular form and never in plural. Moreover, it is used in a limited sense – to refer to any medicine used to protect or strengthen a homestead. Although very potent medicines used by the Tsonga-Shangana

are also prepared from animal and human ingredients, most of these herbal mixtures are of plant origin.

2.4.2.1 The Tsonga-Shangana's disease aetiology

Diseases and illnesses are common to all human societies. However, the types of diseases that occur, the way these diseases are diagnosed and treated, and how people regard them, vary considerably from one society to another (Howard & Dunaif-Hattis, 1992:571). Among the Tsonga-Shangana, as it is the case with other traditional African cultures, the causing agents of many diseases and forms of misfortunes are largely in the sphere of the supernatural.

The following categories of agents are recognized by the Tsonga-Shangana as causes of diseases and illnesses:

Nature or **Ntumbuluko**

Writing about the Pedi, Kriel (1992:120) mentions that there is a special link between natural diseases and 'nature' in that these illnesses are associated with certain seasons (summer and winter), with certain places and circumstance (cities and cold), and with normal phases in the individuals life cycle (old age or puberty), as well as with that which is considered to be the 'habit' or way of certain bodily parts, organs, and fluids. This view also applies to the Tsonga-Shangana people who regard such illnesses as **mavabyi ya ntumbuluko** (natural diseases). Ailments such as whooping cough, smallpox, measles, colds, fevers, diarrhoea and venereal diseases are considered to be natural. The Tsonga-Shangana also regard the supreme-being as not the active 'sender' of the ailment, as found by Kriel among the Pedi (1992:12). The Tsonga-Shangana however strongly believe that the supreme-being simply kills (**xikwembu xa dlaya**) through accidents and misfortunes.

Ancestral spirits

Mention has been made in Section 2.3.2.2 of the relationship between the living and the dead among the Tsonga-Shangana and how the dead influence the life of their living

descedents. The ancestral spirits, also known as **swikwembu**, **vakokwana** or **va le hansi**, are generally believed to reside quite happily and peacefully in the abode of the ancestral spirits, believed to be underground, hence the reference **va le hansi** (those of the underground).

Quite often, the livings do not always 'remember' their ancestors particularly during peaceful times when they are happy. In this enterprise the living does not venerate the spirits and take no account of them. On realization of this gross negligence, the spirits become unhappy and restless. Consequently, they will reveal their dissatisfaction to the living in one way or another so that the living can remember them, because they always want to be remembered (**va lava ku tsundzukiwa**). Such revelations called 'reminders' usually come in the form of dreams. If the reminder is repudiated or ignored, the spirits may decide to punish the living. They may withdraw their protection from the living and leave them vulnerable to all sorts of calamities or may directly send diseases to the living.

In many instances, babies and children are targeted as victims of the circumstances. A baby that is troubled by spirits usually cries persistently. Diviners, if consulted, shall reveal that the baby is pinched by the spirits (**u toviwa hi swikwembu**). A child or baby whose illness is caused by spirits shall not yield to any treatment except a sacrifice. Recovery after the performance of a sacrifice is instant. If the negligence is regarded by the spirits as severe, a series of misfortunes will be sent to any elderly member of the family – usually not the head of the family because he has the responsibility to consult with diviners about the problems. The only time that the spirits send illness to the head of the family is when they realize that he/she is extremely old and would like him/her to come to their place of abode.

Foreign spirits referred to under Section 2.3.2.2 send illness to any family member of their choice, by means of possession. A person affected by such illness is spoken of as: **I vabya hi swikwembu** (she sicks of spirits i.e. she suffers from illness caused by spirits).

Typical of the illness is that it tends to follow stereotyped patterns; the victim always suffers from paralysis, she begins to be particular about food, and abstains from certain kinds of food, requesting her friends not to give her that food, because it makes her ill.

She chooses what she likes, and she does not eat much of that. Also, the novice would continually complain of pains all over the body. She would end up becoming emaciated and might be ill for six months without getting better; perhaps even longer than that. Such a person even if taken to a hospital or traditional healer, would never recover unless she is initiated into the cult.

Ritual impurities

Tsonga-Shangana culture is bound up with taboos, known as **swiyila**. Infringements on taboos lead to ritual impurity (**ku thyaka** or **ku nyama**), which may cause either misfortune or diseases. If a man indulges in sexual relations with a woman, who has recently committed abortion, he will suffer from an illness called **tindzhaka**. Likewise, **tindzhaka** may also affect a man who sleeps with a widow who is still ritually unclean. **Tindzhaka** as explained under Section 2.4.2.5 is a killer disease if not properly attended to or ignored. Another example is **matlulana**, also described under Section 2.4.2.5 which results from non-observance of purification rules. Informants cited numerous examples of people who suffered from **tindzhaka** and **matlulana** because of infringements on taboos. Examples were also cited of victims who died from **tindzhaka** and **matlulana**. Traditional healers use herbal medicine to treat victims of these diseases. The roots of *Scolopia zeyheri* for instance, are used for the treatment of **tindzhaka**, while those of *Philenoptera violacea* treat **matlulana**.

Because of the absence of pathology and formal training institutions, the aetiological knowledge of traditional healers is generally vague. Tsonga traditional healers basically classify diseases into two major categories: illness (**vuvabyi**) and epidemic (**ntungu**). To them illness is caused by blood (**ngati**) and epedimic by air (**moya**). Dreadful diseases like cancer, for instance, is referred to as **ngati yo biha** (an ugly blood) or **ngati leyikulu** (big blood); both expressions meaning, 'dangerous disease'. Likewise, an epidemic can be 'ugly' or 'big'. HIV and AIDS (**Nqulazi**) for example, is known as an 'ugly'/'big' air.

The western conception of pathogenic organisms like bacteria or viruses as causes of disease is virtually unknown to traditional healers. Even where they are working in collaboration with western medical practitioners, their understanding of disease causation is still vague. Interviewed members of the Traditional Healers Organisation (THO), a body recognized to work at hospitals and believed to have received some training on the causes of HIV and AIDS and HIV and AIDS-processes, for instance, gave divergent explanations on this. To some of them, the viruses in a newly infected person enter the body as embryos. They believe that in a woman, the viruses cluster in the womb where they are going to develop. Up until this stage, they believe that the disease is easily curable. Their knowledge and comprehension of causes of diseases and disease-processes is somewhat unintelligible, particularly with regard to natural diseases. This should not, however, be misconstrued that they completely have no knowledge of anatomy and diseases. They do have reasonable knowledge of this but they themselves agree that their western medical counterparts are largely more knowledgeable and equipped with better diagnostic machines.

The Tsonga distinguish between two categories of diseases: **Mavabyi ya xintu** (traditional diseases) and **Mavabyi ya xilungu** (Western/ modern diseases). Informants classified and listed the diseases as follows:

Table 19: Traditional and Current diseases

Traditional diseases	Western/ modern diseases
Xifulana (Gangrene)	**Chukela** (Diabetes mellitus)
Xijiso (Food poisoning)	**Doropa** (STI) Gonorrhoea
Xiporiyana (Migraine)	**Nda Phya** (Hypertension)
Mafularha (Ritual impurities)	**Nyamakazi** (Cancer)
Chovela (STI related disease)	T.B (**Rifuva**)
Rihlanyu (Insanity)	Cholera (**Kholera**)
Swikwembu (Possession illness)	HIVand AIDS (**Nqulazi)**
Xikuna (Typhoid)	Heart disease **(Mavabyi ya mbilu)**
Tinhlavela (Plantawarts)	Asthma **(Phika)**

Ntamulana (Scabies) **Matshansi** (Ringworms) **Ndzhaka** (Ritual impurities) **Ricwa** (Madness)	Anorexia nervosa

Like cancer, most diseases appear in various forms. Informants mentioned that there are more than ten types of **xifulana** (gangrenes) which vary in their intensity. The strength of each type largely depends on the potency of the **murhi/umuthi** (magical potion) used by the witch. The stronger the **murhi** (magical potion) the faster it shall affect and kill the victim. The strength of the **murhi** (magical potion) is also challenged by the status of the victim. If he/she has strengthened himself with powerful protective medicine, the potency of the **murhi** (magical potion) shall be greatly neutralized or be rendered harmless. Should the victim get affected, his/her recovery shall depend on the potency of the medicine used by the healer.

It is important to realize that traditional diseases are, in the main, believed to be caused by the **valoyi/baloi**, by magically harming their victims. Epidemics (**ntungu**) also called **moya** (air/wind) are, however, accepted as natural diseases spread by **switsongwa-tsongwana** (germs) which thrive in the air.

The Tsonga conceptualise HIV and AIDS as a modern dreadful disease with mixed opinions about its curability. Some people believe that HIV and AIDS is curable while others think that it is not curable. The response to the question of whether the disease is curable or not is as follows:

Table 20: Is HIV and AIDS curable or not?

Category	Curable	Incurable	Not certain
Traditional healers	6 (12 %)	11 (22 %)	33 (66 %)
Women	9 (18 %)	8 (16 %)	33 (66 %)

Men	7 (14 %)	13 (26 %)	30 (60 %)
Girls	4 (8 %)	22 (44 %)	24 (48 %)
Boys	4 (8 %)	20 (40 %)	26 (52 %)
Total	**30 (12 %)**	**74 (29.6 %)**	**146 (58.4 %)**

Clearly the majority is not certain whether the disease is curable or not. Their uncertainty is largely based on that medical science and white people, as they allege, who claim that there is no cure yet for HIV and AIDS.

People who believe HIV and AIDS to be incurable base their argument on the number of AIDS sufferers that proliferates day by day as well as those dying almost every week. They argue that if a cure was available people would not be dying in such large numbers.

Some of the respondents who believe that HIV and AIDS are curable mentioned cases of HIV and AIDS victims who have now recovered completely. They mentioned that those who died of HIV and AIDS did not go to the right healers. Six traditional healers allege that there is no disease that can fail traditional medicine.

A female healer at Dumphries claims to have cured some people who came to her having tested positively to HIV and AIDS. After using her medicine they tested negative. It was, however, very difficult to gainsay her claims because of the researcher's reluctance to meet her cured patients she said she would organize. She said patients who could not be cured were those who were already at a terminal stage.

The treatment is described as rigorous and elaborate. The medicine is a concoction of plant material that includes **Mbhumbhununu** (*Hypoxis hemerocallidea*), **Khondovha** (*Hypoxis rigidula*), **Mhanga** (*Aloe marlothii*), **Nthunduluka-lowukulu** (*Ximenia caffra*), **Nhlangula** (*Euclea* sp.), etc. While some medicine is to be drunk, other medicines have to be used as enemas and emetics. Sometimes the patient is subjected to **xifuthu** (steaming) as well.

The 30 respondents who answered that the disease is curable were asked who can cure the disease. Their responses were as follows:

Table 21: If HIV and AIDS are curable, who can cure it?

Unit	Total number/% of informants
Hospital	0 (0 %)
Traditional healers	18 (60 %)
Powerful churches	12 (40 %)
Other? specify	0 (0 %)

Since HIV and AIDS are regarded as a killer disease, the majority feels that the best means to prevent it is by using condoms. The following question was posed:

Table 22: What is the best way of preventing HIV and AIDS?

Category	Sticking to one partners	Use of condoms	Sexual abstinence
Traditional healers	27 (54 %)	18 (36 %)	5 (10 %)
Women	38 (76 %)	10 (20 %)	2 (4 %)
Men	20 (40 %)	30 (60 %)	0 (0 %)
Girls	29 (58 %)	21 (42 %)	0 (0 %)
Boys	14 (28 %)	36 (72 %)	0 (0 %)

From the table above, it is clear that females prefer sticking to one partner whereas males prefer to use condoms. The reason given by males was that they are not sexually satisfied with one partner as it is commonly known. Some of them cited the Tsonga expression: **Wanuna i wa nava** (a man spreads), i.e. a man should have several females at a time. Traditional healers who regarded abstinence as the best preventative measure were all female diviners. Some female diviners believe that sexual intercourse usually renders medicines inefficacious.

The Tsonga-Shangana believe that traditional illnesses which are largely caused by witches can only best be treated with traditional means. Western treatment is at times believed to exacerbate the condition of some diseases like **xifulana** (gangrene) for instance. As it is commonly known, 'let a thief catch another thief'. The same principle applies here: Traditional disease is better treated with a traditional treatment.

The table below shows the preference of traditional medicine to bio-medicine in the treatment of traditional diseases.

Table 23: Preferencial use between traditional medicine and bio-medicine.

Category	Bio-medicine	Traditional medicine
Traditional healers	0 (0%)	50 (100%)
Women	2 (4%)	48 (96%)
Men	1 (2%)	49 (98%)
Girls	2 (4%)	48 (96%)
Boys	2 (4%)	48 (96%)

As expected, traditional healers believe that traditional diseases can only be treated with traditional medicine. People in other categories share the sentiment of traditional healers.

2.4.2.2 The nature of medicine

Divination, whether by bones or chest, as discussed under Section 2.4.1.1 reveals not only the causes of an unfortunate event, but also the remedy or the measures taken for protection against the event. Where the ancestor spirit is implicated, it will reveal its identity, the reason for causing the illness and also indicate the type of sacrifice to pacify it. Among the Tsonga, medicine is usually not used where the ancestral spirit is the cause of affliction, unless instructed by the spirit itself. Otherwise the sacrifice in itself serves as a remedy. But where the illness or mishaps is caused by magic or witchcraft, medicine remains the only substance to use for the removal or prevention of the event.

Medicine has a much wider use than merely in cases of disease. It is also used, for example, to ensure success. **Mpetso** (*Acridorpus natalitius*) for instance, which is ranked second by Mander (1997:11) in terms of use and popularity in the Bushbuckridge area, is used to win cases against enemies in court. The root of the plant together with that of **Nanjana** (*Phytolana* sp) are chewed and placed under the tongue during the court proceedings. **Nanjana**, meaning sweet-taste in Tsonga is believed to have magical power to make the user utter sweet and intelligent words to impress or confuse the magistrate. The same mixture will also make a man who proposes to a woman, win her love. If used for the latter purpose, the medicine is more efficacious if the root of **Bhekamina** (*Scabiosa columbaria*) is used as an ingredient to the mixture. **Bhekamina** literally means 'look at me'. The Tsonga conception of medicine is therefore synonymous with magic.

As indicated under Section 2.3.2.2, much of the organic world surrounding the Tsonga-Shangana is conceived of as being invested with supernatural qualities, which are much sought after by the people. This principle is frequently applied in the medicines whereby forces can be transposed from vegetable or animal matter. In applying this principle, much use is made of analogous symbolism, whereupon, the observable characteristics in natural objects are conceived of as latent forces which can be transposed to humans, or applied by them for their own benefit.

The application of analogous symbolism is evident in the treatment of **midlukulu** where the victim who is already in the threshold of death but not yet buried receives treatment. Here, medicine from *Myrhothamnus flabellifolius* (**Vukabafile**) is used to revive the person. The leaves of this plant shrink and appear to be dead in the dry season, but miraculously turn green within a few minutes after exposure to water (Van Wyk and Gericke, 2000:108). The English name of this plant is Resurrection plant. Both the English and vernacular names refer to this remarkable property. It is for the same property that the plant is used to resurrect someone suspected to have died from **midlukulu** bewitchment. Examples were cited of people who rose from death after the application of **Vukabafile.**

The same principle is used in the treatment of a disease called **mugoxola**. The patient develops some itching pimples. A frog with pimples is used to treat **mugoxola.** Unlike other groups like the Pedi, who in the transfer of the power of animals to humans, make use of the same animal sex as that of the patient, the Tsonga-Shangana invariably use opposite sex. A female frog, for example, shall be used to treat a male **mugoxola** patient. The Tsonga-Shangana believe that if same sex is used, the disease shall not cure.

Medicines are applied in various manners. They may be taken orally or applied to the affected area. In the treatment of cough and cold, for instance, fresh roots or rhizomes of **Xirhungulo** (*Siphonochilus aethiopicus*) are taken orally by chewing them and placing the dregs under the tongue for some time while the oil of **Hlampfurha** (*Ricinus communis)* is applied on cuts and burns. Medicines may also be applied anally like the steeped liquid of **Xiyakayani** (*Cucumis africanus*) which is instilled anally through a syringe for blood cleansing or treatment of venereal disease. Medicines may also be inhaled like the **baso** medicine. **Baso** is a concoction of animal fats and grounded roots of various plants which is burnt on red hot coals to be inhaled by the patient for treatment of deliriums and other diseases resulting from witchcraft. Medicine may also be applied to the eyes or in the ears or incisons made in the body, particularly the joints as discussed under 2.4.1.2.

2.4.2.3 The treatment of diseases

Tsonga-Shangana treatment of diseases differs markedly from the western practices. In western treatment, the patient is isolated from the rest of his/her relatives and the focus is on the illness itself. Among the Tsonga-Shangana, however, the emotional, attitudinal and interpersonal aspects of disease all receive attention in the treatment which is offered. The patient receives support from relatives, neighbours and the entire membership of the community. Among the Tsonga-Shangana, therefore, it is not only the disease that is treated, but the patient in totality.

This, together with other reasons account for the higher percentage of black people visiting traditional healers. Davan Maharaj, the Times Staff writer, mentions that according to Myles Mander, of the Institute of Natural Resources, about 80 % of South

Africa's black population uses traditional medicine (Maharaj, 2002). An almost similar figure is reported by Bob Stanley (2006) who mentions that about 85 % of Africans in sub-Saharan Africa routinely use the services of traditional healers for primary health care.

Commenting on the differences between modern and traditional treatment of disease, Mabunda (1999: 63) says that:

- Unlike modern medicine that only caters for natural disease, traditional medicine also cures unnatural diseases resulting from witchcraft. Traditional medicine, therefore, is capable of treating all types of diseases.

- Modern medicine cures only those diseases which are infectious, while traditional medicine is also concerned with psychosomatic diseases affecting the body, the mind and the spirit. Because it is holistic it also removes the causes of disease.

A perception is held that traditional healers can cure almost all diseases. Johan Kuus, writing about Mushwana, one of the top traditional healers in South Africa, mentions that his potions are claimed to be able to heal almost anything (1999:3).

Illness caused by spirits is easily curable provided the instructions from the ancestors are carried out correctly. Soon after the pacification of the spirits, called **ku phahla mhamba**, the patient starts to improve. As indicated under 2.4.2.1, where ancestors are implicated, medicine is usually not used. It is only in the treatment of possession illness where curation takes a reasonably long period. The continual beating of drums, called **ku chayela**, is in itself a curable measure. The daily beating of drums is usually supplemented with the taking of medicine called **bhudlu**. **Bhudlu** is a compound of herbs, mixed with water in a vessel, and stirred with a forked stick of *Gardenia volkensii* (**Xitsalala**) until white foam froths up. The main ingredients of the mixture are the roots of *Gardenia volkensii*. By the end of the training period, which usually lasts for a month or two, the health of the novice is restored.

In the treatment of natural diseases, and diseases caused by witchcraft and ritual impurities, use is made of medicine. It must be borne in mind that the same disease could be cured differently and also with varying medicines.

Plant parts are processed in different ways before they are administered to patients. The following curable methods are commonly applied:

A decoction: Most of the diseases are treated with boiled plant material. Decoctions of the roots of **Mhlava-nkunzi** (*Carissa bisponosa*), for example, are used for the treatment of venereal diseases and also serve as an emetic. Preference is always given to the use of a small traditional clay pot called **ximbitana** to boil the medicine. Modern pots, including the cast iron pot, are strongly discouraged. If the medicine boils and spills over, this is taken to be a good omen as it is believed that it spills out or removes the disease from the patient.

An infusion: The plant material may also be steeped in cold water for a few days before it is used. Dried fruit of **Xirhole** (*Catunaregam spinosa*) is taken as an infusion to treat **nyongwa** (gall). In a similar manner, the leaves of **Mbangi** (*Cannabis sativa*) are steeped in the water for about 2 -3 days and the infusion taken orally, three times a day for the treatment of asthma and insanity.

Powder: Sometimes roots, leaves or barks are dried up for a while and grounded into powder. The advantage of this method is that the grounded medicine can be preserved for a very long period and also that it is readily available. Powdered medicine can be sucked orally (a process called **ku khavuta**) or mixed with water to be drunk. Powdered roots of **Mvumayila** (*Kirkia accuminata*) are sucked for the treatment of a headache.

Steaming: The application of steam from boiling plant parts usually facilitates healing. This method of healing is highly favoured by clients. One traditional healer at Gottenberg, steams an average of 20 clients, twice a week. Steaming, **xifuthu** is believed to remove various types of ailments including those that had not yet manifested. Steam from the boiling roots of **Muvhangazi** (*Albizia versicolor*) is inhaled to drive out

demons. The pieces of roots are placed in a big claypot filled with water and heated to boiling-point. The patient/client is undressed or left top naked, covered with a blanket, and instructed to inhale the steam.

Smoke: Inhalation of smoke from burning incense by a patient is another common method of using indigenous herbs. Inhalation or **ku dzaha** is also believed to be an effective method. The medicine inhaled is often called **baso** – a concoction of animal fat and grounded roots of **Mvhangazi** (*Albizia versicolor*) and the leaves of some *Combretum* species like **Ndzhuva** (*Combretum erythrophyllum*) and **Xikukutsu** (*Combretum apiculatum*). The preparation of **baso** is called **ku kandza baso** (pounding the **baso** medicine). A cake of the **baso** is broken off and placed on a potsherd, **xirhengele**, with live coals. The patient, sitting with legs astride, is covered with a blanket, and inhales the smoke of a blend of herbs.

A chew: Plant parts that are chewed are invariably rhizomes or bulbs. These rhizomes are mostly very bitter and smelling. The rhizomes of **Xirhungulo** (*Siphonochilus aethiopicus*) are chewed for the treatment of coughs and colds. It is usually elderly people who chew these bulbs and rhizomes.

Some diviners, particularly powerful diviners like Mushwana, as indicated by Kuus (1999:5) have gone a mile ahead with disease treatment. Besides the methods described above, such diviners employ peculiar methods. This particular diviner for example, cuts the throat of animals hoisted up above the patient for the blood to drain over the client to generate miraculous powers. Sometimes the ritual, as reported, involves draping a python over the blood-covered patient or using snakes as diagnostic tools.

The most common diseases treated by the Tsonga-Shangana traditional healers include the following:

Table 24: Most common diseases treated by the *tin'anga*

Midlukulo (madness-type)	**Xinya** (Pseudo-ciosis)

Xiporiyana (migraine)	**Mahlo** (sore eyes)
Mtundagazi (bilharzia)	**Tinso** (kidney problems)
Meno (toothache)	**Xinhlokwana** (depressed fontanelle)
Nyamakazi (cancer)	**Nyongwa** (gall)
Tindzhaka (ritual impurity)	**Nchuluko** (dysentery)
Ndaphya (high blood pressure)	**Doropa** (venereal diseases)
Xifulana (gangrene)	**Rihlanyo** (insanity)
Phika (asthma)	**Switshetshela** (fits)

Medicines are not only used to cure illness but also to protect an individual and to ensure success. **Mushwana**, for instance, treats his patients to protect them from bullets and hijackers; make them invisible to enemies or give them luck for gambling (Kuus, 1999:5). Many clients strongly believe in a beneficial physiological reaction caused by medicine.

2.4.2.4 Medical instruments and paraphernalia

Apart from instruments used for divination, traditional healers also make use of various instruments for healing. The most common instrument is a razor blade (**xikaringani** or **nsingu/xinsingwana**), used for making incisions on the joints of the body so that the medicine rubbed on the incisions should penetrate the blood stream with ease. The sharp quill of a porcupine is dipped into a very small calabash, called **nhunguvani**, containing liquid medicine for the treatment of **midlukulu**, defined in 2.4.2.5. The quill is then lightly and repeatedly pierced on the bodily joints, causing a slight bloodletting for the treatment of **midlukulu** and other diseases. A needle is also used for bloodletting in the treatment of hypertension and migraine (**xiporiyani**). Two traditional medical instruments, **mpepo** and **nanga** made from *Phragmites mauritianus*, and the horn of duiker respectively, are commonly used or blown by a traditional healer in the treatment of diseases particularly **midlukulu**. The healer blows the **mpepo** or **nanga**, whilst

calling the name of the patient, with the belief that his/her **xindzhuti** (soul) shall return from where it was magically taken by the witches, to his/her body. Modern equipment like the syringe (**xipeyiti**) is commonly used for applying enemas, particularly for the treatment of venereal diseases and stomach disorders.

Besides the medical instruments described above, the **n'anga** may also prescribe some paraphernalia as protective or remedial charms (**mhamba**). An armband made form a goat skin strip is worn on the arm wrist by someone troubled by ancestral spirits. If the troubling spirits belong to the father's side, the strip is worn on the right hand and on the left hand for the maternal ancestors.

Another common charm is called **mfula-vatima**. **Mfula** is a stone of *Sclerocarya birrea* and **vatima** refers to dead people. **Mfula-vatima** was an amulet consisting of a marula stone, a ticky or sixpence coin and two beads (one red and one white), all threaded together and worn on the neck by the patient. Nowadays a 5 cent coin is used as replacement for the old coins mentioned above. This is accompanied by the performance of a sacrifice, directed to the troubling ancestor. Such an ancestor causes illness to a member he has selected to revive his name. The member is then given the name of the ancestor and he recovers soon from his illness. Other family members are urged to frequently call him by the new name for the sake of a speedy recovery. The amulet is worn on the neck for a year or longer and is thought of to represent the ancestor concerned. The trend nowadays is to place the amulet under a pillow to avoid to be seen by other people.

Sometimes amulets are worn suspended over the shoulder bandolier-fashion or around the waist. Such amulets are aimed at healing the disease, protecting the bearer from evil attacks and ensuring good luck. Likewise, human or animal toys hanged suspended from the inside mirror of a motor vehicle are usually magically treated to protect the car against witches.

Certain cloths are also prescribed for healing where the illness is caused by spirits. Should the Ndau spirits feel neglected, they may send illness to a family member. For such a member to recover, a cloth called **njeti** (a red cloth with white designs) is

prescribed for the sick. During the performance of the sacrifice, the sick is covered on the shoulders with the cloth, after which it will be placed under his pillow. It now saves him from future attacks from the spirits and gives him protection against evil forces. Other cloths with similar purposes are the **xiyandhana** (a red, light cotton material), **palu** (blue cotton cloth) and a pure white cloth called **goloza**. The last three types of cloths are used for patients troubled by the Nguni spirits as well. It is also important to realize that these cloths are also kept permanently by traditional healers as their possessions.

Musical instruments also facilitate healing processes. The **macomane** drums (Plate 7) for instance are beaten for a patient possessed by the Nguni spirits to induce them to manifest themselves for the healing of the possessed. The conical shaped drums, called **tinghunghu**, are beaten for someone possessed by the Ndau spirits for the same purpose.

2.4.2.5. Glossary of traditional disease terms (**Glossary A**)

Mafularha: This is a condition resulting from non-observance of purification rules. After a funeral, for instance, the last-born married male should be the first "to go to bed with his wife" **(ku ya emasangweni)** i.e. to have sex with his wife, followed by his other brothers in accordance with their age from the youngest to the oldest. The first-born brother and his wife should be the last "to go to bed". The order of primogeniture is thus reversed. It is believed that any couple breaking this order shall cause **mafularha** which will affect any of the other brothers. The victim becomes depressive, his legs swell, his atlas vertebra depresses and he completely crestfalls.

Makhuma: Illness of men caused by connection with female not yet purified after abortion or confinement; illness due to omission of purification rites after a death (Cuenod, 1982: 92).

Matlulana: This is a condition where two male consanguines may not visit one another when one of them becomes ill because they have had contact with the same female. If they do, the illness shall aggravate and may even result in instant death of the patient. In the event of the patient dying the surviving relative may not attend the funeral unless he

has taken some prophylactic treatment. If not, he will go into sudden convulsion and die instantly.

Mavabyi: Illness

Mfukuzana: (see* **nyamakazi**) – cancer

Micwa: The patient always examines his fingers. The entire body becomes hypersensitive and he feels paranoiac.

Midlukulu: This is a kind of harmless insanity caused by witchcraft. The witches blow a horn, usually that of *Sylvicapra grammia* (duiker), at night whilst calling on the victim's name. The victim becomes restless and shouts that he is being called. He always attempts to run away to where he is being called. If he does not receive treatment immediately, he may run away and disappear, or he may become ill and die instantly.

Murhi: Medicine; tree.

Mhingu (timhingu): A stake or pointed piece of, usually *Gardenia Volkensii* hammered or knocked into the ground at the four cardinal points of the homestead to protect it from witchcraft.

N'anga (tin'anga): Traditional healer; medicine man; herbalist or diviner.

Nda phya: The clinical features of this illness are complex – fever, black spots on foot soles, loss of appetite, painful calves, sore veins, etc. This is not an original phenomenon among the people, and it is regarded as one of the most recent types of illnesses.

Nhlaviso: Pain on the flank

Ntlhelelo: A condition in a woman whereby the sperm is believed to be sent back as a rejection to fertilization.

Nyamakazi: Cancer

Ntungu (ntungu): Epidemic, plague (Cuenod, 1982: 146).

Phahla: Perform rites of ancestors; address and offer sacrifices to ancestors' spirits. The ritual includes squirting of liquid, either beer or water from the mouth. The entire process is called **ku phahla* mhamba** (to perform a sacrifice)

Phungula: (see* **xifuthu**, ***xixambu**) – steaming

Ricwa: Illness that attacks a witch believed to have magically killed another person. A **n'anga** applies medicine on the corpse before burial so that the witch should be affected.

Tlhavela: Make incisions on the joints of body limbs for medicine to be rubbed in.

Tluka (matluka): Leaves; medicine

Tindzhaka: This is pollution of death. In the event of a miscarriage for instance, the woman has to undergo some ritual cleansing before sleeping with a man. If not, the man shall suffer from **tindzhaka**. He coughs continuously with no sign of phlegm, his skin colour changes and his loins become painful. If he does not get treatment until he vomits blood, death is imminent.

Xa le nhlokweni: Depressed fontanelle

Xifambi: **Xifambi** is a benign tumour or carbuncle, usually surrounded by a capsule of fibrous tissue. It finally develops a head which becomes the source of pain.

Xifulana: This is an illness contracted after walking over medicine, usually set on a footpath. If the targeted victim is far away the medicine shall magically reach him by a process called **ku rhumela** (to send) or **ukuphonsa** (Zulu). Other people may walk over the medicine but shall not be affected or harmed. Once contracted, it affects any part of the body, but usually the limbs. The affected limb swells extra-ordinarily with a burning

sensation. It is strongly believed that an injection usually aggravates the condition because witches use needles or safety pins for the **muti**. A person suffering from this disease is spoken of as having been 'pierced or stabbed' with the **xifulana** – medicine.

Xifuthu: Steaming (see* **phungula**)

Xihlahla (swihlahla): Shrub; medicine.

Xijiso/xidyiso: This refers to something harmful that a person has been made to eat unknowingly. Usually this is a poison, drug, or magic ingredient added to food or beverage like the popular and favourite unfermented light beer called **mahewu** or **madleke**. The ingredient becomes a living organism in the stomach and can be felt moving about in certain parts of the body.

Xikuna: Blooded stool.

Xilumi: This is an internal pain peculiar to women. The pain is usually felt during menstruation. If the **xilumi** is very severe the woman may not conceive.

Xindzawu: This is a condition caused by the development of a wart on a female organ. The affected person may not conceive until the wart is medicinally removed.

Xinhlokwani: Depressed fontanelle.

Xinya: Illness in a female causing bulging stomach and ceasetion of menstruation. Womb is painful and felt to be coiled.

Xixambu: Steaming (see* **phungula**)

Xwela: To be magically trapped at a homestead that has been medically protected.

2.5 Economic organization

The Tsonga-Shangana have a wide range of economic institutions that enable them to utilise their natural resources such as land, water, plants and animals. Though the people of Bushbuckridge have access to their natural resources, individual ownership of land or ownership by a group of unrelated shareholders is unknown to them. The land is under the trusteeship of the tribal leader and cannot be bought or sold. Anybody applying to own a piece of land for entrepreneurship consults the **hosi** who gives him/her a recommendation to the district magistrate who will, in turn, issue him/her with a PTO (Permission to Occupy) certificate. The certificate grants such a person the right to occupy and utilise the land, but not absolute ownership.

2.5.1 Agriculture

The western part of the Bushbuckridge area is suitable for cropping whereas the eastern part is generally more suited to livestock farming. Depending on the availability of water there are selected areas in the eastern part that do have a cropping potential. Basically, the Tsonga-Shangana are economically self-sufficient with the family being a self-sufficient unit in satisfying its own needs. Under these circumstances, trade outside the tribal community is minimal. Where it does occur it is quite incidental and unorganised. Every family unit provides virtually all its own material requirements with the result that there is only limited distribution and exchange outside the families. The Department of Agriculture and Forestry in its report entitled "Landboubeleid en Potensiaal van Gazankulu" as well as the Infraplan have classified the agricultural potential of the study region into three areas, namely dryland areas, the irrigation areas and the grazing areas (Infraplan 1989 Vol. 1:286-7). The figures as presented by the Department are as follows:

Table 25: Mhala land classification by the Department of Agriculture.

Type of land	Mnisi	Amashangana	Jongilanga	Hoxani	TOTAL
Dryland (ha)	4212	3949	2750	3085	13996

Irrigation (ha)	400	913	2100	680	4093
Grazing (ha)	28530	45511	19841	10293	104175
TOTAL	**33142**	**50373**	**24691**	**14058**	**122264**

Table 26: Mhala land classification according to Infraplan.

Type of land	Mnisi	Amashangana	Jongilanga	Hoxani	TOTAL
Dryland (ha)	842 (25%)	2973 (6%)	1700 (7%)	550 (4%)	6065 (5%)
Irrigation (ha)	0	913 (2%)	1900 (8%)	680 (5%)	3493 (3%)
Grazing (ha)	32300 (75%)	46487 (92%)	21091 (85%)	12828 (91%)	12706 (92%)
TOTAL	**33142 (100%)**	**50373 (100%)**	**24691 (100%)**	**14058 (100%)**	**122264 (100%)**

The Department as well as the Infraplan regard their figures as estimates and therefore not 100% accurate. However, for the purpose of this survey the cassification of land is sufficient. The ensuing discussion shall focus on dryland farming and irrigation farming. Grazing shall be discussed under animal husbandry. In the Bushbuckridge area, two types of dry land farming are practised, namely traditional dry land farming and modern dry land farming.

2.5.1.1 Traditional dry land farming

Traditional dry land farming is concomitant with the subsistence economy of the Tsonga-Shangana. They have to be content with the periodic droughts and subsequent food scarcity as they rely on nature for their agricultural production. Their agriculture depends on their ability to utilise the gifts of nature to their own advantage and also to take timely action in cases of drought.

The people cultivate various crop plants. The cereals are by far the most important of all crop plants of which maize takes precedence. Confusion often arises in the usage of the terms **mavele** (sing. **vele**) and **swifaki** (sing. **xifaki**). Although sometimes used interchangeably, each carries a specific meaning. **Mavele** refers to the maize plant or 'grain crop' as indicated by Cuenod (1982:264) whereas **xifaki** denotes 'maize; green maize ear'. Junod's assertion that maize is "certainly not the most ancient known to the tribe" (1927 II: 10) suggests that the plant is exotic. This assertion probably emanate from the fact that the Tsonga-Shangana distinguish between **mavele ya xintu** (traditional maize) commonly referred to as **nyafakani** and **mavele ya xilungu** (European, modern or exotic, maize). **Nyafakani** is described as producing taller maize stalks, and harder and sturdier grains. Modern maize has shorter stalks with softer grains. While it is much easier to pound exotic maize cannot be preserved very long as it is easily attacked by weevils. Because of its durability the **nyafakani** on the other hand, can be stored for longer periods. Several varieties of the exotic maize are recognised, particularly those with the large white grain, the small white grain and the yellow maize. Like the Pedi (Mönnig 1967:155), the Tsonga-Shangana ignore the yellow varieties, perhaps unaware of their high nutritious value.

Traditionally, *Panicum miliacum* (**maxalana)** and sorghum (**maphila**) were of prime importance. *Sorghum bicolor* (**n'wahuva**) was acquired from the Sotho people, as this has been their oldest and most important crop (Mönnig 1967:155). A special type of soft porridge called **xindlambitana** – a very light or thin, soft porridge was prepared from *Sorghum bicolor* and given to a recently delivered mother or a very ill patient. It was also consumed as porridge. Nowadays its use has shifted to the provision of yeast for traditional beer. The **n'wahuva**, and to a large extent also the **maxalana** and **maphila,** are presently cultivated on a very small scale. These varieties suffer much from the depredation of small birds called **ndzeyana** when the grain is ripening. It was earlier the responsibility of women and children to spend most of their time in the fields scaring off the marauding birds (Stevenson-Hamilton 1934:203-204). With almost all children going to school now, while many of the women are employed as labourers or civil servants, there is virtually nobody to scare off the birds. Maize which cannot be destroyed by birds and consequently does not need to be protected by women and children is still cultivated.

Other crops mentioned by informants as either extinct or very scarce is **mphoho** (*Eleusine coracana);* **rininga** (*Sesamum indicum*; **mapyanda**, **marhorho** and **mabirinja**. *Sorghum* species (**timba**) is a cereal also produced in the Bushbuckridge area. As indicated by Els (1996:177) only a small quantity of this cereal is cultivated. Since it is never sown in abundance there is less risk of them attracting birds. It is also sown between the maize. The stem is sweet and can be described as a traditional sugar cane. A variety of **matimba** exist, with **n'waxibubana** being the sweetest. It is interesting how the *Sorghum* species is distinguished from its sister species *Panicum miliacum*. The latter has sparse, larger white grains with heads always pendent when fully developed. The midrib as well as the secondary veins is white in colour. Its counterpart, on the other hand, displays some dense, smaller, darkish grains and the head is always upright; the midrib and the secondary veins are greenish. Children take time to distinguish the two species as they quite often harvest *Panicum miliacum* for *Sorghum* species only to find it to be tasteless.

The Tsonga-Shangana use legumes more extensively than cucurbits. Junod (1927 II: 11-13) indicates the importance of legumes in the alimentation of the Tsonga-Shangana. He mentions, for instance, that *Arachis hypogea* (**timanga**) is cultivated extensively, being of everyday use in the culinary art. Legumes are second in importance to the cereals in the Bushbuckridge area. The groundnuts are cultivated together with the maize. The Tsonga-Shangana do not practise a crop rotation system. If the cultivation of ground-nuts yields a good result during a particular ploughing season, the farmer will repeat the same crops the following year, saying: "**n'wexemu a ndzi ti dlele timanga laha**" ("last year I had killed the peanuts here," meaning that he/she produced peanuts in abundance). He/she will certainly repeat the exercise expecting the same results as that of the previous season. If the Tsonga-Shangana cannot yield good harvest in a fairly good rainy season, the belief is that the rain is not good for crops. They never suspect that other factors like poor rotation system or non-application of fertilizers or kraal manure could be contributory. Kraal manure is readily abundant but not used at all. Because it is better drought-resistent than mealies, the cultivation of groundnuts is a lesser risk. Other legumes of great significance are *Vigna unguiculata* (**tinyawa**) and *Vigna subterranea*

(**tindluwa** or **tindluwu**). It has been observed that whereas groundnuts and **njugo** beans can be cultivated by hand and also by sowing, common beans can only be sown. It can also be cultivated in the same fields as the maize and the groundnuts. The elongated prostratic stems produce intermittent large leaves that cover large surface areas and help to reduce moisture evaporation. Beans are extensively grazed by the common duiker, **mhunti** (*Sylvicapra grimmia*), hence the Tsonga expression: "**mhunti yo fela tinyaweni**" ('the duiker dies in the beans,' that is, to be caught red-handed, or to die while committing a usual offence).

Whilst all other seeds are sown in the same **nsimu** (garden) the jungo bean is planted in a separate patch (Junod 1927 II:12). Once again, the duiker is a plundering animal to the njugo bean. Certain taboos are observed with regard to the jungo bean. During the first year of a woman's married life, she is not allowed to plant jungo beans (Junod 1927 II:13). Planting them before Christmas time is also not allowed as their flowers are believed to have a repulsive effect on rain. Anyone found with flowering njugo beans before Christmas runs a risk of being fined in a tribal court. Such plants will be uprooted and thrown into a river (Els 1996:117) (see also Chapter 3 Case 12). Next in importance are the cucurbits with *Cucurbita pepo* (**makwembe**, sing. **kwembe**) being the most popular species because of its edible leaves, flowers and fruit. The flowers are known as **swikalakatsa**. **Makwembe** are planted either by sowing the seeds or by burying two or three seeds in a shallow hole. It is usually planted between the maize and is not easily marauded by animals.

Another species of cucurbit is *Citrillus lanatus* (**khalavatla**), the watermelon. Because of their low demand they are never planted alone but always with other crops, especially maize. Unlike *Zea mays* and *Arachis hypogea* that people desire to produce in **abundance**, the same cannot be said of *Citrillus lanatus*. Only enough for immediate consumption is required. Due to its perishable nature it cannot be kept for long periods. In the event when more than the basic family need has been produced, the surplus is generously given to relatives, friends and beggars. Another variety of watermelon called **riwa** is also cultivated. It is difficult to distinguish the two varieties from external

appearance. A watermelon has a red or white flesh with black seeds. **Riwa**, on the other hand, has a creamy flesh with purple seeds. It is also harder than the watermelon. The **riwa** is also planted with the maize but in lesser quantities than the watermelon. The *Lagenaria siceraria* **(rhanga)** is another variety of significance. Like its sister varieties its production is limited and it is planted between the maize and other crops. The fruit is edible when still young. Towards maturity it becomes harder and develops tasteless pulps. Its fully-grown fruit is cut open, cleaned and used as a household utensil called **nghotsa**, calabash. Produce from the **masimu** is supplemented with crops from **ntanga** gardens situated closer to the homestead, or in low-lying, swampy areas. Prime crops cultivated here are *Ipomea batatas* **(nhlata)** the sweet potato, and *Manihot esculenta* **(ntsumbula)**, manioc. A variety of both crops exist.

Also grown in these gardens is *Allium cepa* **(nyala)**, onion. Indigenous onion is smaller in size than the exotic species. Its leaves are much more palatable than the bulb, while the exotic onions are better preferred for its bulb than the leaves. Indigenous onion is planted together in clusters, possibly because of its small size and the lack of pronounced bulbs. Although both types co-exist, the exotic one is gaining popularity. One of the oldest crops cultivated in these gardens is *Capsium annuum* **(biriviri)**, red pepper. Its red colour gave rise to the following saying: "**Mahlo ku tshwuka o nge i viriviri**" ("eyes as red as pepper"). Another expression related to this plant is: "**Ku dya viriviri**" ("to eat red pepper," meaning to be extremely angry). When pepper fruit ripens it turns red and becomes very bitter. The eyes of an angry person usually turns red and his anger is therefore associated with the bitterness of the fruit.

Another crop produced in the garden is *Dolichros lablab* **(ngholokotso)**, the Sudanese bean. It can be stored for a long period when dried. Like pepper, it does not need to be produced in abundance. Also planted in the field or in the garden is *Sesamum indicum* **(rininga)** sesame, which is now almost extinct. Extensive enquiries were made before this species could be traced. Members of the younger generation do not know this species (see *S. indicum* statistical column in Chapter 4), which requires a unique method of cultivation. A small amount of soil is mixed with the tiny seeds of the **rininga** and the

mixture spread on the tilled soil. The seeds will germinate a few days afterwards. It is alleged that if the seeds are planted in the tilled soil they will not germinate as they should not be planted too deep. The plant grows to a height of about one meter and produces a lot of seed-bearing fruits. Harvesting needs great care as the whole plant has to be cut off before the pods ripen. The stems are tied in bundles and wrapped in a sack to catch the seed. One of the most popular climbers cultivated by the Tsonga-Shangana as a relish is *Momordica balsamina* (**nkaka**). Despite its bitter taste it is enjoyed by most of the people (see *M. balsamina* statistical column in Chapter 4). It is planted and grown along the fence of the homestead or is allowed to climb on the wall of the fire enclosure (**xivava**). Other crops include **mandande**.

All crops mentioned above are cultivated irrespective of the suitability of the soil. Moreover, most of the crops can be planted together in the same field or garden. The only crop that requires suitable soil and environment is the *Colocasia esculenta* (**rupi/ rhupi**) the arum lily potato which thrives only in low-lying swampy areas with loamy soil. Such areas are usually suitable for the growth of *Sporobolus africanus* (**mudila/ muxikijana**) rat's tail dropseed as well and cannot be planted together with other crops. The crop is thus cultivated in the western parts of the region, such as Orinoco, Dingleydale, Dwarsloop and Xanthia. Although not of prime importance, *Nicotiana tabacum* (**fole**) has from time immemorial featured in the agriculture of the Tsonga-Shangana. *Cannabis sativa* (**mbangi**) which has of late gained popularity is cultivated mainly by *marijuana* enthusiasts. Both crops are grown in the garden, but mostly within the homestead fence. As one of the prohibited drugs, *marijuana* is cultivated in the bushes near the river banks or on the mountains.

2.5.1.2 Community gardens

Traditional gardens have, in many cases, developed into community gardens. The development of community gardens resulted from a joint effort between communities and the Department of Agriculture (formerly of the Gazankulu Government and presently of

the Limpopo Province Government). Procedures established in 1987 (as outlined by Infraplan 1989:293) are as follows:

- Interested groups make application to the Tribal Authority for a portion of land.
- If permission is granted, the Department of Agriculture investigates land for its suitability.
- This process is followed by the planning, demarcation of sites, fencing and ploughing.
- Extension and Community Development officers continue their involvement to assist community groups through educational programmes, and also in the preparation of seed-beds, transplanting, maintenance, harvesting and, to some extent, in the marketing of products.

Participation in such schemes was formerly granted to members of an association with its own constitution and register which were kept by the Extension division of the Department of Agriculture (Infraplan 1989:294). At present, membership no longer needs to be in the form of an association as individuals can apply for permission to operate in the garden without any partnership with others. After the granting of permission the applicant must submit a description, as well as a production estimate, of the types of crops he/she intends to cultivate. Applicants may even approach the Land Bank for financial aid to buy crops or plants to be planted in the garden. Crops planted in such schemes/ gardens generally include summer crops such as maize, pumpkins and peanuts, winter crops such as cabbage, spinach, beetroot, tomatoes, carrots and onions, all-season crops such as sweet potatoes and **marhupi**, and perennial plants such as fruit trees. The Infraplan (1989:295) outlines the aims of the establishment of community gardens as follows:

- To supplement home consumption and to improve the diets of children.
- To provide cheap vegetables to the community.
- To supplement incomes.
- To raise funds for community improvement.

- To provide employment.

2.5.1.3 Modern dryland farming

There are four dryland sisal projects run by the Department of Agriculture in the study area. These are the Cunningmoor, Islington and Alicecot projects, as well as the recently established Allandale project. The latter covers an area of 161 ha and employs 71 labourers. Effectively, only three of these projects are still operational, namely Islington, Alicecot and Allandale. The Cunningmoor project is completely defunct with disused machinery and sparsely distributed vestiges of sisal plants still remaining. The cultivation of sisal plants is not an innovation in the area. Before the inhabitants were resettled on stands in the late 1950's and early 1960's some of the families had planted sisal as a fence. As a result, sisal is scattered throughout the area. Because of its tendency to proliferate, sisal can no longer be planted for fencing in the **malayinini** for fear of intrusion into the sites of neighbours.

2.5.1.4 Irrigation farming

While dryland farming is as old as the history of the people of Bushbuckridge, and is still extensively practised, irrigation farming is a relatively recent undertaking of which the Allandale and Lisbon schemes are the oldest. At present, the entire area has six irrigation schemes while a seventh one, the Cork scheme, has been discontinued and lies dormant.

Allandale scheme

The scheme has long been in existence and was commonly referred to as 'Ka-Muntariyana' ('To the Italian') because the former owner of the Allandale farm was an Italian. It is predominantly a citrus scheme on some 107 hectares. It uses a combination of micro-jet and flood irrigation with water being supplied to strategically placed night storage dams by means of a canal system from the Edinburg dam. The scheme produces oranges, mangoes and, on a small scale, also litchis. Permanently hired labourers are

employed while temporary labourers are recruited during peak seasons. According to Du Toit et al. (1999:2.12) 70 permanent labourers are employed on the scheme.

Lisbon scheme

The scheme is situated on the farms Lisbon and Belfast and has a total rated irrigation area of 795 hectares with citrus and mangoes as the main crops. Irrigation water is pumped from the Sabie River. The scheme employs a permanent staff of 400, while an additional 500 labourers are temporarily employed in peak periods (Pieterse et al. 1999:2.11).

Hoxane scheme

This scheme is situated on the Calcutta farm next to the Sabie River where irrigation water is obtained. It is sometimes referred to as the Calcutta scheme. The size of the scheme is 400 ha and it employs 40 farmers as well as a varying number of labourers. Orchards are cultivated while vegetables and maize are the major crops. Although marketing is done through the Ngonini Co-operative, direct marketing is also done by supplying produce to mine compounds, etc.

New Forest scheme

A scheme with a total irrigation area of 684 ha is situated on the New Forest and Orinoco farms. Residents have given it the onomatopoeic name of 'Chochocho'. The area is densely forested and the dry, fallen leaves produce the 'cho-cho-cho' sound when people walk over them. Infraplan (1989:288) indicates that the scheme consists mainly of two parts, namely a farmer settlement scheme and a project scheme run by the former Gazankulu Development Corporation on approximately 145 ha. Irrigation water for the settlement scheme is supplied by canal from the Sand and Mutlumuvi Rivers and the Orinoco dam, while water for the project scheme is obtained only from the Orinoco dam. The major summer crops grown on the farm settlement scheme are maize, ground-nuts, beans and tobacco, while tomatoes, onions, cabbages, green beans, beetroot, and carrots are cultivated in winter. *Colocasia esculenta* and sweet potatoes are also cultivated. The

greater part of the project scheme is run on a rotational basis for the cultivation of some 40 hectares of tobacco.

Saringwa scheme

A citrus scheme with a total irrigation area of 225 ha is situated on the Belfast farm. The scheme is manned by 30 farmers and 150 labourers. Irrigation water is pumped from the Saringwa River.

Dumphries A scheme

This scheme is situated on parts of the farms Dumphries, Allandale, Rolle and Merry Pebble Stream. It has an irrigation area of 300 ha. Water is obtained from the Edinburg dam. The scheme is divided into two areas – one for cash crops and the other for small garden plots. Maize, tomato, cabbage, onion and green pepper are produced while oranges are grown on a small scale.

Ploughing requires a much more thorough clearing of land. Thus, swidden, or slash and burn method is used. This agricultural method necessitates the felling of trees and burning the brush which insidiously leed to the extinction of some species. This can be compared to the extinction of passenger pigeons explained by Miller (1994:416-417) as follows:

> In the early 1800s bird expert Alexander Wilson watched a single migrating flock of passenger pigeons darken the sky over four hours. He estimated that this flock was more than 2 billion birds strong, 386 kilometres (240 miles) long and 1.6 kilometres (1 mile) wide. By 1914 the passenger pigeon had disappeared forever. The main reasons for the extinction of this species were uncontrolled commercial hunting and loss of the bird's habitat and food supply as forests were cleared for farms and cities. Beginning in 1858 passenger pigeon hunting became a big business. Shotguns, traps, artillery, and even dynamite were used. In 1878 one professional pigeon trapper made $60,000 by killing 3 million birds at their nesting grounds. On March 24, 1900, a young boy shot the last known passenger pigeon in the wild. The last passenger pigeon on Earth, a hen named Martha after Martha Washington, died in the Cincinnati Zoo in 1914.

The example cited above is evident of how the natural environment is destroyed globally to the brink of the extinction of some species.

2.5.2 Livestock breeding

The primary livestock in the Bushbuckridge area are cattle (**tihomu**), goats (**timbuti**) and poultry (**tihuku**). Poultry is most commonly encountered. Other livestock such as pigs (**tinguluve**), donkeys (**timbhongolo**) and horses (**tihanci**) are of secondary importance. Of still lesser significance are sheep **(tinyimpfu)** (Els 1996:188). Generally speaking, cattle and goats are valued more for their social and religious significance than for their economic value. A clear distinction is made between domesticated animals (**swifuwo / swifuwana**) and wild animals (**swiharhi**). Wild animals are classified in two categories, namely **swinyamazana** and **swivandzana**. The former category includes mainly herbivores while the latter refers to dangerous animals which are mostly carnivorous.

2.5.2.1 Cattle

Stevenson-Hamilton's statement that the hoe was formerly utilised as a currency by the Tsonga in the absence of cattle (1934:165-166) may seem to suggest that cattle among these people were either skimpy or non-existent in earlier times. Van Warmelo strengthens this controversy when he says: "...the VaTsonga are markedly different from the Nguni in that they are (or were) in no way a cattle people..." (1935:91). Junod (1927 II: 48), however, mentions that cattle among the Tsonga had been plentiful before the Zulu invasion, and also that the BaNgoni warriors were guilty of the wholesale stealing and killing of cattle. Informants among the Mozambican refugees concur with Junod by indicating that Soshangana dispossessed their forefathers of almost all their livestock – especially cattle. Diseases also contributed greatly to the depletion of livestock. Junod (1927 II:48) mentions that cattle plague and Texas fever destroyed many cattle in the former Transvaal and Lourenco Marques. Stevenson-Hamilton (1934:64-65, 145) also gives an account of how the rinderpest and tsetse fly were destructive to livestock in general and cattle in particular. Commenting on the scarcity of cattle owing to the Zulu

invasion and cattle diseases, Hartman (1978:278) says that the Vanhlanganu replaced cattle with hoes as bride price between 1830 and 1870. Although this imbalance was redressed afterwards and livestock became plentiful again, natural disasters never ceased. The temporary absence of cattle among the Tsonga people could be assigned to several factors which might have escaped the attention of researchers like Van Warmelo.

Informants among the Mozambican refugees in Bushbuckridge believe that more livestock than ever before were destroyed during the civil war which they call **nyimpi ya Maphyanga** (the war of Maphyanga) since this war were allegedly started by a rebel leader known as Andrea Maphyanga. His followers were thus called 'Maphyanga'. They killed many cattle as they were starving in the bushes. The remaining livestock were also abandoned when the refugees fled to the RSA. Within a period of less than 15 years since coming to the RSA some of the refugees had established themselves so well that they now have more cattle than the *de facto* residents. Mahanuke of Tshemba-nenge at Welverdiend, for instance, had accumulated 64 herd of cattle by August 1999. By April 2005, the number had increased to 93 (see Plate 6 for size of his kraal). The Department of Agriculture and Forestry of the former Gazankulu Government reported that between July 1982 and December 1983, 11 308 herd of cattle died in the former Mhala due to drought (Rikhotso, 1981:63). The report gives the impression tha fewer cattle could be remaining. Cattle, however, are still plentiful. This is attested by the figure of 54,956 cattle shown in table 22.

Communal land ownership promotes the roaming about of livestock all over the area. Although livestock projects have been introduced on the farms of Seville, Ultah, Anthol and Lisbon, this is not enough. The four projects for instance, covered only a combined small area of 4,260 ha with participants of only 63 people (Du Toit, et al. 1999:2.14).

2.5.2.2 Goats

To the Tsonga-Shangana goats are second in importance after cattle. Junod's statement that every household possesses one or more goats while cattle are more rarely met with (1927 II:51) no longer holds. The growing economic importance of cattle has since reversed the situation. There is a widespread tendency in Bushbuckridge to steal newly-born goats and hide them in an empty 200 litre steel drum with an open top. The goat is kept in the drum for several weeks until it has grown enough that the owner can no longer recognise it. It is then released and allowed to join the new herd. This practice has given rise to serious quarrels and fights over lost animals. Another negative reason that impedes the raising of goats is the great deal of care needed for them. In summer they are ept to destroy the newly germinated crops, while in winter they roam about in the homesteads in search of food and water. Small boys who are usually entrusted with the caring of the goats are nowadays all at school, thus leaving the goats unattended. Because of these problems, some goat-owners reduce the number of their goats or get rid of them completely. Resultantly, the number of goats hardly increases. On various farms, particularly in the Mnisi and Amashangana areas, there is a drop in the number of goats.

Goats are kept in an enclosure called **xibala xa timbuti**. Although various types of enclosures could be discerned, the most common ones are built with tightly assembled poles in an upright position as in Figure 17. As pointed out by Els (1996:228) the height ranges from 3 to 4,5 metres. The special hut (**mhala**) reported by Junod (1927 II:51) which is built to protect goats from the rain is no longer existing. It is now common practice to either leave the enclosure open or to cover part of its roof with pieces of corrugated iron which are supported by old tyres or bricks. Goats and calves are kept together in this kraal.

2.5.2.3 Sheep

Writing about the Pedi, Mönnig (1967:70) mentions that they have very few sheep – on average about one sheep to every second family. The situation is worse among the Tsonga-Shangana. Junod (1927 II:52) mentions that sheep among the Tsonga-Shangana were very scarce indeed. Els (1996) does not even comment on sheep in the Mnisi area.

The entire Mnisi area only had 53 sheep in 1997, which declined to 28 in 1998. One of the most obvious reasons why sheep do not thrive in the Bushbuckridge area is the sub-tropical climate of the entire area, which is not conducive to sheep farming. Despite their scarcity, sheep are valued more than goats. Their knee joints form part of divinatory bones. Where sheep are kept they are herded and kraaled together with the goats.

2.5.2.4 Donkeys

Of all domestic animals, donkeys are regarded the least. Their importance lies in that they are beasts of burden. Even then, they are regarded as slow and stubborn. Beyond this they are seen as useless because their carcass, and milk or hide are of no value. The people describe the donkey as **n'wamalahla-na-nhlonge** (that which is thrown away with its skin, i.e., something very useless). The drastic drop in the number of donkeys from 388 in 1998 to 21 in 1999 (Table 46) can possibly be an undercount. It is unlikely that they might have been sold or stolen given that they are economically of no value. Donkeys are usually kraaled together with cattle. If the family does not keep cattle, a shabby enclosure is constructed for the donkeys. The structure is circular in shape and not very big. A few poles of *Combretum* species are erected about one to two metres apart, around which three to four lines of barbed wire are tied. A few *Acacia* branches are placed against the fence.

2.5.3 Hunting

Tsonga-Shangana men were famous hunters. Contrary to other groups like the Pedi where hunting had never been a regular activity (Mönnig 1967:174) the Tsonga-Shangana were able and knowledgeable hunters who extensively exploited this resource (Stevenson-Hamilton 1934: 63). Junod (1927 II: 54) mentions that hunting among the Tsonga was more developed and accompanied by various rites. In the same vein Stevenson-Hamilton (1934:215) says that many of the older Vanhlanganu men are "in their knowledge of the habits of wild animals, in tracking lore, and in their skill in setting snares, comparable with any natives in the African continent." Their expertise in hunting

is evidenced by the methods used and courage shown in killing big and dangerous animals such as elephant, lion, buffalo and hippopotami.

As explained by Stevenson-Hamilton (1934:63), many parallel lines of pits were dug across, usually in a narrow defile between two steep hills. These were usually 10 or 12 feet (3 to 3.6 meters) long, 10 feet (3m) deep and six feet (1.8m) wide at the top, narrowing towards the bottom. These were skilfully hidden by light sticks covered with grass, while the upper edges were buttressed with logs of hard wood, to prevent the earth giving way. Forming a semi circle, the hunters slowly drove all the herds towards the gap in the hills, where they eventually crowded and ran straight on the deadly line of pits, into which they fell pell-mell, with most of them breaking their limbs. Hunters would then approach and kill or finish them *en masse*.

The situation is no longer what it used to be when game was still abundant. Nowadays, the game is greatly depleted and many species are completely extinct in the tribal areas. This renders hunting a relatively unimportant activity. Boys, however, still frequently hunt when herding, but many of them never hunt at all. Other men, especially the Mozambican refugees, do occasionally hunt. During fieldwork in 1997, the author met three Mozambican men who were full-time hunters of small game and birds. The animals were sold to sustain their living. A hare was sold for R15, a duiker for R50 to R70 depending on its size, guinea fowls for R20, while small birds like doves and grey louries fetched R3 each – enough for **xikalu** (a tin of beer). The Tsonga-Shangana describes the action of hunting as **ku hlota** and they clearly distinguish between two categories of hunters: **muhloti** (pl. **vahloti**) and **phisa** (pl. **maphisa**). The first category refers to casual hunters and anybody could be described as such. The **maphisa**, on the other hand, are hunters with outstanding hunting prowess. Although hunting is exclusively an activity for males, some women like N'wa-Homu Sambo of Welverdiend were good hunters. She even transcended the first category and became a **phisa**. Throughout her hunting career she killed, among others, three lions on different occasions.

The Tsonga-Shangana also has a special designation for an expert hunter who is a meat glutton, namely **muxandli** (pl. **vaxandli**). The **maphisa** and/or **vaxandli** usually spend a period of a week or so in the bush (**mananga**) hunting game. On such expeditions they take along a morsel of maize meal, salt and a two litre tin. Cooking is normally done in the river or stream when dusky. During the day they kill game and cut the meat into strips (**ku coka / venga mintonga**) and dry it on tree branches. A big tree with dense crown is usually preferred for this purpose. Such could be *Schotia brachypetala, Kigelia africana* or *Cassia abbreviata.*

The area where such trees are found and meat kept in abundance is called **nghwavini**. The meat belongs to all the **maphisa** hunting in the area. The biggest threat to the **maphisa** is the game rangers who usually hide nearby the trees and wait for the hunters when they come for the meat. The game rangers also hide where animal traps have been set up, especially when an animal has been trapped.

The following case is related in which game rangers were involved:

Case 3: Lot Mathebula *and his deceased friend,* Sandros Masuku, *had an encounter with two game rangers where a zebra* (Equus burchelit) *had been trapped. On realising that the black rangers were without their white senior, and that they equalled them in number, the* **maphisa** *decided to defend themselves. After a long scuffle, one of the rangers turned the heels and left his colleague in the hands of the* **maphisa**. *The latter repeatedly hit the* Xinswazani *ranger – a derogatory name for this Swazi ranger who had vowed to stop poaching by bringing the poachers to their knees. The* **maphisa** *over-powered the game ranger, cut the stomach of the zebra open, removed its entrails and placed them by the animal side.* Xinswazana *was tucked into the empty stomach of the zebra with only his head left protruding. A wire was used to stitch up the stomach of the animal. With the ranger's hands and legs bound within the stomach of the animal he could only shout to scare off the vultures, jackals and hyenas*

that had come to feed on the carcass. After being rescued the next day by his friends and colleagues he immediately resigned from his job as a ranger.

(**Maphisa** vs game rangers)

During their hunting expeditions the **maphisa** sleep in dry river-beds under the protection of the dogs that they take along. By the time they return home they have usually collected a lot of meat. The last known hunter who engaged in this traditional practice is Sipamupamu Chabangu of Welverdiend. In 1993 he spent 1½ weeks alone in the bush of the Manyeleti Game Reserve until it was suspected that he had either been killed by wild animals or arrested by the game rangers. Casualties and serious injuries during hunting expeditions were not uncommon, particularly during encounters with lions, leopards and buffalos. To avert such incidents the **maphisa** protected themselves by using a magical herb of *Senecio latifolius* (**Rixiriri**) known for its power to render vicious animals impotent. It is believed that cattle treated with this herb will always be protected against felines even if they have strayed and slept in the bush.

Junod (1927 II:56) says that hunters carry some charms with them, especially the **ndjao** – the root of a certain shrub – which helps them to overcome the dangers of the bush. Els gives a similar explanation of this practice:

Dit is duidelik dat die manipulasie van 'n willose bonatuurlike krag deur die aanwending van magiese kragmiddels om enersyds die sukses van die jag te probeer verseker en die instinktiewe vermoëns van die wilde diere te oorkom, maar andersyds ook die jagter teen die gevare verbonde aan dié praktyk te probeer beskerm, steeds die hoof beweegredes agter die aanwending van magiese kragmiddels tydens die jag is (1996:330).

It is clear that the application of medicine by hunters serves a dual purpose: to ensure success in hunting and to gain protection against dangerous wild animals. To circumvent arrest the **maphisa** make use of the **vurivata** or **phala bašemane** medicine. The **vurivata** is parasitic mistletoe that usually grows on marula branches. The **maphisa** take a small

piece of **vurivata** and put it in the pockets. **Phala bašemane** is a small piece of root of a certain herb and is also kept in the pocket. A former game ranger of the Andover Game Reserve, Calvin Manyike, once arrested a poacher who claimed to have used the **phala bašemane** on several occasions to evade rangers. Although he had the medicine with him at the time of his arrest, he said he had ineffectualised it by having sex with his wife the previous night. It is interesting that whereas the **maphisa** use medicines such as **vurivata** or **rixiriri** to avoid the game rangers, the latter use the same medicine to catch the **maphisa**.

2.5.3.1 Hunting equipment

Many researchers explicitly describe hunting as an activity for men; consequently, the tools of hunting are also associated with men. Mönnig (1967:176) says that the weapons of the Pedi hunters are the same as the weapons of war, namely the assegai or spear, the axe and the knobbed club. Dogs are also pets associated with men. Most of the traditional weapons were either modified or had fallen into disuse. In its place, modern weapons were adopted. Despite the changes and adoptions, the hunting implements often remain elementary. Various techniques, methods and implements are employed in the hunting and killing of small game, big game and birds.

The use of dogs

The practice of hunting with dogs probably dates back to the very beginning of hunting. Els (1996:316) offers extensive references as proof that dogs have long been used by black people during hunting expeditions. In the days when game was still plentiful and no restrictions were imposed upon hunting, dogs were commonly used in the hunt. The uses of dogs was not limited to any size or type of animal, but were used to hunt small game such as hare and big game like the buffalo.

Hunting dogs, particularly those of the **maphisa**, are often given some medicine with the belief that it makes them lighter so that they can run long distances without tiring. The

medicine also enables them to run faster. Another medicine, a wasp's nest, is rubbed on to their teeth to make them more vicious. Dogs are mostly used in conjunction with a hunting tool such as an assegai (**xiqivu** or **tlhari**), an axe (**xihloka**) or a knobbed club (**xigiya**). The **maphisa** make use of home-made spears that resemble a rapier. Such a spear is made entirely from an iron bar and is hardly noticeable at a distance, yet it is more devastating than the conventional spear. The use of dogs in hunting is presently on the decline. The reason is that their barking alerts the police, game rangers or game farmers of the presence of poachers. Big game is virtually depleted in all the tribal areas while small animals are also on the brink of extinction. Hunters are, therefore, left with no choice but poaching

Snares, traps, catapults and intoxication

A distinction is made between **ntlhamu** (snare) and a **rithaka** (snare). Cuenod (1982:141) describes **ntlhamu** as a snare trap with a bent sapling and noose. It is used to catch birds. **Rithaka**, on the other hand, refers to a metal string, one end of which is tied to the stem of a young but strong tree while the other end forms a noose. The trap is set for animals like the antelope. The **ntlhamu** is made of the sapling or the fresh stalk of **ndzhenga** (*Dichrostachys cinerea*), **nkwakwa** (*Strychnos madagascariensis*), **ntswila** (*Vangueria infausta*), **nsavana** (*Acacia exuvialis*) or **nqwayi** (*Cassine aethiopica*) that can bend easily. The most preferred sappling, however, is that of the **nsihana** (*Grewia flavescens*). The advantage with the **nqwayi** trap is that the plant is largely riverine and is often found close to the **mhlakahli** (*Cucumis metuliferus)* whose fruit attracts birds like **bokota / byokota,** the bird bulbul of the *Pycronotidae* family, the **nkwenyana** or grey lourie (*Corythaixoides concolor*), etc. In setting the trap the sapling used is not cut off the plant. Such a trap is more durable and after use the sapling continues to grow.

As indicated by Els (1996:310) two types of **mintlhamu** are identified – **muwatshu** and **mugwimbinini**. The difference between the two snare traps lies in their strength. The name **muwatshu** is derived from the ideophone **watshu**! This means missing to catch something because of tardiness. The longer the snare is used the feebler it becomes and when triggered by the bird it reacts slower than it should and misses the catch. When this

stage is reached the **muwatshu** is discarded. The **mugwimbinini**, on the other hand, does not have this weakness. **Vurimba** is another type of snare used to trap smaller birds such as **xindzingiri** (sparrow). **Vurimba** should not be confused with **xirimbana**. **Vurimba** is made from the bark root of *Cassine aethiopica,* chewed to a paste form. It can also be made from the fleshy fruit of a parisitic plant called **vurivata**. The fruit is chewed until a sticky paste is formed. The paste (**vurimba**) is highly adhesive and coiled around a thin stick of about 20 cm. long. The stick is placed horizontally close to the water, slightly raised off the ground by two stones so as to lure the birds to sit on it when drinking water. As the bird sits on its claws it gets stuck in the paste, and also the wings when it starts flapping them to free itself.

Els (1996:311-312) presents a vivid description of **xirimbana** and how it functions. Although quite an effective method, its results can be devastating in that some birds may be crushed to pieces on impact. Many people therefore prefer the use of a bushel (**xirhundzu**) described by Cuenod (1982:245) as a large conical basket, the base of which is worn out and left a hole. This hole is closed up with rags or grass. It is placed upside down and made to rest on a stick on the one side. Seeds are spread underneath to serve as bait. As soon as a few birds have gathered underneath to eat the seeds the stick, tied to a line, is pulled out and the bushel falls down to trap the birds in. The grass cover or rags are carefully removed and the hand inserted to catch the birds one by one. The trapping of birds by means of **vurimba** and **xirimbana** are activities performed by women and small boys. The use of **xitsendzele**, a snare for birds made of cow-tail nooses, is performed largely by herd-boys. The **xitsendzele** is used to trap larger birds like quails, parrots, doves and guinea fowls in their nests or at their feeding-places. Several noosed cow-tail hairs are tied on either a curved or straight sapling depending on where it is set up. Usually only one hair catches or traps the bird on its neck, paw or wing (Els 1996:307). More common at some stages were the use of modern iron traps called **xiqhaka**. Els (1996:312) mentions that the spring traps that are mostly used by hunters range between 10 and 20 cm. in size. The small ones are used for mice and the big ones for antelopes and even buffalos. The trigger force is so powerful that it usually fractures a bone in the animal. This method has become less popular since the spring traps are no

longer available and seems to have been withdrawn from the market. Only the small ones for mice and rats are still available in the shops.

Another less common method used by some hunters is the intoxication of birds with seeds steeped in the distilled liquor, **xipayoni**. Maize seeds are soaked in the liquor for two or three days after which they are spread over the feeding area. About ten to twenty minutes after feeding, the guinea-fowls become intoxicated and begin to totter. The hunter then dashes forward and kills the guinea-fowls one by one with a stick. This method is rarely practiced because the **xipayoni** is expensive and the Liquor Act prohibits the sale of this liquor. A less expensive method that is still extensively used by herd-boys is shooting birds with catapults, **marekere**. They are made of two car tube strips of about 5 to 8 mm. wide, adjoined by a small piece of leather known as **xikhumba**. The other ends are each mounted to a small Y-shaped supple of *Euclea divinorum* or *E. natalensis*, the magic guarri or bush guarri, respectively. The forked supple is called **xiphandze**. An incised mark is made on it after every kill to indicate the number of birds killed. Catapults have replaced bows and arrows (**vurha na nseve**) which, although more effective and lethal, are not very convenient to carry around. Catapults are in big demand and are offered for sale in various places. In some towns like Tzaneen, Phalaborwa and Nelspruit, people sell them for prices ranging from R5 to R20 per set. Their use has extended from bird hunting to the scaring of thieves at night.

2.5.4 Gathering

With the depletion of game and the restriction imposed on the killing of wild animals, hunting has declined to a secondary activity compared to gathering which is generally practised free from any restrictions. Gathering is an activity largely for women and includes the collection of fruits and other edible plant material, firewood, insects, worms, birds, etc. The Tsonga-Shangana have different terms, or idiomatic expressions, denoting the various aspects of this activity:

- **Ku tlhuva makwakwa** (to make monkey orange fruit fall off the tree; i.e., to

collect monkey orange fruit).

- **Ku hlengeleta makanyi** (to heap up the marula fruit; i.e., to collect marula fruit).
- **Ku kha tintoma** (to pick jackal berries; that is, to gather jackal berries).
- **Ku bula tinjiya** (to knock down bush locusts; i.e., to hunt for locusts).
- **Ku khoma matomani** (to grasp the mopane worms; i.e., to collect mopane worms).

The collection of fruit and other plant materials

The Bushbuckridge area has many fruit trees such as *Strychnos spinosa* (the green monkey orange – **nsala**), *Strychnos madagascariensis,* (the black monkey orange – **nkwakwa**), *Carissa edulis,* all of which are in abundance in places like Edinburgh, Ludlow, Cunningmoor, Croquetlawn, Dumphries and Rolle, while the famous fruit tree *Sclerocarya birrea* (the marula) is evenly distributed in the entire area of Bushbuckridge. Other fruit trees of significance in the area are *Euclea divinorum* and *Euclea natalensis* whose fructification depends largely on good rains. The less significant fruit trees in the area include *Ficus sycomorus* (sycomore fig – **nkuwa**), *Vangueria infausta* (wild medlar – **mpyila**), *Annona senegalensis* (wild custard apple – **mphovhani**), *Ximenia caffra* (sour plum – **nthunduluka**), and *Berchemia discolor* (brown ivory – **nkuhuma/ nyiri**). Some people, children in particular, do not know the tree and refer to it as **xinyirana** - *Berchemia zeyheri* (red ivory). During summer and autumn women from places like Welverdiend, Gottenberg, Seville, etc., travel to Ludlow and Edinburg to collect *Carissa edulis* fruit. Other fruits collected by women include those of *Diospyros mespiliformis* (**ntoma**), *Flueggea virosa* (**nhlangasi**) and *Strychnos madagascariensis*.

The fruits are collected either directly from the tree as in the case of *Carrisa edulis*, *Berchemia discolor, Berchemia zehyeri, Ximenia caffra*, etc or from the ground where they have been cast as in the case of *Sclerocarya birrea, Strychnos madagascariensis,* or – *spinosa.* Although clustered fruits *of Flueggea virosa* or *Euclea* spp are generally collected from the tree, casual collectors or passers-by have a tendency to break the twig as a whole.

During the collection of the fruits of the simple-spined num-num, use is made of baskets such as the large conical basket (**xirhundzu**), a smaller one (**xitshatshana**) as well as a smaller winnowing basket (**ntewana**). The **rihlelo** winnowing basket is not used for this purpose owing to its shallow volume. Modern containers like tin buckets and basins are also used to carry the fruit. Empty 80 kg mealie bags are used to carry the fruits of *Strychnos madagascariensis* home on the head or on sledges. The same method is used in the collection and transportation of the marula fruit. The use of wheelbarrows is gaining popularity and has in many cases replaced the use of a sledge and animal drawn carts. The marula can be described as the most important fruit tree to people and animals. Stevenson-Hamilton (1934:44) mentions that residents may cut down and burn the finest shade and timber trees without any feeling of remorse but they will always spare the marula. Els also emphasises its significance when he says:

> Hierdie boom word in die besonder deur die inwoners van die Mnisi-stamgebied benut, en dit word ook algemeen... as een van die mooiste bome... beskryf (1996:278).

Between late January and early March the marula trees drop their fruit to the ground. This process is known as **ku tshana**. Women leave their villages at dawn, taking with them wheelbarrows, baskets and receptacles of every description to fill them with the fruit. At home the fruits are heaped in a shady place for a few days and left until yellow ripe (Plate 1). A sharpened bone (**xirhumbulo**) is used to pierce the fruit and extract the pip (Plate 2). This act is known as **ku rhumbula makanyi**. The juice and the pips are caught up in a steel basin while the skins are thrown away. The pips are thoroughly kneaded to depulp them and also pressed to squeeze out the juice (Plate 3). This is called **ku phosa makanyi**. The juice is diluted with water in a barrel (**mphongolo**) or big clay pot (**mbita**). The pips are preserved in a basket until the following day when they are re-pressed. This process is called **ku bveketa** and the juice derived is called **nhlowa**. The **nhlowa** is added to the mixture in the barrels to effect fermentation the following day. On this day a few more fruits are pierced and the juice added to the barrel – a process called **ku tatisa**. On the third day froth develops but the beer has not fermented enough and still

tastes sweetish. The sweet marula beer is called **dzova**. It is expected that on the following day the beer shall have fully fermented and be ready for consumption. If not ready yet, it shall at this stage have lost its sweet taste as a result of the fermentation. If consumed in this state it is referred to as **xivhayi**, while in a fully fermented state it is called **mpalwa**. The potency of the beer, therefore, depends on the degree of fermentation. If not efficiently kneaded the beer becomes odorous and is known as **xivhunde** which is more purgatory than the **xivhayi** or **mpalwa**.

The marula epicureans include young men, older men and women (Chapter 4, *Sclerocarya birrea* column). Each gender group sits in a semi-circle to form a large circle with the marula beer in the centre. At this stage the beer shall have been transferred from the barrel and/or **mbita** into a clay-pot known as **khuwana** which is smaller in size compared to the **mbita**. The capacity of the **khuwana** is about 20 to 25 litres. The beer is stirred with a marula tree sapling or a long-handled drinking calabash called **ndzheko**. Each person is given a full calabash to drink at a time. This is known as **ku kela**. The process is repeated until the beer in the clay-pot is finished. A second clay-pot is then brought in by two to three young men on a sack. When the last clay-pot is empty, two of the young men lift it up, turn it upside down and shout: "**Hongwee**!" By this shout the message is clearly sent out that the beer is finished. Those present will reply in acknowledgement: "**Hongwee**!" They then disperse. The consumption of marula beer can have various negative effects. The beer is not only purgative but also aphrodisiacal – particularly when consumed in the late afternoons and evenings.

The collection of birds, small animals and insects

A variety of animal species are also collected. The activity of collecting birds is called **ku dlaya ndzeyani**. **Ndzeyani** is described by Cuenod (1982:122) as a flock of birds flying or feeding together. The flock migrates to Bushbuckridge every summer and causes big damage to crops, particularly the **n'wahuva** (*Pennisetum glaucum*). These birds construct hanging communal nests in the *Acacia caffra* (the common hook thorn – **mbhenya-xihloka**) or *A. nigrescens* (knob thorn – **nkaya**). Leaving their places in groups early in

the morning, each woman takes along with her a receptacle and a long stick **xiwove** of about 2 to 3 metres which has a hook on one end. It is used to tear open a nest to reach small birds, some of which have not even developed feathers. Others may have developed feathers but are not able to fly for more than 10 or 20 metres before tiring. The collection of small birds is called **ku dlaya / ku khoma ndzenyani** (to kill/ catch a flock of birds). The women return home either in the afternoon or evening depending on how long it took them to fill their receptacles. The birds are half-cooked in a big cast-iron pot. Thereafter they are spread on a corrugated iron roof and left to dry. This method is known as **ku khusa**, which means to prepare dehydrated food by boiling and drying it for future use. These birds have of late completely disappeared and no longer in sight.

The collection of mopani worms (**matomani**) by women is also of great significance. These worms feed on the leaves of the mopani tree. Due to the scarcity of mopani trees the worms also feed on the leaves of the marula or jackal berry. Comparatively speaking, the Bushbuckridge area produces fewer worms than areas like Phalaborwa where the climate and vegetation is more conducive to the breeding of mopani worms. Local women often go to Phalaborwa to collect worms. Those with relatives around Phalaborwa usually spend a few days with them during collection. Women leave early in the morning for the bush with receptacles to gather the worms. This practice is called **ku dlaya / ku khoma matomani** (to kill/catch mopani worms). At home the entrails of the worms are wrung out, after which the worms are boiled, spread and dried for future use.

The collection of bullfrogs (**makhutla**) is still in full practise, especially by older women. After a shower of rain, usually one that was accompanied by thunder and lightning, the 'hmm....hmm...' sound of bullfrogs is often heard in the swamps (**tinhala**) that quickly become inundated after the first spring rains. Women, small boys and girls grove with their feet for bullfrogs. On trampling at the frog the collector quickly grabs it out of the water and threads it live on a wire, a string or a sharpened stick. At home the bellies of the frogs are dissected to remove their bowels, after which they are thrown into the pot alive. A couple of stones are placed on the lid to keep it shut and contain the bullfrogs

that push against it in trying to escape the heat. It is remarkable how long bullfrogs can survive before they die.

Herdboys collect fat mice (**tinthenyani**). Two types of fat mice are recognised: **kupfiri**, which is larger and fatter than the second type called **xithelegwane**. They are seasonal, appearing from mid-summer to the end of autumn. They dwell in holes in the ground. The entrances to the holes are not visible and have to be scratched open with a hoe. The discovery of the entrance is called **ku boxela** and is followed by digging open the hole. The digging is intermittently stopped to check if the burrow is still correctly followed. Midway a cavern with soft, dry grass (**vuguru**) is found. A part of the **vuguru** is prised up and spitted on twice before throwing it to the direction of the hole with the words: "**dyambu ri nga peli**" (the sun should not set), meaning that the fat mice should be caught soon. However, it often happens that the burrow suddenly comes to a cul-de-sac, at which the digger shouts: "**goro**!" On hearing this exclamation the boys all leave the spot and look for other holes. One to four fat mice are usually found in one burrow. They are pulled out by their tails. Sometimes they may burst out of the hole and flee. This is called **ku thunga**. The boys then chase them and try to kill them with sticks or catapults. After catching the fat mouse its incisors are removed immediately and its limbs broken. It is kept alive in a bag all day long until the herd boy returns home. A fat mouse is a favoured relish for older men and young boys.

Insects like locusts (**tinjiya**) are often collected in large numbers during summer. Branchlets of shrubs of *Eulcea spp, Peltophorum africanum* and *Combretum hereroense* are used in the collection of locusts. Informants mentioned that some locust species like **swijajana** no longer exist

Gathering is usually accompanied with risks that may sometimes prove to be fatal. Cases of serious injuries or deaths as results of gathering were given or cited. The following two cases below serve as examples:

Case 4: *In 1999 a female teenager from Allandale fell from a jackal-berry whilst collecting the fruit. She was taken to the local Tintswalo Hospital at Acornhoek with a swollen head. The medical doctor in charge recommended after examination that she be transferred to the Garankuwa Hospital in Pretoria for an urgent operation in less than 2 hours time, lest she would die (from Acornhoek to Garankuwa is about 450 kilometers). A helicopter from the nearby military base in Hoedspruit was called upon to fly the girl to Garankuwa. The young girl survived* (pers. comm.)
(A girl falls from a *Diospyros-mespiliformis*)

Case 5: *In 1988 an eleven year old Sethwane boy together with three other children were travelling from Welverdiend Primary School to Morgenson where they were residing. They stopped at a jackal berry tree by the roadside for the fruits. A deadly mamba snake in the tree bit him in the arm. He was taken to the nearest clinic at Islington with a bicycle. Unfortunately he died on arrival at the clinic. This was almost 45 minutes after the incident had occurred.* (JP Manzini – Headmaster of Welverdiend P. School).
(A black mamba kills a young boy)

2.6 Division of labour

The division of labour is very pronounced among the Tsonga-Shangana and is usually based on gender and age. Men are responsible for hard work such as the obtaining and transporting of a construction material, the construction of houses as well as enclosures for cattle and goats. They are also responsible for agricultural activities such as land-clearing and harvesting, as well as all aspects of livestock farming. For construction purposes they rely heavily on the local flora. The wood of *Combretum imberbe* (**mondzo**), *C. hereroense* (**xikhavi**), *Dalbergia melanoxylon* (**xipalatsi**) and *Albizia harveyi* (**ndzhololwana**) take precedence, although other strong woods can also be used. Cribs are constructed by men. Household utensils made from wood are carved by men.

The most preferred wood for the carving of a mortar is the fairly light wood of *Sclerocarya birrea* which weighs ±560 kg/m^3 when air-dry (Van Wyk 1996:138). The pestle which has to be a bit heavier for better crushing is carved from the wood of *Diospyros mespiliformis* which weighs about 850 kg/m^3 (Van Wyk 1996:193) or that of *Dalbergia melanoxylon*. A ladle carved from *Dalbergia melanoxylon* is considered strong and durable. Other trees used for ladles are *Elaeodendron transvaalense* (**ximapana**), *Dichrostachys cinerea*, *Gymnosporia buxifolia* (**mbataswimbe**), *G. heterophylla* (**xihlangwa**) and *Dalbergia melanoxylon*. Men also carve sledges. The branch of *Ficus sycomorus* that is Y or V shaped is selected for this purpose. Furthermore, yokes and yoke pins are carved from the wood of *Combretum hereroense* or *Terminalia sericea* (**nsusu**).

Women's activities, on the other hand, are associated with domestic duties such as the preparation of food, the rearing of children and the making of clothes as well as certain household utensils. Furthermore, they are responsible for planting, hoeing and assisting with the harvesting of crops. They also weave and collect wild fruit, firewood and fibre for weaving. As mentioned by Mabogo (1990:183) fibre was always a raw material needed for the making of artefacts. The most important sources of fibre are *Ficus* species such as **xirhomberhombe** and **nhlulawumbe**, *Agave sisalana* (**xikwenga**), *Acacia gerrardii* (**mbote / bote**, *A. exuvialis* (**nsavani**) etc. The women make strings and threads from fibres. These are used with *Cyperus* species to make traditional mat (**sangu**). They use *Cocculus hirsutus* (**tinsotso**) for the weaving of a large conical basket described above. Winnowing baskets are made with fibres from *Hyphaene natalensis* (***nala***) and *Cocculus hirsutus*. In addition to the household utensils mentioned above, women also make clay pots.

An important activity for women is the collection of firewood, which is needed for purposes of cooking, lighting, warming, the baking of clay-pots and the preparation of medicine. The most preferred wood for fire is that of *Combretum imberbe*. It not only burns slowly but produces a very small amount of smoke. The wood is, however, difficult to find because the trees have been overutilized. Firewood which is more readily

available is derived from *Dichrostachys* spp., *Combretum* species, *Acacia* spp., especially *Acacia exuvalis,* and *Diospyros mespiliformis.* Women avoid collecting the wood of *Mundulea sericea* (**mbholovisana**). The noun **mbholovisana** is derived from the verb **holova** (quarrel). A belief among the Tsonga-Shangana is that the use of firewood from *Mundulea sericea* will cause family members to quarrel. Courtyards used as a fireplace (**xivava**) are constructed by women. Traditionally, *Phragmites* spp. was used as building material for the **xivava**. However, for the sake of more durability the wood of *Dichrostachys cinerea* is now preferred as construction material.

The activities of boys are directed towards the tending of livestock – particularly goats and cattle which feature prominently in the Bushbuckridge area. When tending cattle the herdboys plait scourges with fibres of *Acacia gerrardii, A. exuvialis* or *Piliostigma thonningii* (**xidengani**). A boy who shuns tending livestock is addressed as **ntlunya** or **ntlunyeni**. This is a derogatory term applied to a boy who stays at home and rather associates with the womenfolk (Cuenod 1982:142). The following song, accompanied by a bamboo flute, is sung about the **ntlunya** by other boys:

Ntlunyeni xi risa mimbhaha kaya;	(The nincompoop tends hens at home)
Ntlunyeni xi risa minkuku kaya.	(The nincompoop tends cocks at home).

There are no hard and fast rules governing the division of labour. In some instances men, women, boys and girls perform complementary activities. Although agricultural work is assigned to women, men till the fields and sow the seeds while weeding and reaping is done by the women. The girls join their mothers in the gathering of wild fruit and firewood, while boys often participate in the activities of men.

CHAPTER 3

CULTURALLY SIGNIFICANT PLANTS AND THEIR USES IN THE BUSHBUCKRIDGE AREA

This chapter deals with species collected during fieldwork, analyzed and identified at the University of Limpopo herbarium. Below follows a list of collected species classified alphabetically according to families and genera.

An attempt has been made to retain the original meaning of technical terms by using traditional concepts rather than trying to translate them into English. A glossary is included to explain these terms. The explanation regarding each species is presented as follows:

A. Example

RUTACEAE

Xanthoxylum capense (Thumb) Harv. Shilubane 199

Manungwana Small knobwood

A. .....

B. .....

* RUTACEAE: The family to which the species belongs.

* *Xanthoxylum capense*: Scientific name, giving both genus and species.

* (Thumb) Harv: These are the authors who described the species. Thunbergii was the first author to describe the species. Some years, later, Harvey changed the status of the plant from a variety to a species. Names of these authors appear in an abbreviation form.

* **Manungwana**: Small knobwood

These are common names, first the Tsonga-Shangana name, sometimes with its synonyms and then the English name, also with synonyms where possible.

- Shilubane 199: The species was collected by Shilubane PX during fieldwork as species number 199.
- **A.** The distribution of the plant, the type of soil and place where the plant has been collected is described here. The pH value of the plant has also been indicated.
- **B.** The uses of the species are described here as used by the local residents. Cases where possible have also been given.

The 200 plant species collected and classified are described as follows:

AGAVACEAE

Agave sisalana Shilubane 106

Xikwenga Sisal plant

A. This exotic plant is abundant in the area and flourishes in sandy or granite soil. Commercial plantations created by the defunct Gazankulu Government exist in the area but have since been abandoned as reported in the previous chapter.

pH = 5.18

B. The fibre extracted from the leaves is used to manufacture rope, string and table mats in various sizes and shapes. In this regard *A. sisalana* has to a large extent replaced *Sansevieria hyacinthoides* which was traditionally used for this purpose. Liengme (1981:504) mentions that the inflorescence stalk is used as fencing material among the Tsonga-Shangana. The plant is often planted on a person's grave for protection and identification purposes.

AIZOACEAE

Zaleya pentandra (L.) Jeffrey — Shilubane 22

Nhlava African purslane

A. *Z. pentandra* is widespread in the study area and occurs in waste areas, abandoned lands and disturbed areas.

pH = 5.34

B. The leaves are cooked as relish, particularly during times of scarcity. The plant is sun dried, burnt to ashes and used as tobacco snuff or as an added ingredient to *Nicotiana tabacum* snuff. Before the introduction of bicarbonate of soda, the ash was used as seasoning for *C. trilocularis* dish.

AMARANTHACEAE

Amaranthus hybridus L. ssp *hybridus* — Shilubane 20

Thyeke ra xilungu Common pigweed

A. *A. hybridus* is a widespread exotic plant occurring particularly in fertile soils like on refuse heaps and abandoned cattle pens.

pH = 5.93

B. Leaves are eaten by the people as pot herbs. The plant contains large amounts of nitrate causing nitrite poisoning that is fatal to ruminants like cattle or sheep if taken in large quantities over a short period (Van Wyk, et al., 2002:42).

Amaranthus spinosus — Shilubane 19

Xidlaya-mesisa Thorny pig-weed

A. *A. spinosus* is widespread throughout the area and occurs in the rich soil of areas like cultivated lands and old cattle enclosures. This is an exotic plant.

pH = 6.72

B. The leaves are edible and described as a valuable source of protein and vitamin A and according to Van Wyk & Gericke (2000:64); *Amaranthus* is more valuable than all the other leaf vegetables. Dry plants (stem, leaves and spikes) are burnt to ashes and blended with tobacco snuff to give it flavour. Before the introduction of bicarbonate of soda, the ash of *A. spinosus* was used in the cooking of *C. trilocularis*.

Amaranthus thunbergii Moq. Shilubane 23

Thyeke Red pig-weed

A. Red pig-weed is a weedy annual that is closely related to *A. hybridus* but has purple leaves and generally appears thinner. It is also widespread throughout the area and occurs particularly in disturbed areas as explained under Shilubane 20.

pH = 6.46

B. Leaves are eagerly eaten by people in the area and are much more palatable than *A. hybridus*. Since all *Amaranthus* species may cause nitrite poisoning, the plant is also toxic to cattle and sheep as described by Van Wyk, et al. (2002:42).

AMARYLLIDACEAE

Boophane disticha Shilubane 147

Rihemana Bushmen poison bulb

A. *B. disticha* is widely distributed in the area. It usually grows in open grassland on clayey soil.

pH = 5.88

B. Van Wyk et al. (1997:60) mention in support of Eddy, et al. that *Amaryllidaceae* alkaloids are known mainly for their extreme toxicity, narcotic, hypotensive, vasodilatory and anallgesic activity. *B. disticha* is in addition hallucinogenic as per case below:

Case 6: *In 1995, P.N. of Welverdiend who had just been discharged from a mental hospital where he had spent 23 years took a decoction of the bulb scales of* B. disticha *together with his wife R.N. without the knowledge of other family members. Late in the night both of them began to hallucinate, calling names of relatives known to have died a long time ago, claiming to be seeing skunks, ghosts and witches, etc. They were restless throughout the night and appeared to be completely insane. Their children and relatives who spent the sleepless night with them could understand P.N's condition that had had periodic bouts of insanity since his discharge from the hospital. But they were puzzled by R.N's sudden change of mental status that had been* compos mentis *throughout. They began to accuse other relatives of witchcraft believing that they had bewitched them. The following day towards noon, the hallucination began to subside and by the afternoon both had completely recovered. R.N. told the relatives who had come to the family that they had taken a decoction of the scales of* B. disticha. *By then the relatives were preparing to send them to the hospital.*

(The effects of *Boophane disticha*)

The decoctions of the bulb of *B. disticha* are used in treating various conditions like abdominal pains, weakness and blood purification. The use of strong decoctions which could be fatal is strongly discouraged. The decoctions of the roots and scales of this plant are commonly used by diviners (**vangoma)** to determine if someone suspected of witchcraft has been justifiably accused or not. The dry bulb scales are again applied topically as an antiseptic and pain-relieving dressing for the circumcised at initiation schools.

ANACARDIACEAE

Lannea discolor (Sond.) Engl. Shilubane 115

Ximumbyani / Ximupuyane Live-long

A. *L. discolor* is a single-stemmed deciduous tree that is fairly common in the area, growing particularly on rocky ridges or termitaria.

pH = 4.96

B. The fruit is eaten by people, birds and animals. Leaves are browsed by livestock and game. The gum is also edible. The fibrous inner bark is plaited into cordage. Wood is suitable and used for fabrication of pounding blocks, plates and spoons. The gum from the root is mixed with **xigugu** (a thick paste of roasted maize and peanuts stamped together and mixed with sugar or honey) wrapped in a strip of cloth and tied on the neck of a child for him/her to wean. This is called **rivatisa** (causing forgetfulness). Leaf decoctions are used for treatment of fits.

Lannea edulis (Sond.) Engl. Shilubane 163

Mphotiphoti Wild grape

A. This is a deciduous suffretex shrublet that occurs in open, rocky grassland and bushveld of the study area and is fairly common.

pH = 5.00

B. The fruit is palatable and eaten by humans, birds and animals. Leaf poultices are applied externally in the treatment of boils and abscesses. Root decoctions are taken by patients with internal rashes so that they can surface and be treated accordingly. Root extract is used as an ingredient of a medicine given to a widow who has been 'taken to the river' (**yisiwa enkoveni**), the following morning after the burial of her deceased husband. The palatable fruit is eaten mostly by small boys herding cattle. In the past women and children collected the fruit of *L. edulis*. The glut of modern fruits like grapes must have militated against the active collection of a wild grape fruits.

Lannea schweinfurthii (Engl.) Engl. v*ar stuhlmannii* (Engl.) Kokwaro (= *L. kirkii*, *L. stuhlmannii*)

Shilubane 68

Ximombonkanyi False marula

A. False marula is a small to medium-sized deciduous tree that is widespread in the entire area in bushveld, woodland and riverine bush. It also occurs on termitaria. As the name suggests, the tree is similar to the marula tree: **ximombo** = face and **nkanyi** = marula tree.

pH = 5.04

B. The fruit is eaten by people and fructivirous birds and animals. The leaves are browsed by cattle and game. Mortars are carved from the wood but do not last for many years as the wood is not durable. A purple dye is obtained from the leaves. Bark extracts are used to treat kidney problems. Leaves are applied to boils, abscesses and sores in a paste form. Decoctions of roots, barks and leaves are used to prepare a bath for good luck.

Ozoroa insignis Delile

Shilubane 8

Xinungu-mafi

A. *Ozoroa insignis* is a small to medium-sized deciduous tree with the bark containing large quantities of sap, hence the Tsonga-Shangana word **mafi**. The plant is scattered in the bushveld of the study area on clayey soil.

pH = 4.58

B. Powdered bark is used as an enema and to treat inflammation of the chest and dysentery. Fruits are used for tanning leather, while wrinkled drupe is used as laces. Roots are used for the treatment of kidney problems.

Ozoroa sphaerocarpa R & A. Fernandes

Xinungu Currant resin-tree

Shilubane 76

A. This is a small deciduous tree with a short, bent stem and sparse, spreading, formless crown. The tree is fairly common in the eastern parts of the area especially the north-east.

pH = 4.29

B. The bark is used for chest inflammation and dysentry. Sap from the bark is used as a bird-lime. Extracts from the roots and leaves are used against colic and diarrhoea. The wrinkled fruits are used as laces.

Rhus rehmanniana Engl.

Mbolelakhutla / Mbalamakhutla Blunt-leaved currant

Shilubane 52

A. *R. rehmanniana* is fairly scarce in the area, growing in the forest margins and bushveld of Edinburg, Ludlow and Islington. The tree is somewhat scarcer in the east of the area. Seemingly, it grows better in places with deep sandy soil.

pH = 5.12

B. The fruits are edible and palatable to humans, animals and birds. Leaves are eaten by the browsers. Chewed twigs are used as a toothbrush. Root decoctions are used for treatment of diarrhoea. Powdered roots are added to a bathe for the removal of bad luck. The two variant names, **mbolelakhutla** (collecting bullfrog) and **mbalamakhutla** (counting bullfrogs) probably have the same meaning. The thin stick of a branchlet is used in the collection of bullfrogs (vide 2.5.4).

Sclerocarya birrea (A. Rich) Hochst. subsp. *caffra* (Sond.) Kokwaro (= *S. caffra*)

Nkanyi Marula

Shilubane 117

A. The marula is one of the commonest species (cf Chapter 4) distributed throughout the area. It grows on most soil types but more abundantly in the deep sandy and granite soils of Leamington, Islington, Groquetlawn and Ireagh.

pH = 4.90

B. This is one of the greatest trees of Africa, usually preserved by the indigenous people for its valuable fruit and shade. As put forward by Stevenson – Hamilton (1934:344) "a native will cut down and burn without a pang of remorse, the finest shade and timber trees; but he will always spare the marula". The leaves are eaten by both game and domestic animals. They are also used for loin dresses by both boys and girls during a play. The inner bark is edible. Wood is used for the manufacturing of grain stamping blocks and other household articles. Kernels extracted from pips are eaten raw or used as a condiment. Fruits can be eaten raw, a process called **ku phata makanyi** (to press marula fruit). Sweet juice called **dzova** is made from the fruit (Plate 3). Other types of beverages called **nhlowa**, **mpalwa**, **xivhunde**, **xivhayi**, **xitonono** and **hongwe** as outlined in Chapter 2 are made from the fruit. The fruit is said to have an exceptionally high Vitamin C content (Van Wyk, 1996:138). The tree is commonly used as an ancestral shrine by many families. A strip of white cloth is tied around the trunk of the tree with horns of immolatory animals nailed to the trunk as well. An extract of the bark is used to treat dysentery and diarrhoea. Bark decoctions are used to prevent malaria, while the inner bark is effective in soothing insect bites. Pieces of mistletoes branches parasiting on a marula tree is effective treatment of flu and fever. The tree provides good shade.

Two abstracts from Stevenson – Hamilton explain the significance of the marula beer as follows:

> Marula beer is so popular among the natives of the Lowveld that, during the period when the fruit is ripe... there is such an unceasing round of entertainments and of general festivity that it is often impossible to get any work done at all... the whole country-side is either preparing to get drunk, actually drunk, or getting over being drunk (1934:45).

... elephants travel many miles to the area... the native women turn out in crowds, armed s much fruit as they can stagger under at each journey.... The marula stones are broken for their kernels, not only by the natives but also by birds and beast, including of course the omniscient baboon (op cit.: 45-46)

The two abstracts clearly indicate the importance of the marula fruits to both people and animals. All people who drink intoxicating liquor drink marula beer but not all marula beer drinkers take intoxicating liquor. Christians do drink marula juice (**dzova**). In a marula drinking party, men sit in a semi-circle and females do likewise for the two groups to form a complete circle. Marula beer is served on the house in turns with a long-handled ladle and is consumed by all and sundry (Chapter 4 no. 168).

Two separate incidents occurred in 2003 at Gottenburg and Morgenzon respectively following the intrusion of elephants into the two farms from the Kruger National Park.

Case 7a: *On the morning of the 12th February 2003, residents of Gottenburg were chasing away two stray elephants which where devouring the marula fruits in the area. Possibly because of fatique and anger, one of the elephants turned around and charged at the mob who took to their heels. The chasers became the chased. A 12 year old boy, Peter Ndlovu hid himself behind a marula tree. On second thoughts Peter fled away. Within seconds the elephant had caught up with him, stretched its trunk and hooked him by his leg. With a blink of an eye the boy was torn apart in three parts. The Park bore the expenses of the funeral costs* (pers. comm. - Jerry Ndlovu, Assistant Manager of Shimuwini Bushcamp in the Kruger National Park).

(The elephant kills the young Peter)

Case 7b: *Again in February 2003, another giant elephant which had strayed to Morgenzon in search of marula fruits bumped into a barrel full of freshly prepared marula beer left in the field to ferment for consumption the following day. The big giant helped himself and finished the whole barrel. When a group of about 25 drinkers arrived the following day they were*

greeted with an empty barrel – much to the surprise of everybody (pers.comm. Maria Mathebula – marula beer maker and field owner)

Case 7c: *In the early 1990s an old tamed giraffe in Eiland at the Tsonga Kraal had consumed a lot of marula fruits. Apparently after the fruits had fermented in the stomach, the tall giant staggered drunkenly to his feet. Samuel, the animal keeper approached the tall giant which surprisingly trampled him to death* (pers. comm.) Joseph – Labourer at the Tsonga Kraal - The incident was also reported in the Letaba Herald)

ANNONACEAE

Annona senegalensis Pers. subsp. *senegalensis* Shilubane 123

Mphovani / Murhompfa /Muyembe Wild custard-apple

A. The species is very common throughout the area and more abundant in the western part of the area like Edingburgh, Islington, Bumba, Ludlow, and Cunningmoor with deep sandy soils.

pH = 5.79

B. The wood is soft and heartless and not so much useful though used as a source of traditional firestick. Leaves are utilized by a variety of browsers. Fruit is eaten by both humans and animals like baboons. The fruit is tasty and very sweet smelling. Roots are used to wean children. Root decoctions are used for treatment of insanity and dizziness. Bark is used against toothaches.

APOCYNACEAE

Carissa bispinosa (L) Desf. ex Brenan ssp. *zambesiensis* Shilubane 79

Mhlava-nkunzi/ Mulu Forest num-num

A. *C. bispinosa* is found in the bushveld of the area particularly along rivers and streams. It seems to prefer brackish soil to all other types.

pH = 5.65

B. The fruit is edible and palatable but not collected because of the forked spines and snakes harbouring in the shrub. The fruit is also eaten by birds. Leaves are browsed by game. The spine is pierced into a hump of a young bull in the belief that it would be a ferocious bull fighter. Decoctions of the roots are used for treating venereal diseases and serve also as an emetic. The stem is used for the treatment of **nda phya** (disease causing burning sensation to the feet). Roots are used for the treatment of **xijiso** (poisonous substance).

Carissa edulis Vahl

Shilubane 33

Ntshuguri Simple-spined num-num

A. The plant is widespread in the bushland parts of the study area. It thrives well in sandy soil or stony places like Ludlow, Edinburg, Cunningmoor and Cork. Because of overpopulation aggravated by the influx of the Mozambican refugees in the early to mid 1980s, a large percentage of *C. edulis* has been cleared for residential and agricultural purposes particularly in the places mentioned above.

pH = 5.33

B. The flowers are eaten by herdboys. The fruit is edible, palatable and much sought after. The root is used for the treatment of **xijiso** (poisonous substance).

ARACEAE

Colocasia esculenta

Shilubane 128

Marhupi Elephant's ear / taro potato

A. The crop is cultivated in valleys around Acornhoek, Dwarsloop, Orinoco, Athurstone, Xanthia and Cunningmoor. In some parts of the area, particularly the east, the crop is never cultivated because of the dry conditions.

pH = 5.93

B. The corm is harvested and boiled. Although not sweet, it is delicious and highly sought-after. Sometimes it may be baked, roasted or fried. Leaves and stalks are used as potherbs.

Phoenix reclinata Jacq Shilubane 197

Ncindzu / Xicindzu Wild Date-palm

A. Wild date-palm is an evergreen multi-stemmed plant commonly found along rivers and streams like the Sand River, Saringwa, Khokhovela and Manyeleti.

pH = 5.52

B. Fruits are sweet but not appealing to many residents. Young people are not even aware that *P. reclinata* fruit is edible. Leaf segments are used for making baskets. Midribs are used in the construction of huts and to a lesser extent, granaries as well. Sap extracted from the root is used to make an intoxicating wine called **vucema**. Leaf segments are plaited together to form a costume known as **samaloba** worn by initiates during a dance. The plants provide a shelter to lions and people always approach them with caution.

Stylochiton natalensis Shilubane 138

Mfana-wa-timbuti Bushveld arum

A. **Mfana-wa-timbuti** (the goat herdboy) is a perennial plant that is fairly common in the area occurring on open woodland, stony grassland and river banks.

pH = 5.87

B. The root is highly irritating to the throat and is also hallucinogeneos. It is used as an ingredient to other concoctions like the **baso**-medicine.

ARALIACEAE

Cussonia spicata Thumb Shilubane 112

Musenje Common cabbage-tree

A. *C. spicata* is fairly common in some parts of the area but does not occur in other parts. It occurs on rocky outcrops of Huntington, Newington, Cork, Xanthia and Agincourt.

pH = 5.46

B. Barks and roots are eaten by bush pigs and baboons. Leaves are browsed by domestic animals and game. Flowers and fruits are eaten by birds. During famine roots are consumed by humans. Powdered roots are used against malaria. Infusions of the bark and roots are used to treat venereal diseases, insanity and biliousness.

ASCLEPIADACEAE

Shilubane 141

Asclepias fallax

Xihaja

A. This tuberous perennial is fairly common; growing mostly on sandy or stony soils and is widespread in the area.

pH = 5.98

B. Leaves and young flowers are used as a potherb. They are bitter but people enjoy them. Leaves may be cooked in salted water with maize meal added to produce stiff porridge eaten without any relish.

ASPARAGACEAE

Shilubane 111

Asparagus cooperi Baker

Nkwangulatilo **Katdoring** (Afrikaans)

A. *A. cooperi* occurs in all parts of the study area with woodlands. It is however, more common in loamy soil, along rivers, beneath trees especially *Ziziphus mucronata* and also on termite mounds.

pH = 6.07

B. The plant is believed to have magical powers. In the event of an unwanted rain threatening, the plant is cut and set alight. The youngest child in the family shall wave it around to ward off the rain. During the **thwasa** (initiation) ceremony a short piece from the stem is used by the diviner to pull around a winnowing basket with six pieces of a goat's liver to be ingested by the initiate (cf. Shilubane, 1990:87). The ash from the stem is used for the treatment of **mafularha** (impurities).

ASPHODELACEAE

Aloe marlothii A. Berger subsp. *marlothii* Shilubane 122

Mhanga Mountain Aloe

A. *A. marlothii* is an evergreen single-stemmed plant with dead pendent leaves. It occurs widely in the area and grows particularly on rocky hills, brackish flats and along rocky streams. It usually grows in clusters or stands.

pH = 4.98

B. Leaves are browsed by the kudus (**tinhongo**). At Clare, a small tributary of the Khokhovela River which is heavily infested with *A. marlothii* is known as **N'watinhongo** i.e. the place of the kudu. Ashes of dry leaves are popular as snuff mixtures. Roots are used as a source of yellow dye. The bitter sap is smeared on a nipple of a mother's breast to wean the child. Dry leaves are used as firewood. Sap of fresh leaves is a good treatment for syphilis.

Aloe zebrina Shilubane 121

Mbhakanani Spotted aloe

A. This stemless, perennial, succulent plant contains yellow sap. The shrub is very common in the area and occurs in the thickets on the side of a river.

pH = 4.87

B. The sap is used for earache. Sap from the roots produce a golden yellow colour which is used for dyeing rope, twine, basket, etc. Leaves are used by herdboys to play a game called **mbhakanani**. Thorns of *Flacourtia indica*, are used to play the game.

ASTERACEAE

Bidens pilosa Shilubane 192

Muxiji Common blackjack

A. This annual herb with tiny barbs is abundant and grows in disturbed areas like fields and unused cattle kraals.

pH = 5.48

B. Leaves are bitter but eaten as a potherb. Local people reduce the amount of bitterness by adding grounded peanuts as a condiment to the potherb. They are crushed fresh and instilled into the anus of someone suffering from worm infestation. Sap from the leaves treat earache. Root infusions are used to treat epilepsy.

Epaltes gariepinia (D.C.) Steetz Shilubane 185

Munywana

A *E. gariepinia* occurs in clusters at wet places or drainages. It is widely distributed throughout the area.

pH = 5.49

B. Decoction of the roots is used for the treatment of coughs, cold, and flu. The entire plant is used as a substitute for toilet paper, particularly by the old people with diarrhoea.

BALANITACEAE

Balanities maughamii Sprague Shilubane 131

Nulu Green thorn/ Torchwood

A. *B. maughamii* is very scarce in Bushbuckridge. In the Mnisi area for instance, only two green thorns were encountered during research. Traditional healers mentioned that many of the trees in the area became extinct due to over-utilization. The tree grows on sandy and granitic soils and is usually both montane and riverine.

pH = 6.11

B. Young shoots and fruits are eaten by animals like baboons, duiker and elephant. The tree provides firewood. Saplings are used to make a musical instrument called **xipendani** (mouth-resonated musical bow with notched stave). Wood is used for the manufacturing of traditional dishes called **tinqhombho** and drums used by traditional healers called **tinghunghu** (a kettle drum with one pegged membrane). The fruit is highly sought after by traditional healers for divinatory uses. The fruit known by diviners as **hakati** is opened up longitudinally and symmetrically with a small knot at each extremity. Six of these capsules (three males and three females) constitute a divinatory set. The males are larger than the females. The divination process is known as **ku ba hakati** (to beat the green thorn fruit) i.e. to divine by means of a green thorn fruit. Powdered roots are used to drive out demons or to bar witches from entering the homestead. Bark and root decoctions are used as enemas. They are also used as **xixambu** – a refreshing bath. Extract of the bark is used to induce vomiting. Extracts of the bark and roots are used for the treatment of **xilumi** (painful womb) and the preparation of **bhudlu**-medicine (foamed medicine).

Balanites pedicillaris Mildr. Schlect. subsp.*pedicillaris* Shilubane 124

Mvhavhela-nkunzi Small green-thorn

A. This multi-stemmed plant is fairly common and occurs only intermittently on low lying blackish flats along the Sabie and Timbavati rivers in the vicinities of Acornhoek, Okkernootboom, Somerset, Huntington and Justicia.

pH = 6.09

B. The wood is used for yokes and household utensils like **tinqhombho** (wooden bowls). Thorns are used to remove other thorns from foot soles. They are also used by herdboys in the plaiting of a panama hat and playing of **mbhakanani** game.

BIGNONIACEAE

Kigelia africana (Lam) Benth. Shilubane 167

Mvhongoti/ Mpfungurhu Sausage tree

A. The sausage tree usually occurs in deep alluvial soil near streams and rivers. It is fairly scarce in the area.

pH = 5.98

B. A decoction of the bark is gargled to relieve toothache. By the application of the law of contact and similarity, a decoction of the fruit is given to a man with a small sized male organ in the belief that the organ will enlarge. A small sausage tree is planted. It is believed that as it grows, so does the organ. When the organ reaches the desired size the tree should be cut down to regulate the size of the organ. Four small pieces of a root are buried in the 4 cardinal points inside the **ndhumba**-hut (hut dedicated to the BaNdau spirits in a homestead, cf. Glossary B) as protection against witches who may destroy the potency of the diviners' medicines and render him/her incapacitated. This process of protecting the hut is called **ku fumba ndhumba**.

Case 8: *A man at Acornhoek, Samson Ngunyule, known by many locals to have an extraordinary large male organ, was believed to have used* K. Africana *to enlarge the organ. It is said that not all diviners have the medicinal know-how of enlarging the organ. This treatment is also considered to be a risk because in the process the diviner may die and nobody may be able to stop the growth of the organ. Where the tree has been planted for this purpose is only known by the particular diviner.*

(The effects of *K. africana*)

BOMBACACEAE

Adansonia digitata L.

Shilubane 151

Ximuwu/ Ximowu Baobab

A. **Ximuwu** is a characteristically large deciduous tree which does not occur naturally in the entire study area. The existing species in the area have been grown, mostly by traditional healers in their homesteads (Plate 11b).

pH = 5.98

B. The fruit is eaten by baboon and the bark by elephant. Cattle, elephants and antelope chew on the spongy wood to relieve thirst in times of drought while Böhms Spine-tails build their saucer-like nests in the hollows of the tree (Grant and Thomas, 2000:88). The pulp is eaten by primates, usually with milk. Thinly growing children are washed with the infusions of the bark in order to gain weight and become stout.

BORAGINACEAE

Ehretia amoena Klotzsch

Shilubane 13

Ximunyamunyana Sandpaper bush

A. *E. amoena* is a small decidous tree or shrub distributed sparsely throughout the area. It occurs in thickets on termitaria, riparian thickets or riverine forests on alluvial sands. This plant is easily confused with *E. rigida* (cf. Shilubane 183).

pH = 5.72

B. The small berries are eaten by people, birds and baboons. A cluster of berries is eaten at the same time by sucking them like sweets. This is known as **ku munyungela** or **ku munyamunya**, hence the name **Ximunyamunyana**. The stem is used for making handles for axes and hoes. Fence posts are also made from the stem. Roots are used for the treatment of venereal diseases.

Ehretia rigida (Thunb.) Druce

Shilubane 183

Mpon'wani/ Muhambe Puzzle bush

A. *E. rigida* is a small deciduous tree which is distributed throughout the area but not abundantly. It occurs in any soil type but is mostly in the river.

pH = 5.75

B. Fruits are sweet and edible. Leaves are browsed by livestock and game. They are also used for hot presses on sprains. A stick called the male is used as the upper twirling stick when making fire by friction. The sapling is used as a switch to discipline children at school. A thick flexible rod buried in the volatile cowdung for a couple of days is used as a fighting rod at the initiation school. A stick from this plant is used for dowsing treasure. Infusions of the root are used for the treatment of **xikuna** (blooded stool). Roots are used for attaining luck and treatment of venereal diseases.

BURSERACEAE

Commiphora glandulosa Schinz (=C. *pyracanthoides* subsp. *glandulosa*) Shilubane 119

Xifati Tall firethorn corkwood

A. The tall firethorn corkwood is a medium-sized erect single-stemmed tree that is fairly common and exists on well-drained soils and rocky areas of places like Xanthia, Cunningmoor and Dumphries.

pH = 5.56

B. Young shoots and leaves are eaten by animals like duiker. Fruit is eaten by birds like the southern yellowbilled hornbill (**nkorho**). The soft lightwood is used to carve household utensils like spoons and walking sticks as well. Because of its easy regrowth from cuttings the plant is used for live fences of homesteads and fields. At Welverdiend for instance, some homesteads are entirely fenced with live *C. glandulosa* trees that were planted as posts. The tree provides shade as well.

Commiphora mollis

Shilubane 190

Xisenga, Nkuhuti Velvet-leaved corkwood

A. *C. mollis* is fairly rare. Plants grown in homesteads and gardens appear to be more than those growing naturally in the veld.

pH = 5.92

B. The plant is essential as a fence in the homestead, garden and field. Animals like antbears dig up the roots for consumption.

Commiphora pyracanthoides Engl. Shilubane 120

Xifati/ Xisenga Firethorn Corkwood

A. Like *C. glandulosa*, *C. pyracanthoides* is not a very common plant in the area. It grows on sandy soils and termitaria.

pH = 5.95

B. Fruit is eaten by birds, and leaves browsed by animals. The stem is too soft to be used for carving purposes. Instead it is used as tinder to light fire. The wood was traditionally used as sources of fire-sticks. Roots are chewed for their sweet sap.

Commiphora schimperi (O. Berg) Engl. Shilubane 189

Xifati Glossy-leaved corkwood

A. *C. schimperi* is a small deciduous tree that is very scarce in the area. It occurs on granitic soils of Huntington and Cork near the Sabie River. Some of the species have been grown in the homesteads.

pH = 5.89

B. Leaves are browsed by animals. Twigs are as used as a source of fire by friction and for fuel as well. Cuttings initially used as fencing posts at homesteads usually regrow as a fence (cf. *C. glandulosa* and *C. mollis* above).

CACTACEAE

Opuntia ficus-indica (L.) Mill. Shilubane 194

Xitorofiya/ Mudoro Sweet prickly pear

A. Sweet prickly pear is a robust, spiny succulent found throughout the area but on a small scale. It usually occurs on disturbed areas like ash heaps and grows in conglomeration to form a bush.

pH = 6.00

B. Fruit is edible and palatable but not highly sought-after although consumed by almost everybody. Fresh leaf or pad is peeled, sliced and boiled with natural honey added and the concoction used to treat asthma. The shrub is usually planted near or on the grave of a person to protect it from trampling.

CAESALPINIACEAE

Afzelia quanzensis Welw Shilubane 108

Nxenhe Pod-mahogany

A. *A. quanzensis* is a medium-sized to large deciduous tree fairly common in the area, occurring on koppies, ridges and in the sandveld.

pH = 5.83

B. Leaves are browsed by game and livestock. The stem is used for making grain stamping mortars. Seeds are called **mahlo ya valoyi** (eyes of the witches) and used together with divinatory bones. They are also used as necklaces. Infusions from the roots are used to treat bilharzia.

Cassia abbreviata Oliv. subsp. *beareana* (Holmes) Brenan. Shilubane 10

Numanyama Sjambok pod / Long tail cassia

A. *C. abbreviata* is a small to medium-sized deciduous tree occurring fairly general throughout the area, but nowhere very abundant. It occurs in many soil types but quite often on termitaria.

pH = 5.85

B. Stem is used as firewood but not much preferred. The root is taken for a toothache and the seed as a tonic. Dried and powdered root is used as a laxative. Powdered bark of the root is used for bilharzia and abscesses. Root infusion is taken to regulate heavy menstruation and also for the induction of abortion. Powdered root is taken orally as an aphrodisiac. Smoke from smouldering branches is inhaled for the treatment of a headache.

Colophospermum mopane J. Kirk ex J. Léonard (= *Copaifera mopane*) Shilubane 5

Nxanatsi Mopane

A. The plant is extremely scarce in the entire area, occurring mostly as a dwarf form of Mopane shrubveld in Gottenberg, Ireagh and the basalt plains of Clare. The few trees that once existed in the area are said to have been utilized a long time ago (pers. comm.)

pH = 5.81

B. The leaves form an important part of food for the Mopane worm (**matomani** – *Gonimbrasia belina*) which is eagerly consumed by the people. Leaves are used as fodder when dry. Twigs are used as a toothbrush, while chewed leaves are applied on wounds to stop bleeding and for healing. Mopane poles are largely used as building material in the construction of huts and cattle enclosures. Wood is also used to make pestles, knobkerries and implement handles. It is also an excellent source of firewood. Bark decoctions are used for diarrhoea.

Peltophorum africanum Sond Shilubane 69

Nhlanhlani / Msehla / Mdzedze African weeping-wattle

A. *P. africanum* is an unarmed small to medium-sized deciduous tree which is widespread throughout the area with no definite preference of soil type.

pH = 5.78

B. The softly hairy leaves are commonly used as a toilet paper. Young leaves and pods are browsed by goats and cattle. The wood is used for implement handles, fencing poles and firewood. The plant is used for a variety of ailments: roots are used for treatment of **nda phya** (burning sensation), **midlukulu** (harmless insanity), wounds, fevers, coughs, blood purification, nausea, chest pain, sore throat and venereal diseases whereas leaves are important for toothache and abdominal pain. (One Evangelist mentioned that the efficacy of *P. africanum*, *T. sericea* and *C. bispinosa* to cure a wide range of ailments when concocted was revealed to him in dreams on three occasions). Given the many varieties of uses of *P. africanum* listed above, perhaps the Evangelist's dreams can be credited.

Piliostigma thonningii (Schumach.) Milne-Redh. = (*Bauhinia thonningii*) Shilubane 82

Xidengana / Nkolokotlo Camel-foot

A. *P. thonningii* is an evergreen to semi-deciduous, medium-sized tree that is widespread throughout the area, showing preference to sandy soils and woodlands, as it appears to be somewhat more abundant on the western parts of the area than the east which has loamy soil.

pH = 5.88

B. Pods are edible when dry. They are also eaten by game and livestock. Young pods are eaten by baboons, while leaves are eaten by cattle and game. Fresh pods, particularly when they begin to change from green to brown, are used by herdboys as sandals. Wood ash and green pods are used as soap. The wood makes good firewood. Root, bark and pods all yield dye. Bark fibres are used for rope and a long whip called **xiyepu**. Infusions of the root are used for treating chickenpox (**swibokisana**). Decoctions of the roots are used to support pregnancy against a miscarriage. The leaves

are used for flu and coughs. Infusions of the roots are used for treatment of diabetes, depressed fontanelle and are also taken as aphrodisiac.

Schotia brachypetala Sond Shilubane 75

Chochelamandleni / N'wavulombe Weeping boer-bean / Tree fuschia

A. *S. branchypetala* is an evergreen tree that is fairly common throughout the area. Seemingly it is not restricted to any type of soil but often found on termitaria and river or stream banks.

pH = 5.87

B. The flowers produce abundant nectar and when shaken, the nectar drips on the palm of the hand and is very sweet. This manner of consuming the nectar earned the plant the name **chochelamandleni** (shaken on to the palm). The nectar is also sucked by birds and insects. The leaves are browsed by game. The wood is used for furniture and utensils like a bowl, **nqhombo**. The bark is used for dyeing and tanning. Bark extracts are used for treating diarrhoea.

Senna petersiana (Bolle) Lock Shilubane 17

Nembenembe Eared senna / Monkey pod

A. *Senna petersiana* is widely distributed over the study area. Although it grows in any type of soil, it however, prefers sandy soil particularly by the roadsides.

pH = 5.69

B. Pod valves are edible but not so palatable. Animals like baboons and monkeys eat the fruit. People eat them raw or as gruel soaking and boiling them. Stem and twigs are used for firewood. Root infusion is gargled for toothache. Roots and leaves feature strongly in purification rites. Roots are also used to win cases in court. Fruits are used also for luck.

CANNABINACEAE

Cannabis sativa (subsp. *sativa*)

Mbangi Marijuana

Shilubane 170

A. Marijuana, best known as **dagga** in South Africa, is an erect annual herb which has become a restricted plant in South Africa. For this reason the plant is grown on river sides, mountains and all other places not easily accessible to the police. The plant is grown in different soil types by dagga smokers and sellers or dealers.

pH = 5.51

B. In spite of our country's strict laws to suppress its use, **dagga** is widely smoked. Formerly a piece of *Phragmites mauritianus* called **ndovelo** was used as a smoking pipe. To regulate its strength and to induce a feeling of relaxation and euphoria, water was drunken intemittently. Smoking **dagga** in this fashion is called **ku dovela**. It is believed that **dagga** is an excellent invigorant to pusillanimous people. Infusions of the leaf are used in the treatment of asthma and insanity.

Case 9: *In the mid 80's John Maluleke got arrested for the marijuana which he had planted in his homestead. In the Mhala Magistrate Court, John told the presiding magistrate that he had planted the crop as a vegetable whose potherb he so much enjoyed. Amazed at this allegation, the magistrate asked him to eat it in front of him. To the surprise of everybody in court, John instantly devoured the whole sample, finished it and called for some more. The magistrate was left flabbergasted so much that he could not sentence him. He was acquitted with a warning not to use it as potherb any more. He was also instructed to uproot all the plants at his homestead garden and burn it – (Pers. Comm.* S.M. Masuku, 20 June 1998 who witnessed the incident in court).

(A man eating *Cannabis sativa* in court)

CAPPARACEAE

Cleome gynandra L.

Shilubane 21

Bangala African cabbage / Spider-wisp

A. *C. gynandra* is a very common and widespread seasonal herb. It grows on cultivated or disturbed soils around homesteads and unused cattle enclosures.

pH = 6.31

B. Stems, leaves and young fruits are cooked and eaten as vegetables with porridge. The leaves can be half-cooked and dried, thereby dehydrating it for future use. The dehydrated vegetable is called **mukhusa** and is preserved for winter use. Fresh leaves of *C. gynandra* and those of *A. thunbergii*, *M. balsamina* and *B. pilosa* are crushed together with a small amount of water added. The concoction is used as an eardrop.

Maerua angolensis D.C

Shilubane 109

Xiyima-na-murhi / Phalatangati Bushveld Bead-Bean

A. *M. angolensis* is a relatively scarce plant in the area. Where it exists it is commonly found in a variety of soil on termite mounds and is mostly riverine.

pH = 5.47

B. Leaves and bark are eaten by kudu, giraffe, cattle and goats. Wood is used for wooden spoons and stools (**xiqowani**). Vapour from leaves and bark called **xixambu** or **phungula** helps childhood convulsion and treats insanity. Decoctions of roots and bark are used for the general cleansing or purification of blood. Leaves are also used for the treatment of **mbhundzwana** (smallpox).

CARICACEAE

Carica papaya

Shilubane 146

Mpopo Paw-paw

A. *C. papaya* is an exotic plant found in many homesteads and gardens where they are cultivated for commercial purposes. The plant grows well in stony and sandy soils.

pH = 5.29

B. The fleshy fruit is eaten by birds and humans. Crushed dry leaves are playfully used by youngsters for smoking – a habit that ultimately may lead to active smoking. Leaves are also used to cover *Pennisetum glaucum* grain to stimulate germination for making malt. Roots are used for the treatment of gonorrhoea. Refugees mentioned that seeds are abortificient if taken in large doses.

CELASTRACEAE

Elaeodendron transvaalense (Burtt Davy) R.H. Archer Shilubane 78

Ximapana / Nghwavuma Busveld saffron

A. **Ximapana** is a common tree in the area but sparsely distributed and does not require any specific habitat conditions except that it favours low-lying brackish areas. It occurs mostly along rivers and streams as well as on termite mounds.

pH = 5.61

B. The wood is used for household utensils like **nqhombo** (bowls), **nkombe** (ladle), **kangi** or **joko** (yoke) and spoons. Fruits are edible but not very palatable. Leaves are utilized by browsers. Bark infusions are used to induce vomiting and cleansing. Bark decoctions are used for steaming patients. Infusions of the bark are also used to treat fever, stomach pains, diarrhoea and venereal diseases. The bark is also used to treat **xifulana** (gangrene).

Gymnosporia buxifolia (L) Szyszyl Shilubane 87

Mbataswimbe / Xihlangwa lexikulu Common spike-thorn

A. **Mbataswimbe** is a common plant in the area, but sparsely distributed. It flourishes on all soil types in the bushveld.

pH = 5.92

B. The stem is fairly light and is highly regarded for household articles like the wooden spoon (**nkombe**) or handles (**mbhinyi**). Leaves are chewed for stomach pains. Fresh leafy twigs are placed in the mouth of a claypot filled with liquid as **swiqiko** (cf. *Euclea divinorum*). Leaves are also used by herdboys to determine turns in fetching back straying cattle. They are pressed in between the fingers of a clenched fist of the herdboy who took the last turn. One of the leaves has its tip cut off to appear truncated. He who draws this leaf shall be the next to fetch back the livestock. The plant got its name from this game (**mbataswimbe** literally means "whose turn is it"). This game is also known as **ku tlogana** (to take turns preventing cattle from straying). Leaves are used by browsers. They are also used to treat painful menstruation. Bark infusions are used as emetics or enemas for diarrhoea. Root decoctions are taken for treatment of **xijiso** (poisonous substance).

Gymnosporia senegalensis (Lam) Loes

Shilubane 88

Xihlangwa Blue spikethorn

A. Red spike-thorn is widespread throughout the area and quite abundant along the rivers and dry riverbeds of Khokhovela, Sand River, Saringwa, Malitaka and Manyeleti.

pH = 5.84

B. The stem is suitable for household artefacts like wooden spoon and stirrer (**rifeto**). It also provides firewood. Fruits are eaten by birds and leaves by browsers. Infusions of the roots are used for the treatment of chest pains and root decoctions for diarrhoea, infertility and snakebite. Leaves and roots are used for epilepsy and venereal diseases. Powdered roots are used as a **matlulana** (sexual impurities) medicine. Thorns are used by herdboys when making panama hats with *Sporobolus pyramidalis*.

Mystroxylon aethiopicum (Thumb.) Loes.

Shilubane 66

Nqayi Bushveld Kubu-berry / Koo-boo berry

A. Koo-boo berry is quite abundant throughout the area, growing along river banks on clayey and brackish soils.

pH = 5.35

B. The fruit has a tartaric taste particularly if not yet fully ripe. The ripe fruit is sweet and eaten by humans, animals such as baboons, kudu and bushpigs as well as birds like sparrow and lourie. The Y-shaped branches are used by herdboys as handles for catapults. Saplings are used as a snare for guinea-fowls and other larger birds. The snare of this nature is called **mugwimbinini**. Knob-kerries and walking sticks are made from the stem. The bark of the root is chewed by herdboys into bird lime called **vulipa**. The lime is pasted on a thin stick of about 20cm long which is placed suspendendly on two supporting stones at a drinking spot for birds or bird nest. The bark from the stem is pounded and processed into a bird lime. This is mixed with latex from *Ficus burkei* so that it becomes sturdier and is used to trap bigger birds like quails, hornbills and parrots. The root is sliced, dried and grounded into powdered medicine called **mahlanganisi** (binder). **Mahlanganisi** is applied on cracked bones like the Plaster of Paris (P.O.P). The patient is taken to a nearby river / stream where the cracked limb is incised all around. The medicine is rubbed into the incisions. The patient returns home without glancing backwards. **Mahlanganisi** is also used as an ingredient of the magical medicine for married partners whose relationship is in jeopardy of separation.

CHRYSOBALANACEAE

Parinari curatellifolia Planch. ex Benth Shilubane 97

Mbulwa Mobola-plum

A. Mobola-plum occurs only on well drained sandy places like Acornhoek, Cottondale, Ludlow, and Cunningmoor. The plant is very scarce in the entire eastern part of the area and appears only sporadically.

pH = 5.10

B. The fruits are edible but have a quince-like taste. Seeds are eaten as nuts or pounded and used as a condiment in vegetables. Leaves and fruits are used by

browsers and baboons. The trunk is used to manufacture a pounding block (**tshuri**) but is rarely used to make poles. Bark and leaf extracts are used for tanning. Root infusion is used as an oral rinse for toothache. Roots are also used to treat earache and cataracts.

COMBRETACEAE

Combretum apiculatum Sond. subsp. *apiculatum* Shilubane 148

Xikukutsu Red bush willow

A. **Xikukutsu**, a small semi-deciduous to deciduous tree is an abundant plant in the area which occurs in various soil types like the granite, sand and rhyolite.

pH = 4.38

B. Fresh and dry leaves are eaten by both domestic animals and game. The stems, particularly of young trees are used as handles for implements like hoe, axe and pickaxe. Wood is also used as firewood. Powdered roots are smoked by the possessed to activate the spirits. A flimsy of wood is cut into four corners with a hole pierced through and threaded on the **mazangu** (paraphenelia) worn by diviners in a bandolier-fashion.

Combretum collinum Fresen. ssp *suluense* (Engl & Diels) Okafor Shilubane 16

Ndzhuva Weeping bushwillow

A. *C. collinum* is a medium-sized deciduous tree found on most soil types but with preference to loamy soil and termite mounds. The tree occurs throughout the area.

pH = 4.38

B. The leaves are eaten by browsers. The hard durable stem is used in the construction of cattle enclosures and fences. Branches and twigs are used as firewood. Roots are used as purgatives and for the treatment of venereal diseases.

Combretum erythrophyllum (Burch.) Sond. Shilubane 149

Ndzhuva River bushwillow

A. River bushwillow is a deciduous tree also found throughout the area, but occurring mainly in the Saringwa River around Cunningmoor. Other specimens also occur at the Malitaka Stream around Welverdiend and Clare. Seemingly it can grow on any soil type as long as it is on a river bank.

pH = 4.59

B. Leaves are utilized by domestic animals and game like elephant and giraffe. The stem is used for axe, hoe, and pickaxe handles. Mortars and yokes are also made from the stem. The root is a purgative. Infusions of the roots are administered to a newly built homestead as protective medicine against witches. Three days afterwards another protective medicine from another species is applied to seal the process.

Combretum hereroense Schinz

Shilubane 18

Xikhavi / Mpotsa Russet bushwillow

A. Russet bushwillow is a small deciduous single-stemmed tree that is common throughout the area and occurs more often along rivers and streams and in low-lying areas such as brackish flats. Some specimens were found in rocky places.

pH = 4.55

B. The leaves are browsed by animals like kudu, elephant and giraffe. The Tsonga-Shangana word **xikhavi** is derived from the noun stem **nkhavi** (switch) probably because of the formation of the branchlets that are long and slender with tapering ends. The branchlets are used as fighting switches at circumcision schools and as a rod by teachers and parents to the children. Junctions of the branchlets are used to make knob-kerries. The stem is used for the carving of yokes and skews. The stem is a good source of firewood. Infusions of the roots are used for treating stomach disorders and venereal diseases. Dried young shoots are used for tonsilitis and coughs. The bark is used for heart diseases and heartburn.

Combretum imberbe Wawra

Shilubane 48

Mondzo Leadwood

A. *C. imberbe* exists only sporadically in the area. In certain places like Acornhoek and Cottondale bigger trees are no longer found due to environmental degradation. Only dwarf leadwood exists.

pH = 4.58

B. The tree is believed to be the hardest of all plant species. This idea is clearly expressed in the following idiomatic expression:

Xigodo xa mondzo xo hlula
Vavanuna ku pandzela
(Leadwood stump; too hard
for men to chop it into pieces) i.e.
a problem too difficult to resolve.

The expression indicates the hardness, durability and indestructibility of the wood, making it understandable why it is so much sought after. The timber is highly preferred as fencing poles; for the constructions of cattle enclosures as in Plates 6 and 23, and cribs (Plate 20a). The wood also provides the best firewood and coal. Smoke inhaled from the burning leaves, relieves coughs and colds. Root decoctions are used against diarrhoea. Infusions from root bark treat bilharzia. Stem bark infusion is gargled for toothache. The ash is used to white-wash buildings.

Combretum zeyheri Sond. Shilubane 153

Mafambaborile/Mbotisi Large-fruit bushwillow

A. **Mafambaborile** is a common deciduous tree in Bushbuckridge. It usually grows on granite, sand and rhyolite soils.

pH = 4.55

B. Root infusions are used for excessive menstrual flow. Although wood may be fairly hard and tough, it is hardly utilized by the local residents because of the meaning of its local name **mafambaborile** which is derived from two verb stems, viz **famba** and **bola**. **Famba** means to walk and **bola** means rot. **Mafambaborile** therefore means that which walks rotten. The other name for this species, **Mbotisi**, means 'that which causes other things to rot'. The bark ashes are buried at the four corners of the homestead to 'rot' the medicine of the witches who try to enter the homestead. The plant is therefore quite useful to diviners. Powdered root is used in conjunction with the root of **Byerhe** to procure magical power to intimidate opponents and render them powerless. The same mixture is also applied to calm down a feverish person or unruly child.

Terminalia prunioides C. Lawson Shilubane 154

Xaxandzawu Purple-pod cluster-leaf

A. Purple-pod cluster-leaf occurs in the dense bush along the Sabie River around Cork and Huntington. The tree is therefore very scarce.

pH = 4.64

B. Leaves are utilized by browsers. The trunk provides a good source of hut poles, kraal fence, and knobbed clubs and handles of implements. The twiggy branchlets are used as fuel and the rest of the wood provides excellent firewood. Bark is chewed for stomach pain and sore throat.

Terminalia sericea Burch. ex DC Shilubane 36

Nsusu/ nkonola Silver cluster-leaf

A. Silver cluster-leaf is very common in Bushbuckridge and occurs throughout the area. It is however highly concentrated on deep sandy soils of Edinburg, Leamington, Islington, Agincourt, Ludlow and Clare where they often grow in dense stands.

pH = 4.62

B. The timber is widely used for fence and hut poles. Leaves are browsed by game and domestic animals. Debarked poles immersed in the water for some weeks become stronger, sturdier and durable and are used in building cribs (Plate 20b) and huts (Plate 22a). The wood is also used for household goods like axe and hoe handles and also as firewood. The fresh bark of saplings is used for rope making. The bark is also chewed for the treatment of stomach pains. The roots are popularly used for treating colic, stomach disorders, and diarrhoea and eye infections. Informants mention that the tree is used to cure various types of ailments.

CONVOLVULACEAE

Eriosema species. Shilubane 188

Xikondle

A. This is a straggling annual herb which grows in clumps usually on riversides or in shady places in deep sandy soil on grassland. It is distributed throughout the area but nowhere in abundancy.

pH = 5.92

B. The bulbous roots are edible, either raw or cooked. Creeping stems are coiled into a headpad used by women when carrying a burden on the head.

Ipomoea batatas (L.) Lam Shilubane 43

Nhlata Sweet potato

A. This is a perennial exotic herb with fleshy tubers below the ground. Various species were observed during research. The plant is widely cultivated in the area. It thrives well in sandy and granitic soils.

pH = 5.89

B. It is an important food plant of the local residents. The fleshy tuber is edible and palatable. Mealie meal is added to a meshed potato to make it stiffer. This is called

tshopi. Leaves are cooked as a vegetable known as **dledlele**. Leaves are also eaten by pigs as a fleshy tuber.

CUCURBITACEAE

Citrillus lanatus

Shilubane 140

Khalavatla Tsamma melon

A. This is a robust creeping annual herb. Residents distinguish between two types of *C. lanatus*, viz. **khalavatla** and **riwa**. **Khalavatla** is dark green with broken white stripes. **Riwa** is plain pale green or greyish green. The herb is cultivated on any soil type, but preferrably sandy soil.

pH = 6.54

B. The leaves, stems or flowers are neither edible nor palatable. Immature fruit is roasted by covering it with hot ash and coals. Mature fruit can be consumed raw but it is more delicious if cooked for a long time, ±1 hour, at a low temperature. Flesh of **riwa** is sliced and cooked. Mealie meal is added to make stiff porridge called **vuswa bya riwa**. Sugar is also added to make it sweeter so that it becomes edible without any side-dish. The roots are used for the treatment of **xa le nhlokweni** (depressed fontanelle). Powdered or crushed seeds and grounded rind seasoned with salt and sugar are used for the treatment of intestinal parasites. Intoxicating drink called **xikhalavatlana** is made from fruit juice.

Cucumis africanus

Shilubane 135

Xiyakayani / mahlalakufeni Wild cucumber

A. **Xiyakayana** is a very common herb and distributed throughout the area. It grows in sandy soils, particularly along the streams. It grows also in floodplains or disturbed areas.

pH = 6.69

B. The infusions of roots are used as an enema and for blood purification. Seeds are highly poisonous if syringed into the intestines; hence **mahlalakufeni** (staying in the shadow of death) i.e. risking death, the other name for this plant. Root infusions are used anally for treatment of venereal diseases.

Case10: *Eselina and her two younger sisters grew up as paupers after loosing both parents at an early age of their lives. One morning the third and youngest sister Jenny complained of a stomach disorder. Eselina, having heard about C. africanus as treatment for stomach pains, applied it to Jenny without sieving the seeds from the liquid. Jenny died the following day from the poisonous seeds.*

(Jenny dies from poisonous seeds of *C. africanus*).

Cucumis metuliferus

Mhlakahli Jerry melon

Shilubane 179

A. *C. metuliferus* is distributed throughout the area and found hanging on some shrubs in river thickets.

pH = 6.43

B. Fruit is eagerly eaten by birds. Herdboys set traps (**ntlhamu**) and use *C. metuliferus* fruit as bait for birds like the black-eyed bulbul, lilacbreasted roller and grey lourie who seem to enjoy the fruit.

Cucurbita pepo L.

Nhwembe/ Kwembe Pumpkin

Shilubane 63

A. *Cucurbita pepo* is an exotic plant that is widespread and very common in the area and cultivated during the ploughing season. Residents prefer to plant them on termite mounds where they are thought to thrive better.

pH = 6.87

B. The large yellow flowers are boiled into a colourful relish to be eaten with maize meal. The flowers are known as **swikalakatsa,** a name referring to *C. pepo* flowers only and not just any flower. Leaves are cooked and eaten as a relish called **tin'hwembe**. Usually **swikalakatsa** and **tin'hwembe** are cooked together as relish. The fruit is sweet and edible. Sometimes the fruit is meshed and maize meal added as an ingredient to form a special dish called **tshopi**. Root infusions are taken orally for rheumatism.

Lagenaria siceraria (Molina) Standl. Shilubane 62

Rhanga Calabash/ Bottle gourd

A. *L. siceraria* is a creeping and climbing annual herb with the stems supported by many tendrils. The fruit assumes various shapes; round, cone-shape and 8-shaped. The plant is commonly cultivated in the area and grows on all soil types.

pH = 6.51

B. The leaves are edible but neither palatable nor favoured. Young shoots are an important vegetable compared to the young fruits considered by residents as an emergency food. Bottle gourds are very popular for making long-handled drinking calabash (**ndzheko**), symmetric drinking calabash (**xiphaho**), bottles (**nghotsa**), floats and musical instruments (cf. 2.1.4.2). Round bottle gourd is pushed around by small boys in a play called **n'wagiligidela** (cf. 2.1.4.2). Leaves are boiled or heated on fire and applied as a hot compress on pulled muscles or wounds. The terminal part of the fruit axil attatching the fruit is used for the treatment of a depressed fontanelle.

Momordica balsamina L. Shilubane 57

Nkaka Balsam pear

A. **Nkaka** is a creeper cultivar grown on fences and fire-place enclosure (**xivava** or **guma**). It thrives on any soil type particularly the sandy soil.

pH = 6.24

B. Balsam pear is very bitter but enjoyable to the local residents. The Tsonga-Shangana are closely associated with this herb which is said to be their traditional vegetable. Tender stems, leaves, fruits (known as **tihaka**) and tendrils are all edible. Infusions of the roots and leaves are used for the treatment of **swibokisana** (chicken pox). Root infusions are also used in the treatment of earache.

Momordica cardiospermoides Klotzch *[= M. clematidea* Sond*]* Shilubane 61

Nkaka-nhova

A. Like its sister herb described above, *M. cardiospermoides* is also a creeper but not a cultivar. The plant is not so abundant in the area. It occurs on sandy soils where there is an abundancy of *Dichrostachy* species, especially *africana.*

pH = 6.20

B. The leaves and fruits are edible but not very palatable. Fresh leaves are crushed and the sap used as an eardrop. Infusions of roots are used for the treatment of cancer.

CYPERACEAE

Cyperus immensus Shilubane 104

Rikhwana Matjiesgoed(Afrikaans)

A. This is a robust weed (sedge) found in rivers and streams. The plant is however scarce in the area.

pH = 5.97

B. The culms are used to make soft and comfortable traditional mat known as **sangu.**

Cyperus textiles Shilubane 56

Mizi Matjiesgoed (Afrikaans)

A. Matjiesgoed grows in bunches in wet places like ponds (**tinhala**), dams and rivers. The plant is found throughout the area but more plentiful around Hoedspruit.

pH = 6.74

B. The stem is used to make traditional sleeping mats, **masangu**. The mat is however hard and uncomfortable as compared to one made from *C. immensus*.

Schoenoplectus brachyceras Shilubane 59

Rixakwa Matjiesgoed (Afrikaans)

A. This is tall sedge that is very scarce in the area and occurs only in the north-west of the area at Acornhoek and Dwarsloop where there are marshes and rivers. It is collected by the residents outside the study area (Hoedspruit) where they occur in great abundancy.

pH = 6 .06

B. The plant is harvested for making various traditional sleeping mats, **masangu**. Because of its softer texture, the mat made from *S. brachycerus* is much better preferred than of *Cyperus* species. Nowadays the mat is no longer meant for sleeping on but used as an ornament. A medium sized **sangu** is commonly used by the residents as **xiandlalelo** (under cover) during the payment of bride wealth (**ndzovolo**). The money, snuff boxes, coats, and all other requirements for bride wealth are placed on this mat.

DRACAENACEAE

Sansevieria hyacinthoides (L.) Druce Shilubane 157

Xikwenga-nhova Piles root

A. Piles root is a common herb in the area, growing in clusters on clayey soil particularly on flat termite mounds.

pH = 5.93

B. Powdered roots are eaten with soft porridge for the treatment of **nda phya** (burning sensation). The powder is also mixed with *Ricinis communis* oil and smeared on swelled legs. Leaves are used as hot presses for **xifulana** (gangrene) and also as an ingredient in the preparation of vapour-bath treatment for a purification rite. Leaf decoctions are used in the ritual cleansing of divinatory bones after the death of an elderly member in the family. Infusions of the root or leaf are taken orally for the general cleansing of the blood. A cut leaf is heated and the warm juice squeezed into the aching ear. This is called **ku kamela**.

EBENACEAE

Diospyros lycioides Desf. subsp. *guerkei (*Kuntze*)* DeWinter *(=Royena guerkei)*

Shilubane 177

Xintomantomana Quilted bluebush

A. This single- or multi-stemmed deciduous shrub or small tree is quite common in the area. It occurs mainly in river valleys.

pH = 5.57

B. Fruits are edible but not particularly palatable. Twigs are chewed to be used as toothbrush sticks. The stem provides excellent fuel for fire and is also used as withies in hut construction. Roots are used as a dye. Roots are also burnt and the resultant smoke inhaled by the 'graduandi' on the graduation or **ukuthwasa** ceremony to open up their chest.

Diospyros mespiliformis Horchst. ex A.D.C

Shilubane 44

Ntoma/ Mgula Jackal-berry

A. *D. mespiliformis* occurs throughout the area on almost all soil types, but markedly associated with low-lying areas along rivers and streams as well as the termitaria. Jackal-berry trees along the Sand River near Thulamahashe are the biggest ever seen in the area.

pH = 5.55

B. The wood is used for the manufacturing of mortars, door frames, yokes and building poles. V-shaped branches often develop in the plant and are used for sleighs. Twigs are used as a toothbrush. The plant provides good shade. The fruit is edible and palatable. Women and children of both sexes collect the fruit in large quantities. Decoctions of the bark are used for treating stomach pains and diarrhoea. Smoke from a smouldering root is inhaled by initiates on the initiation day (**ku thwasa**). The tree is often used as an ancestral shrine.

Dombeya rotundifolia (Hochst) Planch. (= *D. densiflora*, *D. multiflora*) Shilubane 90

Bikanguva/ Xiluvarhi/ Nsihaphukuma Wild Pear

A. Wild pear is a fairly common tree in the area and found in a wide variety of veld types on granitic, rhyolitic and sandy soils.

pH = 5.90

B. The wood is excellent as firewood. The timber is used for fencing posts and the manufacturing of yokes after the bark has been prized off. The bark fibre produces strong rope. The root is used for intestinal ulceration, diarrhoea and other related pains in general. The bark fibre is used to treat migraine. The fibre is tied around the head until a burning sensation is felt. This is called **ku rhula nhloko** (lit: to put the head down).

Euclea divinorum Hiërn

hilubane 12

Nhlangula/ Nhlangula lowo basa Magic guarri

A. This is a multi-stemmed shrub or small evergreen tree that is abundant in the area and occurs in almost homogeneous stands on brackish flats along rivers as well as on termite mounds.

pH = 5.30

B. The fruit is edible and palatable. Twigs are used as toothbrushes. Branches are used extensively as an aid in fire-fighting. They are also used as a courtyard broom and

as ground cover when skinning domestic animals. Short branches are plugged into the opening of water containers like buckets or claypots carried on the head of a woman to prevent if from gushing forth or spilling over. This is known as **ku qika** and the branchlets are called **swiqiko**. Twigs are a good source of fuel. A decoction of the root is used as a purgative. When used with other plants the root is used in the treatment of venereal diseases. Root infusions are used as ear-drops to treat toothache. Roots are pounded and boiled to produce a brown dye.

Euclea natalensis A.D.C subsp. *Natalensis* Shilubane 11

Nhlangula-ntima / Nhlangula-nyarhi Hairy guarri

A. *E. natalensis* is common throughout the area and often grows on brackish, low-lying areas as well as on the banks of spruits and rivers.

pH = 5.24

B. Fruits are edible and much more palatable than those of *E. divinorum*. They are usually collected by women and young children. Wood is used for firewood but not very much preferred. The root bark is roasted in hot ashes and chewed as an active purgative. Roots are pounded and boiled to produce a black dye. The root is also used in the treatment of venereal diseases. Leaves are used in the treatment of *rubella* and roots used to treat *varicella*. The bark is used as a concoction in treating hypertension. Root concoction features in the treatment of **xijiso** (poisonous substance) and cancer. Twigs are used as a toothbrush.

EUPHORBIACEAE

Antidesma venosum E. Mey. ex Tul. Shilubane 53

Tshongwe/ Mphasanhwari/ Mpfalambati Tasselberry

A. Tassel-berry is fairly common throughout the area but more abundant in deep, sandy soils of Edinburg, Ludlow, Islington and Cunningmoor.

pH = 5.01

B. The fruits are edible and fairly palatable when fully ripe. They are also eaten by birds and monkeys. Root infusions are used as a purgative. Roots are also used to treat pneumonia as well as infertility in women. Mozambican refugees use bark infusion to poison fish – a practice they exercised in Mozambique. The leaves are used as hot presses in the treatment of a paralyzed limb. Smoke from the burning or smouldering root is inhaled by the initiates on the **siku-khulu** (cf. Shilubane 1990:82) for cleansing their chest to enable the spirits to function well.

Croton megalobotrys Müll. Arg. Shilubane 172

Xunguxungu Feverberry

A. *Croton megalobotrys* is very scarce in the area occuring on the alluvial soil of the Sand River and Saringwa.

pH = 5.27

B. The wood is light and used in the making of fire by friction. Seeds are used as purgatives. The bark is commonly known to provide virility to men who are sexually weak.

Euphorbia cooperi N.E Br. ex Berger Shilubane 198

Xihaha/ Nhlohlolwe Bushveld Candelabra euphorbia

A. *E. cooperi* is also a rare species in Bushbuckridge, and where it exists, it grows on granite soil or rocky hill slopes. It usually grows near or along the banks of rivers and streams.

pH = 5.43

B. Mozambican refugees use the highly poisonous latex as a fishing poison. Dry branches are a good source of fuel.

Euphorbia ingens E.Mey. ex Boiss. Shilubane 136

Nhlohlo/ Nkonde/ Nkondze Candelabra tree/ Cactus

A. *Euphorbia ingens* is a perennial medium-sized succulent-like tree which is relatively rare in the area but found on rocky areas at places like Welverdiend and Clare. In some parts of the area, this tree does not occur.

pH = 5.11

B. The sap is used to make fish poison called **nxupa**. Latex is eaten with gruel for cancer. The soft wood provides smooth finishes for the manufacturing of furniture like benches. The plant is used for fuel. A dry branch is used as tinder to burn piles of fellens during clearing of fields.

Euphorbia tirucalli L. Shilubane 143

Neta/ Mahumbana Rubber-ledge euphorbia

A. Rubber-ledge euphorbia is not very common but occurs throughout the area on stony places and in dense river thickets.

pH = 5.18

B. Grounded powder of the leaf is used prophylactically against poisoning. The poisonous latex is used for treatment of impotence and snake bite. The root is used for the treatment of '**doropa**' (i.e. gonorrhoea). The dense crown creates a good hiding place against enemies. Mozambican refugees mentioned that they used the crown of *E. tirucalli* to hide from Maphyanga (i.e. Renamo rebels. Rebels were called Maphyanga – a name given to them after the founder leader of Renamo, Andrea Maphyanga, who was succeeded by Alfonso Dhlakama).

Case 11: *Magigwana Khosa, a great general of Nghunghunyani hid himself in the crown of* E. tirucalli *from where he killed a sizeable number of Portuguese soldiers in an ambush before he was finally shot and killed by them*

towards the end of the 19th century (Pers. comm. – Mandhevani, 19 July 2004).

(*E. tirucalli* used as hiding place).

Flueggea virosa (Roxb. ex Willd.) Pax & K. Hoffm. Shilubane 196

Nhlangasi White-berry bush

A. *F. virosa* is a multi-stemmed, twiggy, deciduous shrub that is abundant in the area and occurs in the bushveld on forest margins and on termite mounds. It is however mostly riverine.

pH = 5.24

B. The fleshy capsule is eaten by humans, birds and fructivorous animals. The thin stem and twigs provide a good source of firewood. Roots are used for the treatment of venereal diseases like gonorrhoea or syphilis. Decoctions of the root are used against **xijiso** (poisoned substance). Roots are used for the treatment of a chronic illness known as **xifo xa le ndzeni** (chronic stomach illness). Root decoctions are given to a child suffering from **mavabyi ya ku vutla** (snatching diseases). A child attacked by this disease is said to have 'snatched the branch' (**ku vutla rirhavi**). Powdered root is taken with soft porridge for the treatment of a depressed fontanelle. Root infusions are used for the treatment of abdominal pains in adults. Root decoctions are used for treatment of cancer.

Jatropha curcas L.

Shilubane 89

Hlampfurha ya xilungu Physic nut/ Purging nut

A. *J. curcas* is an exotic shrub currently widely cultivated by villagers and apparently it can grow in any soil type but seems to prefer sandy soil and rocky outcrops.

pH = 5.61

B. The shrub is grown for its shade. It is also cultivated as a living hedge and stockade. At Welverdiend for instance, several homesteads are entirely enclosed with *J. curcas* living hedge. Extracts of the bark or seeds are taken as purgatives. As with *R. communis*, oil is extracted from the seeds. Leaves are used for hot presses.

Manihot esculenta Pohl.

Ntsumbula Cassava Shilubane 158

A. This is a perennial woody shrub that is very common in the area as a cultivar and has become almost a staple diet. It thrives well in sandy soil. They are mostly cultivated within the homesteads.

pH = 5.79

B. Leaves are cooked as a potherb and are very delicious if grounded nuts have been used as a condiment. Such a potherb is called **mathapi**. The cylindrical tuberous roots are delicious and can be cooked in different ways – they may be cooked alone, meshed or pounded into meal. Daily consumption of the tuberous roots is strongly recommended for cancer patients as it serves as a tonic.

Monadenium lugardiae

Mdleve Shilubane 166

A. *M. lugardiae* is a relatively scarce species, but found throughout the area. The plant is usually grown by the cattle pen side.

pH = 5.68

B. The milky latex is rubbed onto the eyebrow of cattle for the treatment of cataract. Milky latex dropped on a foot sole with the tip of a thorn which is difficult to extract, has the potential to remove it a few days after application. Roots are used as an abortificient. Leaves are chewed raw for the cleansing of the blood.

Ricinus communis L.

Hlampfurha Castor oil bush/ Castor bean Shilubane 45

A. The caster oil plant is widely distributed in the entire area, usually on disturbed or swampy places where dumping takes place.

pH = 5.83

B. The leaves are used as hot compresses against body swelling. The oil extracted from the fruit is used as a shampoo. Traditional healers use the oil as an aid when rubbing medicine into an incision. Oil is also used as a purgative and in the treatment of **xifambi** (abscess). Root and leaf poultices are widely applied to boils, wounds and sores.

Remark:

The oil is extracted and utilized by old people and diviners. The former use it as a shampoo while the latter use it for medicinal purposes as explained above. This study established that young people do not know the intricate process of extracting oil form the seeds. They also do not use the oil as a shampoo mainly because of its slightly unpleasant smell and inclination to attract dust.

Spirostachys africana Sond.

Ndzhopfori/ Xilangamahlo Tamboti Shilubane 93

A. *S. africana* is a common tree evenly distributed throughout the study area and occurs mostly along the banks of rivers, streams and old termite mounds.

pH = 5.02

B. The stem is used for the carving of bowls, stools and a crown of hut roof called **xihlungwa**. A few drops of latex are taken with gruel to treat abdominal pains. Infusions of the root are used for constipation and all other related stomach problems. Powdered leaves and barks are magically used to attract customers in a business. The medicine is called **xivitaniso** (caller or attractor) or **wozawoza**. Smoke from the bark, which

normally is poisonous and causes headache and nausea (cf Van Wyk, et.al. 2000:290) is inhaled by the initiates during initiation ceremony for same purposes mentioned above.

FABACEAE

Arachis hypogea

Timanga Ground nut Shilubane 162

A. This is an annual herb that is cultivated on a large scale in the area and has not only become a staple diet but has been commercialized as well. It thrives well on all soil types but better on loamy soil.

pH = 5.58

B. Like *M. balsamina* and a few other species, *A. hypogea* is closely associated with the Tsonga-Shangana. The entire area of the Amashangana Traditional Authority is commonly known as **ka Mpisane eTimangeni** (**Mpisane**, the place of the ground nuts). Pot herbs in the entire study area are condimented with grounded ground nuts. Thick paste of grounded roasted maize and ground nuts stamped together and mixed with sugar or honey, known as **xigugu,** is an important diet among the people of the area. It is a great honour to be given **xigugu**. A mixture of a powdered roasted maize and grounded nuts only are called **xigume**. Ground nuts are seasoned to a dish of meshed pumpkins to become a diet called **xingwimbi**. A thick liquid of satay sauce (**xirhitsa**) is made from peanuts and used as relish in times of scarcity particulary in winter. Nuts roasted with dry maize cobs and seasoned with salt are known as **mbhacha** and is believed to be good for making teeth stronger.

Remark:

Peanuts are widely used by the Tsonga-Shangana. They can be eaten raw, roasted or cooked. Everybody eats peanuts except when a person has caught flu and coughing very much as it is believed that the cough shall exarcerbate. All potherbs not containing fat are condimented with peanuts by the Tsonga-Shangana. Peanuts have become a staple food for the people.

Bauhinia galpinii N.E. Br. Shilubane 180

Xiqwendere/ Ntshiriri/ Ntshwirire/ Tswiriri Pride-of-De Kaap

A. *B. galpinii* is an evergreen scrambling shrub which is common but confined mainly to the western part of the area. It is more abundant in the deep sandy soil of the Bumba, Edinburgh and Ludlow bushveld.

pH = 5.09

B. The pliable branchlets and flexible stems are used in basket-making and roof construction. The stem provides excellent firewood. Decoctions of the roots are used to sustain weak pregnancy against a miscarriage. Seed decoctions are used against the cessation of menstruation.

Bolusanthus speciosus (L. Bolus) Harms Shilubane 130

Mpfimba-hongonyi Tree wistaria

A. The wisteria is very scarce in the area and most of the few existing species have been grown by nature loving residents in their homesteads.

pH = 5.82

B. The flower buds are eaten by monkeys and duiker. The termite-resistant wood is used for fencing poles, furniture, tool handles and yokes. Wood is also used for fire-wood. Root infusion is used as an emetic. Bark and root infusions are used against colic.

Dalbergia melanoxylon Guill. & Perr Shilubane 6

Xipalatsi/ Xilutsi Zebrawood / African ebony

A. African ebony is widespread throughout the area and seems to thrive on any soil type particularly on the doleritic places.

pH = 5.51

B. The hard, heavy and durable wood is used for the carving of pestles and a floorbeater called **xichayo** used to level and batten down mud floors. The wood is also used to carve walking sticks and musical instruments like **xizambi**, a musical bow. Bark decoctions are used to clean and heal wounds. Wood is also a good source of firewood.

Erythrina humeana Spreng

Shilubane 168

Nsinsimbana Dwarf coral tree

A. Dwarf coral tree is very rare in Bushbuckridge and occurs only very occasionally. It grows in wooded grassland and rocky hills or mountain slopes of the area.

pH = 5.68

B. The bark is applied topically to treat wounds and sores. Root decoctions are used to treat **rifuva** (tuberculosis).

Mundulea sericea (Willd.) A. Chev.

Shilubane 114

Mbholovisana/ Nsindzandlopfu/ Ntsandzandlopfu Cork-bush

A. Cork bush is very common and widespread throughout the area. It however seems to occur more abundantly on sandy soils and rocky ridges.

pH = 5.36

B. Leaves are browsed by stock and game. Young branchlets are very tough and pliant and are used by herdboys as a snare trap (**ntlhamu**) for birds. Residents never use the tree for firewood. In fact it should not be brought in the vicinity of the homestead because of the popular belief that the tree has the potency of causing quarrels among family members, hence the name **mbholovisana** (that which causes quarrels). Mozambican refugees however use the bark and seeds as a fish poison that actually kills the fish rather than stupefying them. The roots are used in the treatment of **xindzawu** (vaginal wart), **xijiso** (poisonous substance), **nyamakazi** (cancer) and excessive bleeding (menstruation).

Ormocarpum trichocarpum (Taub.) Engl. Shilubane 84

Xisedani / Nsekenseke Hairy caterpillar-pod

A. Hairy caterpillar-pod is widespread in the area and prefers low-lying brackish places. It occurs in fairly dense stands.

pH = 5.63

B. The stem or entire plant is used in the construction of goat enclosures. It is also used in the construction of a fire place (**xivava**) or small hut (**xitsumba**) often used as a kitchen. The upper half of the **xitsumba** is usually not mud plastered. Branchlets and twigs form an excellent fuel. Bark decoctions are used as an emetic. The root is used for the treatment of high boold pressure.

Philenoptera violacea (Klotzsch) Schrire *(= Lonchocarpus capassa)* Shilubane 50

Mbhandzu Apple-leaf / Rain tree

A. *P. violacea* is found throughout the area and seems to prefer bushveld and woodland places. Preference is also shown to grow along rivers. At Clare a characteristically tall apple-leaf tree of a blue gum height once existed until it was uprooted by a tornado and the local residents flocked to the scene of the fallen tree.

pH = 5.72

B. The leaves are excellent fodder for game and livestock. The timber provides poles for fences. Wood is also used for the manufacturing of grain stamping mortars and handles for implements. Smoke inhaled from a burning root is used to treat colds. The wood is not commonly used or preferred as firewood in the belief that if charged with witchcraft the **vangoma (**diviners**)** will also falsely confirm the accusation (cf. Shilubane, 1990: 119-120). The bark is used for the treatment of **xijiso** (poisonous substance), **xifulana** (gangrene), high blood pressure and **nda phya** (burning sensation). In the treatment of asthma, two portions of bark are extracted, one from the east and the other from the west of the trunk. The patient drinks the infusion. The root is used against

venereal diseases. Powdered roots are used as prophylactic for both **mafularha** (impurities) and **matlulana** (sexual impurities).

Pterocarpus angolensis D.C

Murhotso Wild teak

Shilubane 83

A. The plant occurs abundantly in the bushveld and woodland of Edinburgh, Rolle, Cunningmoor, Ireagh and Ludlow where there is a deep sandy soil. In places like Welverdiend, Gottenberg, Thorndale and Seville the tree occurs only sporadically.

pH = 5.58

B. The wood is commonly known for furniture making. Wild teak furniture sold on the outskirts of Polokwane comes from Bushbuckridge. Root extracts are used for the treatment of bilharzia. The bark is used against excessive menstrual bleeding. The sap is used to treat ring worms. Infusions of the bark are used for the treatment of a disease called **nciko.**

Pterocarpus rotundifolius (Sond.) Druce ssp. *Rotundifolius*

Nxelele/ Muhathamba Round-leaved teak

Shilubane 81

A. **Nxelele** is found everywhere in the research area but more abundant on sandy soil and granitic soil places especially around Acornhoek. It also occurs on banks or rivers.

pH = 5.3

B. The tree (wood) is not very useful, with its unpleasant smell when cut and burnt as firewood. It is therefore used minimally for furniture and household utensils.

Vigna subterranea (L.)Thouars

Ndluwu African ground nut/ Jugo bean

Shilubane 60

A. As a cultivar *V. subterranea* is found throughout the area. It is strongly believed that if planted before mid-December, it will have a repelling effect on the rain. People found to have transgressed this popular belief are fined and their plants uprooted.

pH = 5.69

B. Fruit is cooked and eaten. It is used as an ingredient in various traditional dishes. The most famous traditional food in which African ground nut is used is **tihove**, which is a mixture of beans, samp and grounded peanuts. **Tihove** is extremely favoured and highly regarded by the Tsonga-Shangana. An individual served with a dish of **tihove** is highly honoured. The fruit is eargerly eaten by *Rattus rattus* (mice) and *Sylvicapra grimmia* (duiker).

Case 12: *In early January 1997 the author attended a special meeting at Welverdiend, called by the local headman L.M. Mlambo. The purpose of the meeting was to discuss about people who had planted V. subterranea before December, 25 that year. Eight men were elected in the meeting to go from field to field in search of V. subterranea that had already blossomed. The eight men were also tasked to uproot all such plants. A fine of R100.00 per field was also imposed.*
(*V. subterranean* uprooted)

Vigna unguiculata

Nyawa Cowpea Shilubane 186

A. *V. unguiculata* is a slender trailing creeper of up to ±2m long. The plant is widely cultivated and also very popular among the Tsonga-Shangana.

pH = 5.73

B. The leaves and young pods are very popular as green vegetables. They are consumed either fresh or dried. Leaves eaten fresh are called **tinyawa** and the fruits are called **nkululo**. Leaves are half-cooked and dried to be preserved for future use during

times of scarcity. Dried leaves are commonly known as **mukhusu** and are sold on street markets nowadays. Dry beans are a favourite foodstuff and usually form part of other dishes like **tihove**, **xendlivomu**, etc. The plant (leaves and fruits) is highly sought after by *Sylvicarpa grimmia*, duiker. The Tsonga-Shangana expression says:

> **I mhuti yo fela tinyaweni**
> (The duiker died at the cowpeas), i.e someone caught red-handed commiting a usual crime.

Decoction of roots is used to treat bilharzia. Decoctions of the seeds are taken orally for the treatment of misanthrope. Powdered root is eaten with porridge for epilepsy and chest pain. A root paste is applied to the bitten area as an antidote to a snake bite.

FLACOURTIACEAE

Flacourtia indica (Burm f.) Merr Shilubane 14

Xivambula Governor's plum

A. The shrub is widespread in the area and occurs mainly in the thickets particularly along river sides. It grows in all types of soils.

pH = 5.72

B. The fruit is edible and palatable. Thorns are used by herdboys to extract thorn tips from their foot soles. Thorns are also used by herdboys to play the **mbhakanana** game. They are also used in the plaiting of a panama hat called **xiqoko xa midila**. The verb stem – **vambula** means to pierce through or stab mercilessly. The thorn is therefore regarded as very dangerous. They are magically used to protect a homestead against witches with the belief that they will harm themselves in their attempt to enter the homestead at night.

Scolopia zeyheri (Nees) Harv Shilubane 4

Mnqcokolo Thorn pear

A. *S. zeyheri* is not very common and occurs only sporadically in the area. It grows in the thickets, also near the rivers.

pH = 5.9

B. The fruit is edible but not so palatable. Like the Bavhenda (cf. Mabogo, 1990:92) the Tsonga-Shangana use the thorns to remove pieces of wood or tips of thorns from the soles of feet and hand palms. Root decoctions are used for the treatment of **tindzhaka** (sexual pollution of death).

GRAMINEAE

Bambusa vulgaris

Msengele/ Msengere Golden bamboo Shilubane 139

A. *B. vulgaris* is a fairly common exotic plant in the area despite the fact that the species is grown by relatively few families. Apparently it grows on any soil type but it thrives well on sandy soil and clayey soil.

pH = 5.04

B. Herdboys use culms to make a reedflute called **mfayi** or **xitiringo**. Stems are used for making furniture, basketry, fences, and poles and also in building. Sometimes it is planted as an ornamental tree. Sticks are made from stems. Stems are also used as flag masts for boys at the end of the initiation school period when they go home.

HYPOXIDACEAE

Hypoxis hemerocallidea

Mbhumbhununu African potato Shilubane 164

A. African potato is a cormous perennial plant found in a few places like Welverdiend, Clare and Xanthia. In some other places it does not occur at all. It grows along river banks on brackish soil and rocky soil on the mountains. African potato has

become so popular that it is grown everywhere, particularly by traditional healers (Plate 11a).

pH = 5.99

B. The corm was traditionally used for the treatment of venereal diseases like syphilis and gonorrhoea. It is now widely used by local inhabitants and also commercialized for its reputation of efficacy in AIDS treatment. It is further used for the treatment of a depressed fontanelle in children. Residents believe that the potency of *H. hemerocallidea* is overwhelming and can cure any disease from a headache to dreadful diseases like cancer and AIDS. This includes **nda phya** (burning sensation), **xijiso** (poisonous substance), **xilumi** (womb pain), and **tindzhaka** (sexual pollution of death).

Hypoxis rigidula

Shilubane 169

Khondovha Stiff-leaved star-flower

A. **Khondovha** is quite abundant in the area particularly as compared to *H. hemerocallidea*. In many instances, the two species grow in the same vicinity. Like *H. hemerocallidea*, the stiff-leaved star-flower mostly grows along river banks in stony areas. It may however, occur in open woodlands as well.

pH = 5.97

B. Leaves are used to make rope. Herdboys use them to make a whip. Decoctions of the corm are very effective in the treatment of venereal diseases. It is used interchangeably or in conjunction with *H. hemerocallidea* in the treatment of AIDS. One diviner informant explained in a positive manner that **khondovha** can cure AIDS. She said "even the radio affirms" this. She was referring to a commercial advert on Radio Munghana Lonene (the former Radio Tsonga Station) that AIDS could be prevented by the use of a condom. She misconstrued 'condomn' for **khondovha**.

IRIDACEAE

Gladiolus crassifolius Shilubane 187

Timba-ra-nhova Thick-leaved gladiolus

A. Thick-leaved gladiolus occurs throughout the area but not abundantly. It grows in loamy and rocky soil, usually under big trees and near streams or rivers.

pH = 5.05

B. **Timba-ra-nhova** literally means 'wild sweet reed'. Like the traditional sweet reed, **timba**, described under **POACEAE** above, the stem is sweet and edible. The corm is used for the treatment of kidney ailments and swelled glands.

KIRKIACEAE

Kirkia acuminata Oliv *(= K. pubescens)* Shilubane 133

Mvumayila White kirkia

A. *Kirkia acuminata* is uncommon in the area and found on some koppies at Xanthia and M.P Stream.

pH = 4.48

B. The wood is used for household utensils and furniture. The inner bark provides fibre for ropes but the quality is not very good. Powdered roots are used against toothaches.

Kirkia wilmsii Engl. Shilubane 132

Mvumayila Mountain kirkia

A. Mountain kirkia is very rare and confined to the Khwahlamba mountain range around Xanthia and Arthurstone. It is also found on the rocky outcrops of M.P Stream and the wooded ravines of Huntington along the Sabie River.

pH = 4.53

B. The inner bark provides a good, strong fibre suitable for plaiting.

LAURACEAE

Persea americana Mill

Shilubane 72

Muavokhado Avocado pear

A. *P. americana* is mostly confined to the southern and western parts of the study area. The weather conditions and soil types in the other parts of the area do not augur well for the plant.

pH = 6.04

B. The fruit is edible and palatable. Dry leaves serve as fodder. The green leaves, bark and stones from the fruit are toxic to browsing stock (Dharani, 2002:143).

LOGANIACEAE

Strychnos madagascariensis Poir

Shilubane 31

Nkwakwa Black monkey-orange

A. *S. madagascariensis* is widespread throughout the area but occurs in abundancy on sandy soil and rocky places like Ludlow, Edinburg, Arthurstone and Cunningmoor. The density of the tree diminishes towards the east.

pH = 5.61

B. Leaves are browsed by game and livestock. The saplings are used as switches, particularly at the initiation schools. Switches were also widely used by teachers to discipline pupils. The infusion of pulp known as **xilumbi** is drunk as a juice. Young fruits are depulped to make a musical instrument called **xiwhewhe**. Seeds are extracted from the fruit and sun dried. They are called **tin'hwakwa**. Seeds are further extracted from the thick, yellowish layer of fruit pulp, a process called **kuvangula**. The fruit pulp layers (**tin'hwakwa**) are further oven dried and called **swipambana**. **Swipambana** are pounded to an almost powdered form, called **nkwakwa** or **mfuma** which is consumed as

food. Nowadays the product is commercialized and sold in the street markets (Plate 4). De-pulped seeds are poisonous and purgative. They are also believed to attract lightning and for this reason they are always thrown away from hut buildings. Root decoctions are used for the treatment of **nda phya** (burning disease).

Strychnos spinosa Lam Shilubane 32

Nsala Green monkey orange

A. *S. spinosa* is fairly common in the area but rather rare in the eastern parts usually with loamy soil. Preference seems to go for sandy soil in the western parts where it is rather abundant.

pH = 5.65

B. The leaves are browsed by game and livestock. The small and young fruits are depulped to make traditional musical instruments called **xihwehwe** played by herdboys. The fruit pulp of ripe fruits is edible and palatable. Dry shell is used as a scooper by herdboys for eating beestings. The scooper is called **nqhephu**. The beesting is boiled and consumed at the cattle enclosure and never to be taken to the courtyard. All cooking utensils for beestings are kept at the cattle enclosure to avoid contact with women. Sap from the leaves is used as eyedrops. Infusions of the roots, leaves and green fruits are used for treatment of snakebite. Roots are used for depressed fontanelle in children. Raw pulps are used to induce vomiting for someone who has taken poison. Roots are also used for the treatment of **nda phya** (burning sensation).

MALVACEAE

Gossypium herbaceum L.subsp. *africanum* (Watt) Vollesen Shilubane 3

Xiveve Wild cotton

A. This is a shrub found in the drier areas of Bushbuckridge, especially Gottenberg, Seville and Welverdiend.

pH = 5.62

B. The cotton is used as a plug for a snuff-box, called **mhlanga**, made of *P. mauritianus* (cf. *P. mauritianus* under POACEAE). The cotton is also used to cleanse wounds as well. Infusions of the roots are taken against swelled body.

Hibiscus cannabinus

Shilubane 152

Ntsembani/ Ntsembyani Hemp-leaved hibiscus

A. Hemp-leaved hibiscus is a woody annual herb growing in disturbed areas and is abundant in the fields particularly after harvest. It occurs on any soil and evidently prefers wet places.

pH = 5.57

B. Bark from the stem is used to make light rope and twine. The strips from the bark were traditionally worn as leg wear, called **mkhupula**, during the **muchongolo** dance. The inner bark and roots were used to control and stop excessive vomiting in children. Incidentially all traditional medicines used to treat illnesses are generally referred to as **mitsembyani** (plural form of **ntsembyani**) while medicines used for protective purposes are called **tluka** (leaf) and is never referred to in a plural form (**matluka** = leaves).

MELIACEAE

Ekebergia capensis Sparm

Shilubane 200

Nyamarhi/ Nyamarhu Cape-ash

A. The evergreen *E. capensis* is extremely rare. The one collected during field work was obtained from Seville, about 6km from the Manyeleti Game Reserve, at the banks of the Manyeleti Stream

pH =5.50

B. Wood is used for the manufacturing of furniture and household utensils like pestles. Bark infusion is used as an emetic. Leaves are also used as a purgative parasiticide. Root and bark decoctions are used against coughs and chest problems.

Melia azedarach

Muserenga Persian lilac/ Bead tree Shilubane 134

A. Persian lilac is an exotic plant grown by some villagers while others shun the tree.

pH =5.88

B. The tree is grown mostly for its shade and beauty especially when it flowers. Some people however, avoid this tree in the belief that it has mystical powers to cause death if planted in the homestead. For this reason the tree is also called **xiwisa valoyi** (resting place for witches) as it is believed to attract witches.

Case 13: *At Welverdiend, one of the earliest people to grow* M. azedarach *in his homestead was Teyishe, in the early 1960s. Within a period of 3 years after the tree had grown bigger, Teyishe had lost 4 members of his family. People believed that the presence of the plant in the homestead was the cause of the death of his family members. A few more similar examples were cited by informants who strongly believe that the plant brings death to a family (M. azedarach* believed to cause death*).*

Trichilia emetica Vahl.

Nkuhlu Natal-Mahogany Shilubane 178

A. This is a large evergreen tree that is distributed throughout the area, but more abundant on the western half of the area with deep sandy soil. Huge species occur at Culcutta along the Sabie River. A railway station in the area, known as Mkhuhlu, is named after this species.

pH =5.81

B. The wood is light and used for the making of household furniture. Traditionally the wood was used for the production of fire by friction. Skimmed seeds are soaked in water and eaten by the people. Soaked seeds are called **tihuhlu** or **tinkuhlu**. Seeds are

boiled to extract oil that is widely used by the people. The oil is stored in a calabash receptacle or vessel called **xikutsu**. A piece of a shelled maize cob (**mpupurhu**) is used as a plug. The oil is applied on dry ulcers. The root of *V. infausta* is dipped into the oil, burnt and twirled over the boil to cure it. This process is called **ku voningela**. Powdered medicine is rubbed into an incision with the help of the oil. The oil was traditionally applied on a baby-sling that hardened because of the urine, to soften it. Infusions or decoctions of the roots are taken orally for the general cleansing of the body. A decoction of roots and bark is taken for fever and as a purgative. The tree, with its dense foliage, provides excellent shade.

MENISPERMACEAE

Cocculus hirsutus (L.) Diels

Risotse Shilubane 74

A. *C. hirsutus* is quite scarce in the area; occurring in riverine thickets and grassland areas. It is however abundant in Mozambique as mentioned by the refugees.

pH = 4.79

B. The plant is commonly used in basketry. Residents make a conical basket (**xirhundzu** pl. **swirhundzu**) from this plant and serves as a finishing touch for a winnowing basket. No homestead in the area is without a **xirhundzu**. Probably because of over-utilization, the plant is no longer plentiful. This may account for its penuriousness in other parts of the area.

MIMOSACEAE

Acacia ataxacantha DC.

Nuko/ Muluwa Flame thorn Shilubane 101

A. The flame thorn is limited to the south and south-western parts of the study area along the Khwahlamba mountain ranges and the confluence of the Saringwa and Shishambo Rivers.

pH = 5.40

B. The plant is very useful as a source of fuel. The wood easily splits into thin strips used to make various types of baskets like the winnowing basket (**rihlelo**) and a fairly deep basket (**ngula**) with a wide round opening used as grain storage. The wood is also used to make household handles like axe-handles, hoe-handles, etc.

Acacia caffra (Thunb.) Willd

Shilubane 113

Mbhenya-xihloka/ Mbhvinya-xihloka Common Hook-thorn

A. *Acacia caffra* is probably the commonest of *Acacias* in the area. It grows on a variety of soil types, especially the granite. It also occurs in low-lying areas, thorn veld and mixed woodland of the study area.

pH = 5.52

B. The name **mbhenya-xihloka** comes from **mbhenya**= bend and **xihloka**= axe and **mbhvinya-xihloka** from **mbhvinya**= blunten and **xihloka**= axe. Both names express the same idea, viz the hardness of the tree. The tree is used for fencing posts, construction of cattle kraals as well as fire-wood. Infusions from the bark are used for blood purification. Leaves and pods are browsed by livestock and game.

Acacia erubescens Welw. ex Oliv.

Shilubane 100

Xinanganhutlwa Blue thorn

A. Blue thorn is scarce in the study area and occurs in patches. It is scarcer around Cottondale, Acornhoek, Bumba, Rolle and Athurstone.

pH = 5.44

B. The leaves are eaten by browsers. Fresh branches are used as a fence (**rihlampfu**). Wood is used as fuel and firewood. The wood is susceptible to woodborers and can thus not be used for household utensils.

Acacia exuvialis Verdoon

Shilubane 39

Nsavani Flaky thorn

A. Flaky thorn is common and widespread throughout the area, particularly in disturbed places. Before every planting season, residents have to clear the new shoots off their fields. *A. exuvialis* occurs mostly in granitic soil in the research area.

pH = 5.41

B. The inner bark is used to make rope and twine used in the thatching of roofs. The stem is used as drop poles in fencing. It also provides a good source of firewood. The stem is also used for hoe handles but not for axes or picks. Wasps and blue waxbill usually build their nests in flaky thorn shrubs. Root infusions are used for treatment of **xijiso** (poisonous substance). The bark is used for treatment of a cataract. Grounded thorn is used for treatment of **xifulana** (gangrene).

Acacia galpinii Burt Davy

Shilubane 144

Munga Monkey thorn

A. Monkey thorn is rather rare and appears in the bushveld of Cork and Cunningmoor along the Saringwa River bank.

pH = 5.69

B. The inner bark is used to make rope. Leaves and pods are eaten by browsers and domestic animals. Wood is used in the construction of a cattle enclosure and **xitlati** (maize crib). Powdered root is an important ingredient in the coating of the **baso** (concoctionous medicine), used for a variety of purposes, like dispelling evil spirits or witches.

Acacia gerrardii Benth. ssp *gerrardii* var. *gerrardii*

Shilubane 94

Mbota/ Bota Red thorn/ Red acacia

A. Red acacia is very common throughout the study area and occurs in all soil types but seems to favour river valleys and loamy soil.

pH = 5.79

B. Leaves and pods are eaten by browsers. Wood is susceptible to wood-borers and not used at all. The inner bark (fibre) makes good and probably the strongest rope. Herdboys use it to plait a whip (**xiyepu/ ximoko/ tawusi**). Ash is used for the treatment of **micwa** (paranoia). The gum is edible.

Acacia goetzei Harms

Shilubane 70

Mbvinya-xihloka Purple-pod thorn

A. Purple-pod thorn is very scarce and occurs only in the north-east of the area around Gottenberg, Seville and Thorndale with heavy clayey soil.

pH = 5.68

B. The wood is hard and makes good fencing posts. It also provides excellent firewood. Implement handles are made from the slender branches of the tree. A flock of birds called **ndzeyani** build their nests in large numbers on the twigs. Their nestlings are collected by the local and neighbouring residents for immediate or later consumption during times of scarcity of potherbs. Informants mentioned that for the past few decades these birds have not been in sight and wonder if they had just disappeared or been overutilised.

Acacia karroo Hayne

Shilubane 96

Munga Sweet-thorn

A. **Munga** is very common and widespread in the area but not like *A. gerrardii*. It is also found along rivers and streams as well as disturbed areas like old cattle enclosure.

pH = 5.64

B. The plant provides excellent fodder for cattle and goats. Wood is susceptible to borer attack but this can be prevented if it is seasoned in water for a few months. It is then used as fencing, and building posts. The gum is edible and enjoyed mostly by herdboys. The pliable inner bark is used for making strong rope. The infusions of the bark are used as remedies for diarrhoea and dysentry. Bark is also suitable for tanning and gives a red colour to hides.

Acacia nigrescens Oliv. Shilubane 9

Nkaya Knob thorn

A. *A. nigrescens* is virtually non-existent in the western part of the area but abundant in the east, particularly the north-east, (i.e. Gottenberg, Seville Thorndale and Utah), where the soil is heavy.

pH = 5.69

B. Leaves and shoots are eaten by browsers. The upright and straight trunk is more suitable and used for fencing posts (Plate 17) and construction of cribs (Plates 20a and 21a). The wood provides excellent firewood. Bark peels off easily from dry wood and provides a good source of fuel. Fresh bark is used for tanning. Wood is used for the construction of goat and cattle enclosures (Plates 6 and 23). Branches and holes in the trunk provide nesting sites for birds. The **ndzeyana** birds build their countless nests in the shrubs. Extractions of the bark and root are used for the treatment of kidney problems.

Acacia nilotica (L.) Willd. ex Delile ssp. *kraussiana* (Benth.) Brenan Shilubane 95

Munga/ Nxangwa Scented-pod thorn

A. *Acacia nilotica* is more abundant along the Khokhovela River which is probably more brackish than any other river in the area.

pH = 5.64

B. Unlike *A. gerrardii* species described above, *A. nilotica* has a hard wood which is suitable as fencing posts and firewood. The inner bark is used for rope making. Pod extracts are used to dye wool. Bark is used for cough, pods for diarrhoea and roots for tuberculosis.

Acacia senegal (L.) Willd Shilubane 71

Xikaya/ Mvumbangwenya Slender Three-hook thorn

A. *Acacia senegal* is very rare and occurs in a few places like Thorndale and Utah. Where the plant occurs it stands tall above all other plant species.

pH = 5.73

B. Leaves and pods are browsed by livestock and game, especially giraffe. The wood is not very valuable but is used for tool handles while branches are used in the construction of a traditional fence, **rihlampfu**.

Acacia sieberiana D.C *var. woodii* (Burtt Davy) Keay & Brenan Shilubane 127

Mganduzi/ Nkowankowa Paperbark thorn

A. *A. sieberiana* is extremely uncommon in the area. Only a few trees exist at Acornhoek and the western part of Cunningmoor. The Tsonga-Shangana word, **Nkowankowa** might be confusing as it is also used for another species, *A. polyacantha* which does not occur in the entire area. The latter is quite abundant in the Tzaneen area and the famous settlement, Nkowankowa, is named after this species.

pH = 5.80

B. Pods and leaves are eaten by game and cattle. The tree provides an excellent breeding place for large bird species like tawny eagles and owls. Their nests are always found in the tree. The tree is too soft to provide firewood. The inner bark yields twine that was traditionally used for threading beads and grass thatching. Root extract is used against arthritis.

Acacia xanthophloea Benth.

Khanyakude/ Nkelenga Fever tree Shilubane 51

A. Fever tree is very scarce but because of its medicinal value, it has been grown in some homesteads.

pH = 5.68

B. Leaves and pods are utilized by various wild animal species like giraffe and kudu. The wood is used in building. If planted in the homestead, the tree acts as a repellent to witches hence the name **Khanyakude** (shining from afar). Infusions of the bark are used as enema for the removal of bad luck. Bark infusions are also used for the treatment of asthma. Smoke from burnt root is inhaled for the treatment of **nhlaviso** (pain on the flank). Roots are also used to prolong a man's ejaculation.

Albizia harveyi Fourn

Ndzhololwani/ Molele Common false-thorn Shilubane 15

A. Common false-thorn grows on all geological formations but appears to be abundant on low-lying brackish areas. The tree is scarce in the western part of the area but plentiful in the east.

pH = 5.27

B. Leaves are utilized by browsers. The wood provides a good source of firewood. Bark from dry wood sub-divides into prominent vertical ridges and becomes a good source of fuel. Wood is also commonly used for the construction of cattle enclosures (Plates 6 and 23). Root decoctions are used for the treatment of **xijiso** (poisonous substance) and **xinhlokwana** (depressed fontanelle).

Albizia versicolor Welw. ex Oliv.

Mvhangazi/ Mbhesu/ Muvamba-ngoma Large-leaved false-thorn Shilubane 98

A. The tree is often confused with *Pterocarpus angolensis* and occurs mainly in the sandveld of Acornhoek, Cottondale, Mbumba, Rolle as well as the drained granitic soil in Xanthia, Dwarsloop and Agincourt.

pH = 5.44

B. The plant provides excellent timber for the manufacturing of furniture, pounding blocks, yokes and drums. Soap is made from the roots and bark. The root bark is used as an enema and purgative. The root and bark are used as ingredients in the preparation of the **bhudlu** – medicine which is given to the initiates to 'cleanse' their chest for better divination.

Dichrostachys cinerea (L.) Wight ex. Arn. subsp. *africana* Shilubane 34

Ndzhenga-matsune Sickle bush

A. **Ndzhenga-matsune** is plentiful in the entire area and occurs in almost all soil types.

pH = 5.46

B. Pods and leaves are eaten by cattle and game like giraffe, kudu and impala. The stem is very hard and used for tool handles and firewood. Bark fibres are used to make ropes. The entire plant is used in the construction of a traditional fence **rihlampfu** or **rithangu**. The fruit and root are used for treatment of a depressed fontanelle. Chewed roots are used for treatment of scorpion stings and snake bites. The bark fibre is used for toothache and stomach troubles. Root decoctions are used to support weak pregnancy. Powdered root is added to a gruel or unfermented light beer as an aphrodisiac.

Dichrostachys cinerea (L.) Wight & Arn. subsp. *nyassana* (Taub). Shilubane 35

Ndzhenga (Ndzhenga wa xisati) Large-leaved sickle bush

A. **Ndzhenga** is common and widespread in the bushveld areas in granite and sandy soils.

pH = 5.43

B. Pods and leaves are eaten by cattle and game. The wood is similar to that of *africana* subsp. in terms of hardness and durability but softer and easy to work. It is widely used in the construction of a fire enclosure (**xivava** or **guma**...Plates 24a and 24b). The tree is also used in the construction of fences (**rihlampfu**). Wood also provides a good source of firewood. The inner bark is used for the manufacturing of cordage. (Its medicinal uses are the same as those of subsp. *africana* described above). On the whole, the plant is greatly over- utilized and endangered in some places but plentiful in other places.

Faidherbia albida (Del.) A. Chev. Shilubane 107

Nxokonxoko/ nchochocho Ana-tree

A. Ana-tree is very rare and does not appear in some places like Gottenberg, Utah and Seville. It grows along rivers, streams and swamps.

pH = 5.61

B. The pods are eaten by livestock and game. Wood is used as firewood. A decoction of the bark is used to treat diarrhoea and bleeding. By virtue of their heights, which according to Venter & Venter (1996:22) can reach 30m, they are used by baboons as their sleeping place. The Ana-tree on the Sesete River crossing the Acornhoek-Orpen Gate road is used by baboons for this purpose, as observed by the author.

Sesbania bispinosa (Jacq.) W. Wight var. *bispinosa* Shilubane 73

Sekeseke/ Nsekenseke Spiny sesbania

A. *S. bispinosa* exists in low-lying wet places throughout the area. It mostly prefers wet sandy soil where the trees grow in clusters.

pH = 5.77

B. The slender stem is used in hut-building or the construction of a fire-place enclosure. The entire plant is used as tinder.

MORACEAE

Ficus burkei (Miq.) Miq. *(= F. thonningii)* Shilubane 40

Xirhomberhombe Common wild fig

A. *F. burkei* occurs throughout the area but slightly more abundant around Acornhoek, Cottondale, Ludlow, and Edinburgh and all other places with deep sandy soils.

pH = 6.53

B. The fruit is eaten by a variety of animals and birds such as baboons and green pigeons. They are also consumed by humans. Leaves are browsed by game like bushbuck and impala. The bark-fibre is used for making strong rope and twine. Bark-fibre is also used by the Mapulana to make costumes called **mphepho**, worn by the initiates in the traditional schools. The milky latex is used for treatment of eye cataracts. An extraction of the bark is used for colds and throat infections. The root strangler is used for the treatment of **nda phya** (burning sensation). The bark is used for steam bathing and washing patients for removal of illnesses and bad luck. The bark concoction is used for the protection of homesteads against witches.

Ficus ingens (Miq.) Miq. Shilubane 195

Nkuwa-maribye Red-leaved fig

A. **Nkuwa-maribye** is derived from two common nouns, viz **nkuwa** = fig tree and **maribye** = stones. The tree is very scarce in the area, occurring mainly in the hillocks of Agincourt and Xanthia.

pH = 6.24

B. The fruit is eaten by birds, baboons and people. Stock-farmers treat low milk-yield cows with an extraction of the bark to improve production.

Ficus lutea Vahl

Mphayi Giant-leaved fig Shilubane 171

A. *F. lutea* does not occur in the veld but is cultivated widely in homesteads and public places like hospitals and schools.

pH = 6.44

B. The tree is cultivated for its shade and as a garden tree. Fruits are edible though not enjoyable to humans but to birds, monkeys and baboons. Mozambican refugees mentioned that the bark of this tree is used to make bark-cloth.

Ficus stuhlmannii Warb.

Xirhomberhombe/ Nhlulawumbe Lowveld fig Shilubane 99

A. *F. stuhlmannii* is distributed throughout the study area but not very common.

pH = 6.17

B. The fruits are palatable and eaten by humans, animals and birds, especially green pigeon (**ngwamba**) and brownheaded parrot (**hokwe**). Wood is very light and almost useless as it cannot even serve as firewood. Infusions of the bark are sprinkled on members of a bereaved family to mark the end of the mourning period. Decoctions of the bark are used for a steam bathe (**phungula**).

Ficus sur Forssk. *(=F. capensis)*

Mphayi Brown-cluster fig Shilubane 110

A. *Ficus sur* is rare in the area and confined to a few rivulets or spruits like Saringwa, Malitaka and Manyeleti.

pH = 6.22

B. The inner bark is used to make rope. The Mapulana people use the fibre to make the **mphepo** costume. The milky latex is used for burns, sore eyes and septic conjuctivitis. Dry pieces of wood from this tree are used as the base wood when making fire with sticks by friction. Wood is suitable for making drums like **macomane** (a round shallow frame drum with one pegged membrane) and **tinghunghu** (kettle drum with one pegged membrane). Powdered bark is used for rashes.

Ficus sycomorus L. subsp. *Sycomorus* Shilubane 41

Nkuwa Sycomore/ Common cluster fig

A. Common cluster fig is found throughout the area particularly along the Sand, Sabie and Saringwa Rivers with permanent water.

pH = 6.12

B. The fruits are eaten by humans and a variety of animal and bird species. Infusions of the bark and leaves are used to treat chest pains, glandular indispositions and diarrhoea. The bark is used for steam-bathing.

Morus alba L.(= *M. australs*, *M. indica*, *M. tatarica* Shilubane 1

Murubeyila Mulberry

A. *M. alba* is an exotic plant occuring on any soil type. Those grown on sandy soil seem to be much bigger than species on other soils.

pH = 6.55

B. The sweet and juicy berries are eaten by humans, birds and animals. Leaves serve as fodder and wood as fuel. Leaves are also used for hot presses. The tree as a whole serves as a good live fence and also provides excellent shade. To an extent the tree has

been commercialised because of its leaves upon which silkworms feed. A small silk industry has thus been established at Tsakani.

MUSACEAE

Musa sapientum

Banana/ Mubanana Sweet banana Shilubane 165

A. Some families have grown this exotic plant in their yard or gardens. The climatic condition of the area is not completely suitable for cultivation of the plant, possibly due to low rainfall and dry conditions. The plant is more abundant in the western part of Bushbuckridge where the rainfall is higher.

pH = 5.95

B. The fruit is eaten by humans, birds and animals like baboons. As found by Dharani (2002:134) among the Swahili and Luganda, the Tsonga-Shangana also use the fruit to make a jam and syrup. It is however mainly eaten raw. Root decoctions are used for the treatment of a depressed fontanelle.

MYRTACEAE

Psidium guajava L.

Mugwava Guava Shilubane 174

A. *Psidium guajava* is an exotic that had been introduced as a cultivar. It is found in many homesteads and gardens, but has also invaded parts of the bushveld and forest margins. It flourishes better in sandy soil, rockies and red-loamy soil; hence it is abundant in the western half of the area.

pH = 5.32

B. The fruit is edible and tasty and very much favoured by people, baboons and birds. Wood is used as firewood. Leaf decoctions are used to treat fever and coughs. Warmed leaves are used as hot presses for boils.

Syzygium guineense (Willd.) D.C. subsp. *Guineese*

Nqhozi/ Muthwa Bushveld waterberry Shilubane 155

A. The species is confined to the north-west of the area, like Acornhoek and Cottondale. Even in these areas it exists only sporadically and at a diminishing rate.

pH = 5.13

B. The fruit is eaten by people, birds and animals like baboons. Wood is used for household furniture, particularly mortars and stampers. To a lesser extent it is used for building houses and maize cribs.

Syzygium species B.

Nqhozi-ya-xilungu Riverine waterberry Shilubane 156

A. Naturally this is a riverine species but today it grows in many homesteads around the area. It thrives well in any soil type, but particularly in sandy soil.

pH = 5.41

B. The tree provides excellent shade. Fruits are very delicious to humans. They are also eaten by birds and baboons.

OLACACEAE

Ximenia caffra Sond

Nthunduluka-lowukulu/
Ntsengele- lowukulu Sourplum Shilubane 55

A. *X. caffra* occurs everywhere in the area, particularly in the thickets and along rivers and showing more preference to loamy or clayey soils.

pH = 5.91

B. Fruits are edible but mostly sour. It is also eaten by monkeys and baboons. The leaves are eaten by game such as kudu and giraffe. Infusions of the roots are used for the treatment of **doropa** (gonorrhoea). Decoctions of the roots are used to support pregnancy. The root is used in the treatment of **nda phya** (burning sensation) and **xijiso** (poisonous substance). Powdered root is taken in gruel or **mahewu** as an aphrodisiac.

PEDALIACEAE

Dicerocaryum senecioides (Klotzsch) Abels ssp. *Senecioides* Shilubane 38

Dinda Boot protecto/ Devil's thorn

A. Boot protecto is widespread throughout the area, occuring on road-sides, in waste places and disturbed veld, particularly cultivated fields. It usually grows on sandy and stony soils.

pH = 6.09

B. The leaves and stems become slimy and soaplike when crushed in water and are used by the people in the area as a shampoo or soap. The leaf infusion which is mucous – like is used as an aid in the expulsion of the placenta in women and animals. Root decoctions are used to treat cystitis and venereal diseases. Roots are also used as remedy for kidney problems. The spines are dangerous to both humans and animals and are used by witches to harm people with **xifulana** (gangrene) through imitative or contagious magic. Traditional healers use the grounded thorn to treat **xifulana** (gangrene).

Sesamum indicum

Rininga Sesame Shilubane 137

A. Sesame is a cultivar of which the production has declined tremendounsly despite its popularity in past years. During fieldwork it was extremely difficult to find the species. It is not suprising therefore that the species is well known to elderly people but virtually unknown to the young people (Chapter 4 no. 171). The few families that cultivated the species had grown them in the garden.

pH = 6.23

B. The essential parts of the plant are the seeds that are roasted and grounded into a condiment. Roasted seeds produce a strong, sweet smell. A potherb condimented with sesame is very tasty and sweet smelling. Seeds are used to produce cooking oil. They are also magically used to determine the number of males a pregnant woman had slept with if the husband is not satisfied that he is the one responsible for the pregnancy.

Sesamum triphyllum

Rininga-nhova Wild sesame Shilubane 85

A. Wild sesame as a weedy annual is abundant in the area, occurring in grassland, roadsides and disturbed places.

pH = 6.31

B. The roots are used for the treatment of **xilumi** (womb pain). Decoctions of the roots are used against **ntlhelelo** (lit. = returning. **Ntlhelelo** is when the sperm enters the ovary, known as **nyoka** i.e. snake, and is sent back before fertilization takes place (cf. *Pouzolzia mixta* under **URTICACEAE**).

POACEAE

Aristida meridionalis

Giant three-awn Shilubane 29

A. *A. meridionalis* is widespread in the area and commonly grows in the sandy soil of the western parts of the area. It also occurs in gravelly soil and along roadsides.

pH = 5.33

B. The awns are used by birds like *Uraeginthus angolensis* to build their nests. *A. meridionalis* is probably not palatable because it is utilised minimally by animals. It is used as hand brooms to sweep cow-dung floors and to thatch the roofs of granaries.

Cenchrus ciliaris L.

Shilubane 26

Rinama Blue buffalo grass

A. *C. ciliaris* is common and widespread in the area. In contrast with *P. maximum*, *C. ciliaris* thrives better in sandy or stony soils than the fertile loamy soil. It is thus more abundant in the west than east of the study area. Buffalo grass is often found along roadsides, beside pens or in valleys where additional rainwater usually collects.

pH = 5.91

B. *C. ciliaris* is an excellent grazing grass with a high leaf production and palatability which decreases as the plant matures. In the eastern parts of the study area, the grass becomes the main source of grazing only in times of drought when *P. maximum* becomes scarce. **Rinama** is a Tsonga-Shangana word meaning to cling on something. The spikelet is used in conjunction with other herbs to bind the love of a married couple threatened with separation.

Dactyloctenium australe

Shilubane 129

Mphasa-n'hwari L.M grass

A. *D. australe* is widespread in the area, cultivated by residents mostly under their shady trees within the homesteads. It is abundantly grown in the west of the area and less so in the east.

pH = 6.00

B. The grass is not very leafy but has an average grazing value to animals (cf. Van Oudsthoorn, 1999: 237). The grass is a very good protector of soil erosion in the homesteads. This creeping, mat-forming grass is commonly used as an evergreen lawn grass in gardens.

Heteropogon contortus (L.) Roem & Schult Shilubane 27

Xilungwa Common spear grass/ Tanglehead

A. *H. contortus* is found throughout the study area and, like many grass species, it is more commonly found along the roadsides.

pH = 5.16

B. It is a very good pasture and only palatable early in the summer, after which it becomes hard and less acceptable for grazing. It causes considerable damage to livestock, especially sheep and goats. The barbed seeds penetrating the skin of these animals may cause infection. The awns may also penetrate the skin of humans and cause irritations and sores. The grass is used for thatching granaries.

Hyparrhenia dichroa Shilubane 46

Juva/ Tshenga/ Ntsenga

A. This is a perennial tufted grass that grows in the bushveld and damp disturbed places of the study area, but mostly on roadsides. It is not abundant.

pH = 5.31

B. The grass is used for hut thatching but not so much preferred because of its thickness. It is also browsed by livestock and game, especially when still young.

Hyparrhenia hirta Shilubane 102

Nanci Common thatching grass

A. This is a relatively dense, erect, perennial tufted grass with spikelets covered with greyish hairs. The grass grows in well drained soil in open grassland of places like Acornhoek, Bumba, Agincourt, Rolle and all other places in the western half of the study

area. In the eastern part it occurs only sporadically and is dominated by *Themeda triandra*.

pH = 5.50

B. *Hyparrhenia hirta* is a very popular grass for thatching dwelling huts. It is also used to weave mats and baskets. The grass is used to weave nests for hens to lay eggs in. When still young it is eaten by livestock, particularly cattle.

Hyperthelia dissoluta (Nees ex Steud.) Clayton Shilubane 47

Tlhongwe Yellow thatching grass

A. *H. dissoluta* is found in sandy soils and open grassland. It often grows in disturbed places like road reserves where it utilises runoff rainwater. The north-eastern parts of the study area like Gottenberg, Seville and Thorndale do not have much of this grass, probably because of their loamy soil.

pH = 5.82

B. Like *Hyparrhenia dichroa*, it is also grazed during its the young stage before it later becomes too hard for grazing. It is a popular thatching grass in the entire research area. People from places like Gottenberg, etc., where the grass is either scarce or non-existent, buy or collect them from other places. Root decoctions are used against dysentery and diarrhoea.

Melinis repens (Wild) Ziska

Shilubane 28

Muhula / nkululwana Natal red-top

A. Natal red top is found throughout the study area along road sides and in waste places. Although encountered in the entire area, it is more abundant in the western part of the study area which is sandy and stoney.

pH = 5.73

B. It is eaten by livestock. The hair is removed from the spikelets and packed together to make pillows. The process of removing the hair is called **ku kulula** (to remove with a sliding movement). The Tsonga-Shangana name **nkululwana** is derived from this activity.

Panicum maximum

Phundze/ Xihundze Common buffalo/ Guinea grass Shilubane 24

A. *P. maximum* mostly occurs under trees and shrubs. It also prefers fertile soil. In the eastern parts of the study area where the soil is more fertile, the grass is more abundant and taller than in the west where the soil is less fertile.

pH = 5.83

B. Guinea grass is the most valuable grazing grass in the area. It is particularly palatable and delivers a high leaf production according to Van Oudtshoorn (1999: 179). The spikelets are eaten by seed-eating birds like waxbill and helmeted guinea-fowl. Spikelets are also used to skim off the residues of the marula pulps that become floating impurities during marula drinking. Stems are used to make bangles called **swibetso.** The grass growing under fallen trees provides a good breeding place for guinea-fowls.

Pennisetum glaucum

N'wa-huva/ mhungu Pearl millet Shilubane 184

A. *P. glaucum* was previously cultivated in abundancy as the major crop. The heads of the crop took several weeks to ripen so that more time was required to spend in the fields protecting the crop from flocks of birds, called **ndzeyani**. Sometimes scare-crows were posted in the fields.

pH = 5.76

B. Pearl millet is used in the construction of fire place enclosure and granaries. It is consumed as porridge. Confined women, called **vatswedyana** are fed with soft porridge

of pearl millet, called **xidlambutana.** The plant is also an important source of malt for traditional intoxicating beer called **byala bya n'wahuva.** Pounded grain is used as an ingredient when making light unintoxicating beverage called **madleke/mahewu.** Sprouted grain called **murhombo** is medicinally used for the treatment of **tindzhaka** (pollution of death) and **mafularha** (impurities). Sprouted grains are also used to treat someone 'dead inside' **(loyi a nga fa endzeni)** i.e. someone who is infertile. The grain is also used to determine the infertile in a couple. Each one is given grains to plant in an earthenware vessel called **jomela**. It is believed that the grain for the infertile will not sprout.

Phragmites mauritianus Kunth

Nhlanga Lowveld reed Shilubane 37

A. *P. mauritianus* is abundant along perennial rivers like Sabie, Sand, Saringwe, Sephiriri and Klaserie.

pH = 6.04

B. The leaves are of little value for grazing, but used as fodder during scarcity. The reed is used as an undercover in a thatched roof. It is also used for the construction of walls or divisions. A hand-barrow, called **rihlaka**, used as a stretcher to carry a disabled person or corpse, was made from the lowveld reed. The reed is longitudinally divided and used as a lath for wattling. A hollowed internode, called **mhlanga** is used as a snuff box (cf. **Xiveve** under **MALVACEAE**). The internode is also used as a whistle (**mpepo**) blown by children during playing and dancing. It is also blown by traditional healers when treating a patient suffering from **midlukulo** (mild insanitycaused by bewitchment).

Saccharum officinarum

Mova Sugar cane Shilubane 142

A. *S. officinarum* grows in clumps and is usually cultivated on wet riversides or any swampy areas. Sugar cane is an exotic plant.

pH = 6.02

B. Stems are juicy, sweet and edible. Juice pressed and extracted from sugar cane is distilled into a strong drink known as **xiwayawaya**. Mozambican refugees buy Golden Syrup, a sugar cane product, and use it as the main ingredient for brewing and distilling a liquour called **xikhokhiyana**.

Sorghum bicolor

Shilubane 65

Maxalana Grain Sorghum/ Millet

A. *S. bicolor* is grown in the area but at a declining rate.

pH = 5.93

B Grain sorghum is an indigenous staple food and source of varieties of beer. Grounded grain is used for leavened or unleavened gruel of porridge. It is prepared as **lambhaza** (soft porridge) which is normally consumed by **vatswedyana** (recently confined woman). Malted sorghum is used to brew sorghum beer called **nghondwana** or **mporosi** as well as the traditionally sour fermented beverage called **madleke** or **mahewu**. **Nghodwana** is very common in the area and some families sell it to get money which they use to buy food. **Mahewu** is consumed daily by field cultivators during ploughing seasons and also occasionally as refreshment. Another type of beer called **charikani** is made by merely adding sugar and malt to water. The simplicity of the preparation method of this beer has earned it the name **byala bya malolo** (beer of the sluggard). Another type of beer made from millet is known as **phipha** and its method of preparation is quite elaborate. Sorghum stalk is commonly used in the construction of a wall of a fire-place enclosure. Powdered grain is used in the treatment of **mafularha** (impurities).

Sorghum sp.

Timba Sweet reed Shilubane 64

A. This is a large grass which, depending on the type of soil and rain, can grow up to three meters high. Like *S. bicolor* the plant has a much-branched rounded panicle with clusters of grains. It is similar to *S. bicolor* in almost every respect and children always confuse the two species. The difference is on the leaf spine. *S. bicolor*'s is white in colour in contrast to the greenish colour of the *Sorghum* sp. The plant is still cultivated but at a declining rate.

pH = 5.91

B. The value of the plant is much inferior to *S. bicolor*'s. The stem is very sweet and chewed like sugar cane.

Sporobolus pyramidalis Beauv

Mudila/ Muxikijane Catstail dropseed Shilubane 80

A. Dropseed is abundant in the entire research area and occurs on low-lying swampy areas, river banks and water pans called **nhala**. It also grows in disturbed places like trampled veld and in all soil types.

pH = 5.62

B. The grass is seldomly grazed as it is tough and unpalatable. It serves to protect soil from erosion in trampled and overgrazed veld where they occur. It is commonly used to make a traditional hat called **xiqoko xa mudila**. The rolled tip serves as a needle in the making of a hat. Types of baskets are also made from the grass.

Themeda triandra Forssk.

Mbhanjani/ Makenya Red grass Shilubane 103

A. This is a perennial tufted grass which is abundant in the area, especially at Gottenberg, Seville, Utah, Welverdiend and the eastern part of Clare with clayey soil.

pH = 5.43

B. Red grass is famous for thatching granaries (**madulu**), maize crib storage huts (**switlati...**Plate 5) often used as kitchens (**switshumba**) and sleeping huts especially for teenagers. The grass is also eaten by livestock.

Tricholaena monachne (Trin) Stapf & C.E Hubb

Blue seed grass Shilubane 30

A. This is found throughout the study area, mostly in disturbed areas like roadsides and cultivated lands. Although it is found throughout the area, it is highly concentrated in sandy places like Islington, Ludlow, Rolle and Cottondale.

pH = 5.55

B. In the areas mentioned above, where it occurs in dense stands, it is an important grazing grass. Spikelets are used by blue waxbills (**xindzingiri**) in the construction of their nests. The nest is usually constructed in the *A. exuvialis* adjacent to that of wasps.

Urochloa stolonifera (Goossens) Chippind

Xihuvani Shilubane 25

A. The word **xihuvani** for *U. stolonifera* is a dimunitive form of **n'wahuva** (*P. glaucum*). *U. stolonifera* is common in the area and grows in disturbed places like roadsides and overgrazed and trampled veld. It grows in any soil type but thrives in fertile

loamy soil, hence its abundancy in the eastern part of the area, rather than the infertile western part.

pH = 5.75

B. The grass is very palatable to cattle. Mozambican refugees mentioned that during famine the spikes were grounded and eaten as porridge.

Zea mays L.

Xifaki/ Vele Maize/ Corn Shilubane 85

A. As a cultivated exotic crop, maize is very common in the area and is a staple diet for the Tsonga-Shangana (cf. Chapter 4 no. 199). The north-east section of the area, which includes Seville, Gottenberg Welverdiend and Thorndale produce high quality maize owing to its fertile loamy soil.

pH = 5.94

B. This is the most important grain crop not only in Bushbuckridge but the whole Southern Africa. Unripe cobs are delicious when boiled or roasted. Nowadays maize is highly commercialized as it is sold along the roadside in raw and/or roasted form. Maize is used for porridge or numerous other dishes like **tihove**, **tintshuntshu**, **xendlivomu** etc. Crushed fresh maize is used to make traditional bread called **ximbundzu**. The bread is rolled up in maize leaves. Harvested maize stalks called **mahlanga** are used as fodder for cattle. Cattle are driven into harvested maize fields and left there for grazing. This is called **ku lathela** and the grazing process is known as **ku dya mahlanga** or **ku dya muhwana**. Maize panicle is used to trap residues of marula pulps during marula drinking. Shelled maize cob is used for treatment of mumps.

PROTEACEAE

Faurea saligna Harv.

N'wamindzumba Willow Beechwood Shilubane 125

A. *Faurea saligna* is not common in the area (see chapter 4 no. 96) and occurs only on sandy and granatic ridges of Xanthia, Arthurstone and Agincourt.

pH = 4.00

B. The wood provides a good source of firewood. It is also used in the manufacturing of furniture and yokes and as fencing and building posts. A red dye is obtained by soaking the wood in water. An extract from the root and leaves is used to treat earache. The root is used in a vapour bath for the relief of menstrual pains.

RHAMNACEAE

Berchemia discolor (Klotzsch) Hems

Nkuhuma/ Nyiri Brown Ivory Shilubane 91

A. **Nyiri** is very common in the area and occurs along rivers, streams, rocky areas and old termite mounds. The tree is found throughout the area, although very scarce in some places.

pH = 5.54

B. Fruit is sweet, delicious and palatable. It is used to make a strong alcoholic beverage. It is also eaten by birds, baboons and many other animals. Leaves and young branches are eaten by browsers and domestic animals, especially during drought periods. Wood is used as firewood and fuel. Chewed wood is occasionally used as a toothbrush. The pale brown wood works well and is used for furniture and household articles or utensils like wooden plates, knife handles, etc. The bark is used to make poultices for treating wounds. It is also used as a source of dye in basketry.

Berchemia zeyheri (Sond.) Grubov. Shilubane 92

Xinyirana Red Ivory

A. *B. zeyheri* is scarcer in the area as compared to *B. discolor*. It is found mainly along the rivers of Khokhovela, Sabie and Sand. It also occurs in the open woodlands of Welverdiend, Gottenberg, Seville and Utah.

pH = 5.22

B. The fruit is sweet and edible to humans and animals. Leaves are utilized by browsers, but to a limited extent. Wood is highly sought after especially by people around Mkhuhlu, Cunningmoor and Justicia for curios art which they sell to tourists on the Hazyview – Skukuza road. The bark is used as a dye for fibre and woven material. Decoctions of the bark are used as a bathe for good luck.

Ziziphus mucronata Willd. subsp. *mucronata* Shilubane 42

Mbhafa/ Cecenyi / Mphasamhala/ Mlahlavanhu Buffalo horn

A. *Z. mucronata* is abundant in the area and occurs mainly in the bushveld, forest margins and grassland places. It grows mostly in the rivers and on termitaria. It may occur on any soil type but prefers loamy soil.

pH = 5.44

B. The fruit is eagerly eaten by *Civettictis civetta (***mfungwe***)*. Residents also eat the fruit but they are not very palatable. Leaves are browsed by livestock and game. The wood is used for firewood and poles in house-building. It is also used for impliment handles. The plant makes a strong live fence. Leaf infusions are used for the treatment of swelled limbs. Infusions of the root and bark are used for blood purification, diarrhoea and dysentery. The thorny branches are placed on the grave of a person to protect it from damage by animals or humans. The name **Mlahlavanhu** (burrier of people) is derived from this significant function. The root is used for the treatment of **xifulana** (gangrene) and venereal diseases.

RUBIACEAE

Breonadia salicina (Vahl) Hepper & J.M Wood — Shilubane 106

Nthuma/ Mhlume Matumi

A. Matumi is a riverine plant and found along the Saringwa, Sand and Timbavati Rivers.

pH = 5.02

B. The wood produces a fine, durable timber used for furniture and household articles. It is also used for building huts and cattle kraals. Root infusions are used for the treatment of dysentry and diarrhoea. The bark is used as a tonic and a remedy for stomach and heart ailments. The following morning after the burial of a man, his widow is taken to a nearby river, **ku ya enkoveni**, as part of mortuary ritual. The root of the *B. salicina* is one of the ingredients given to the widow at the river.

Catunaregam spinosa (Thunb.) Tirvengadum subsp. *spinosa* — Shilubane 126

Xirhole Thorny bone-apple

A. **Xirhole** is widespread in the area, but more numerous on sandy soils of places like Islington, Ludlow and Edinburgh, and the koppies of Xanthia and Arthurstone and also on low-lying areas near streams and rivers.

pH = 5.32

B. Leaves are browsed by animals. Infusions of a dried fruit are taken as emetics. Wood provides a source of firewood.

Gardenia volkensii K. Schum. sp. *Volkensii* — Shilubane 77

Xitsalala Bushveld Gardenia

A. Bushveld gardenia occurs throughout the area but nowhere abundantly. It exists particularly in the woodlands, on termite mounds and along rivers. It thrives on any soil type as it occurs on sandy, basalt, granitic and loamy soils in the area.

pH = 5.77

B. The leaves are browsed by both game and livestock during dry periods. The fruit is eaten by elephants and monkeys. The wood is used for fence, spoon, and stick, particularly stirring stick, called **rifeto**, used for stirring porridge and *C. tridens*. The latter is stirred by moving the stick up and down, known as **ku dludla**. The root and fruit are used as emetics. Infusion of the root is used for the treatment of ear- and headache and is also applied as a cold compress on the forehead. The tree is associated with magical powers. Pegs from the branches are planted on the four cardinal points of the homestead to protect it against witches. This process is called **ku biya muti**. Infusion of the root is commonly given to patients suffering from possession illness to induce Ndau spirits. The tri-verticals stick is used to stir the infusion until white foam froths up. The preparation is called **bhudlu**.

Pavetta schumanniana F. Hoffm. ex K. Schum. Shilubane 176

Mudya-mbhongolo Poison brides – bush

A. The tree is common in the area and occurs mainly in rocky and sandy soils mostly near rivers.

pH = 5.09

B. The plant derives its name from the nouns **mudya** (the eater) and **mbhongolo** (donkey). Literally, the name means 'eater of the donkey'. This name might express the poisonous nature of the plant to animals as indicated by scientists (cf. Schmidt, et.al. 2002:642) that is responsible for many cases of animal poisoning or "gousiekte" through heart failure. Infusions of the roots treat insanity.

Vangueria infausta Burch. subsp. *infausta*

Mpyila/ Mpfilwa Wild medlar Shilubane 118

A. *V. infausta* is fairly common throughout the area particularly appearing in various types of woodland and wooded grassland. It is quite abundant in stony and sandy areas of Bumba, Rolle, Xanthia, Aurtherstone, Islington and Agincourt.

pH = 5.38

B. The fruit is edible and much sought-after by people, animals and birds. The leaves are eaten by game. Root infusions are gargled for toothache and also used for treating **nda phya** (burning sensation). Glowing root is illuminated over the area of the body with **xifambi** (abssece/tumour/boil). This is called **ku voningela**. Pegs from branchlets are nailed at the four cardinal points of a homestead as protective charms against night witches.

RUTACEAE

Zanthoxylum capense (Thunb.) Harv.

Manungwana Small knobwood Shilubane 199

A. **Manungwana** is one of the rarest species in the area. It exists in dense thickets of divergent ecological conditions, like the river thickets of Malitaka and montane forest of Agincourt.

pH = 5.49

B. Root infusions are used against toothaches by means of **ku fundzela** (gargling). Bark is chewed to relieve toothache. Leaf and root infusions are used for treating gastric and internal disorders as well as internal parasites. Root ash is blown into the nostrils of dogs to increase their ferocity and improve their hunting ability. Wood is used to make household handles, yokes, planks and knobkerries. **Manungwana** is a dimunitive form of **nungu** (porcupine). The short thorns of the tree are probably associated with the long

quills of the porcupine. Quills as well as thorns of *Z. capense* are used by witches to harm their victims.

SAPINDACEAE

Pappea capensis (Eckl. & Zeyh)

Gulaswimbi/ Xipayoni/ Xikwakwaxu Jacket-plum Shilubane 116

A. *Pappea capensis* is common throughout the area and occurs singly among other tree species on brackish flats, koppies and stony places. It grows in different areas as it is found in riverine thickets on termite mounds and in bushveld.

pH = 5.23

B. The fruit is eaten by a variety of animals and birds, particularly green pigeons. It is also eaten by humans but has a very bitter taste like African distilled liquor (**xipayoni**) from whence the liquor got its name. Leaves are eaten by animals but seldomly, because of their unpalatability. The wood is used for making a yoke, bowl, and spoon and curios art. Bark decoctions are used against venereal diseases and as an aphrodisiac. Root infusions are used for the treatment of **manyokanyokani** (intestinial parasites) in animals.

SAPOTACEAE

Englerophytum magalismontanum Krause

Munombhela Wild Plum/ Stem fruit tree Shilubane 159

A. *E. magalismontanum* does not occur in the entire area. The research species was collected from Arthurseat which is less than 10km from Acornhoek. Part of Arthurseat where the former Nazarene Bible College was situated is called Munombheleni (place of the Stem fruit tree). At the time of the collection, only one tree still existed. Informants mentioned that the trees were abundant at Arthurseat and that they existed even at Acornhoek which is part of our research area. Of all species collected, this is certainly the most endangered.

pH = 5.14

B. The fruit is sweet and eaten by humans, baboons and birds. Wine is made from the fruit. Decoctions of root are used for the treatment of headache and stomach pain. Bark infusions are used by means of **ku fundzela** (to keep liquid medicine in the mouth for few minutes before regurgitating it) as an excellent treatment for toothache. It is said that a tooth treated with this species never becomes affected again.

SOLANACEAE

Capsicum annuum

Biriviri/ Pelepele/ Viriviri Chilli pepper Shilubane 182

A. *C. annum* is an exotic plant cultivated throughout the area, particularly within the homesteads.

pH = 5.42

B. The capsules are used as ingredients to side dishes of relish like meat and potherbs (cf Chapter 4 no. 41). The fruit is eagerly utilized by the drunkards to neutralize hang-over. Powdered root and capsule is medicinally used by traditional healers in the protection of a homestead against witches.

Datura stramonium

Zava-zava Thornapple Shilubane 181

A. **Zava-zava** is widely distributed and occurs on waste lands, roadsides and other disturbed places like unused cattle kraals. The plant is also called **manunh'wana** (the stinker) owing to its unpleasant odour it leaves when leaves are crushed.

pH = 5.65

B. Fresh warmed leaves are used as a poultice on boils, wounds and abscesses. Root infusions are used by males as aphrodisiac. Infusions of the root are gargled for toothache.

Nicotiana tabacum

Fole Tobacco Shilubane 193

A. *N. tabacum* is grown within the homesteads and gardens and can grow well in many soil types. In some agricultural schemes around Mkhuhlu, subsistence farmers grow tobacco on a small commercial scale.

pH = 5.76

B. Leaves are dried, crushed and smoked as **mboza** or '**blaar**'. It is grounded and used as a snuff by old people. Young people use snuff only for medicinal purposes. Snuff is also taken by diviners at the start of a divination to 'open up' their chest for thorough divination. It is also sprinkled on the ground at an ancestral shrine as an offering to the ancestors during sacrifices. Traditional healers put snuff for the ancestors before giving a patient some medicines in the belief that the medicine shall be more efficaciuos. At the end of the mourning period (usually 2-4 days after burial) members of the bereaved family are given snuff to sneeze, thereby 'dispersing the death' (**ku hangalasa rifu**). It is tucked in a footsole for a thorn that cannot easily be removed. If left there for a couple of days, the thorn will come out on its own.

Solanum lichtensteinii Willd.

Ndhulwana-leyikulu Grey bitter-apple Shilubane 191

A. *S. lichtensteinii* is found in disturbed places and is fairly common in the area.

pH = 5.42

B. The fruit is used to treat chest pains and toothache. Roots and leaves treat a variety of ailments like coughs, sore throats and venereal diseases. The fruit treats

insanity. The insane is laid down on his back and sap from the fruit instilled into his nostrils.

Solanum nigrum L. or S. *retroflexum* Dunal Shilubane 105

Muphya Black nightshade/ Nightshade

A. *S. nigrum* is common throughout the area but occurs on termite mounds and clayey soils.

pH = 5.48

B. Leaves are popular as potherbs and fruits eaten raw when ripe.

Solanum panduriforme E. May Shilubane 161

Ndhulwana leyitsongo Yellow Bitter-apple

A. The plant is common throughout the area and occurs mostly in disturbed areas like old or unused cattle kraals and roadsides.

pH = 5.48

B. Root decoctions are used for treatment of 'mad goat' disease. This is a condition where a goatling uncontrollably jumps up and down and runs aimlessly whilst bleating endlessly until it dies in about a day or two. The roots treat insanity in humans as well. If mixed with the roots of **Byerhe** and **Ngovesthayi**, it has the potency to vitiate an opponent.

TILIACEAE

Corchorus tridens L.

Guxe Wild jute Shilubane 58

A. *C. tridens* is very common and widespread throughout the area, growing particularly in disturbed places and showing no preference on any particular soil type. The plant appears on termitaria shortly after the first rains.

pH = 5.68

B. The leaves are mucilaginous when cooked and are eaten with porridge or alone. When cooked it is much desirable as indicated in Chapter 4 no. 65. When eaten with porridge, it gives a pleasant, smooth consistency to the food. It is said that in the past, many people who suffered from **xijiso** (poisonous substance) were poisoned in *C. tridens*. The Tsonga-Shangana expression, **ku dya naxo eguxeni** (to eat it in the wild jute), i.e to be unable to avert a dangerous situation, shows how simple it can be to swallow a poisonous substance placed in the wild jute.

Grewia flavescens Juss. var. *flavescens (=G. rautanenii)* Shilubane 2

Nsihana / Nkhoronkhoro Sandpaper raisin

A. The sandpaper raisin is a common scrambling shrub and grows in the thickets or bushveld, particularly along the riverbanks of Khokhovela and Sand River. It also occurs on termitaria.

pH = 5.29

B. The fruit is edible and consumed by humans, birds and fructivorous animals. Flexible stalks are used as withies in the construction of a grass-thatched roofs and a fire-place enclosure made of *P. mauritianus* or *S. bicolor* reeds. The stem is used for sticks, knobkerries and firewood. Branchlets are used to weave baskets.

Grewia monticola Sond

Shilubane 7

Nsihana Grey/ Silver raisin

A. *G. monticola* is widespread but nowhere does it appear in dense stands. It occurs usually on stony areas or sandy soil and termitaria.

pH = 5.21

B. The fruit is sweet and eaten by both birds and primates. Leaves are browsed by game and livestock. Dry branchlets are used as fuel and the fresh ones as a snare trap. Root decoctions are used for a depressed fontanelle.

Grewia subspathulata N.E. Br.

Nsihana Shilubane 6

A. *G. subspathula* is widespread in the area and grows mostly on stony areas and sandy soil.

pH = 5.11

B. Fruits are eaten by humans, birds and animals. Leaves are utilized by browsers. The inner bark is used for robes. The lax branches are used by herdboys and hunters as a snare trap. Branches are also used for knobkerries and sticks. Wood may be used as firewood but not commonly so.

URTICACEAE

Pouzolzia mixta Solms

Xirheti/Nthadzwa Soap-nettle Shilubane 54

A. **Xirheti** is a soap-nettle tree which is rather rare and occurs mainly on rocky hillsides of Dwarsloop and Agincourt as well as along riparian thickets. At places like Welverdiend for instance, the plant has been grown by traditional healers.

pH = 5.65

B. The soapy and slimy under-bark is used for fibre. The root is used as an abortificient. It is also used for the treatment of **makhuma** (sexual impurities). Powdered root is added to a gruel for infertility and painful uterine. Root decoctions are

taken as aphrodisiacs. Infusions of the root are used for treatment of venereal diseases. Roots are also used against **ntlhelelo** (sperm rejection).

VERBENACEAE

Clerodendrum glabrum E. Mey. *var. glabrum* Shilubane 49

Xinun'hwelambeva Tinderwood/ White cat's whiskers

A. The plant is widespread in the area and usually occurs in thickets on the banks of water-courses and on termitaria. It also prefers rocky hillsides.

pH = 5.61

B. The wood is softer and used as tinder-wood or fire-sticks to start fire. Wood is also used for carving. Leaf infusions are used on animal wounds for protection against parasites. The name **xinun'hwelambeva** is derived from **nun'hwa**: stink and **mbeva**: a mouse. The leaves produce a strong, unpleasant smell when crushed. Crushed leaves are used as repellent to insects, small animals and mice, hence the name **xinun'hwela-mbeva**. The root is used as a snake bite remedy. Coated roots are used to 'wash away bad luck'.

Lantana rugosa Thunb Shilubane 145

Tihove-ta-valungu Bird's brandy

A. *L. rugosa* is widely distributed throughout the area, growing mostly in riverine thickets and on rocky hillsides. It is encountered in all soil types.

pH = 5.58

B. Berries are very tasty and consumed by birds and humans. Infusions of roots are used for stomach pains and coughs.

Lippia javanica (Burm.f.) Spreng

Musuzwane Fever-tea Shilubane 175

A. *L. javanica* is distributed throughout the area and grows on river banks and in swampy places.

pH = 5.55

B. Leaf infusions are taken for the treatment of coughs, fever and colds. Leaves are also boiled together with the seeds of *R. communis* to give the oil a scented flavour.

VITACEAE

Cissus quandrangularis

Nyangala Climbing cactus Shilubane 173

A. **Nyangala** is abundant and climbs into plants in the bushveld, particularly along river banks and on termite mounds.

pH = 4.94

B. Decoctions of the root and crushed stems are used for treatment of swelled body. Crushed fresh succulent stems are applied on wounds infested with maggots in cattle.

ZINGIBERACEAE

Siphonochilus aethiopicus

Xirhungulo Wild inger Shilubane 149

A. *S. aethiopicus* occurs naturally on the Khwahlamba mountain hills near Dwarsloop and Xanthia. Some diviners in the area have grown the species in their gardens. Leaves and rhizomes are highly aromatic.

pH = 5.82

B. The rhizomes are chewed for coughs and colds, particularly at bedtime, so that the dregs are kept in the mouth for the whole night. It is believed that the medicine does not only fight the virus but clears the congested nasal passages as well. The rhizome is also used for **ku sonya**, i.e. to avert an imminent event. Decoctions of the rhizomes are used for the treatment of **micwa** (paranoia).

The 200 plant species are classed into 62 families. The 62 families have average pH value ranges of between 4.00 and 6.59 as follows:

3 families belonging to 4.00 – 4.59 pH range
1 family belonging to the 4.60 – 4.99 pH range
26 families belonging to the 5.00 – 5.59 pH range
23 families belonging to the 5.60 – 5.99 pH range and
9 families belonging to the 6.00 – 6.59 pH range

The ensuing table shows the distribution of the families in their respective mean range.

Table 27: Mean pH value range of species per family

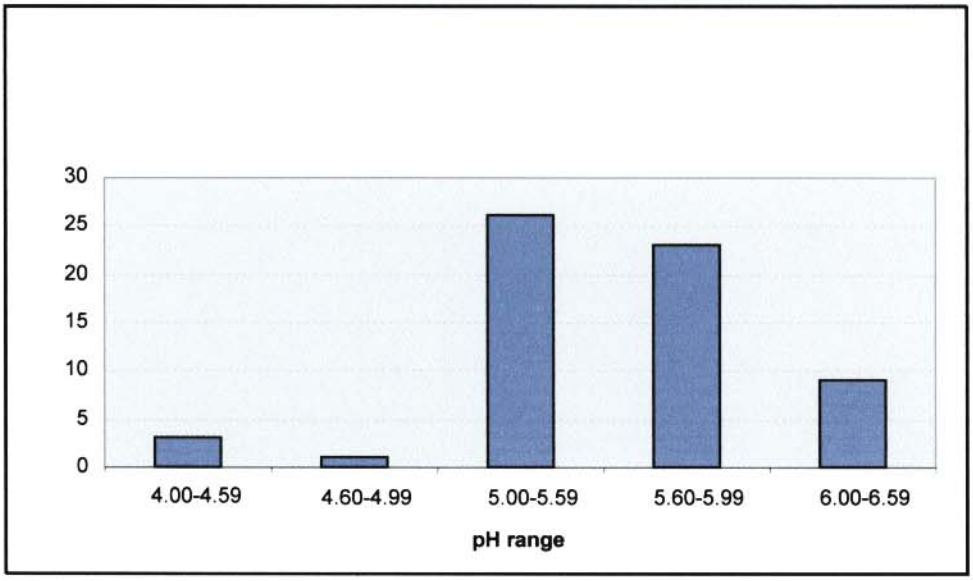
FAMILY	pH RANGE				
	4.00 – 4.59	4.60 – 4.90	5.00 – 5.59	5.60 – 5.99	6.00 – 6.59
Combretaceae					
Kirkiaceae					
Proteaceae					
Asphodelaceae					
Agavaceae					
Aizoaceae					
Anacardiaceae					
Apocynaceae					
Araliaceae					
Asteraceae					

Cannabinaceae					
Caricaceae					
Chrysobalaceae					
Ebenaceae					
Euphorbiaceae					
Fabaceae					
Gramineae					
Iridaceae					
Menispermaceae					
Minosaceae					
Myrtaceae					
Rhamnaceae					
Rubiaceae					
Rutaceae					
Sapindaceae					
Sapotaceae					
Solanaceae					
Tiliaceae					
Verbenaceae					
Vitaceae					
Amaryllidaceae					
Annonaceae					
Araceae					
Asclepiadaceae					
Bignoniaceae					
Bombacaceae					
Boraginaceae					
Burseraceae					
Caesalpiniaceae					
Capparaceae					

Celastraceae					
Convolvulaceae					
Dracaenaceae					
Flacouriaceae					
Hypoxidaceae					
Loganiaceae					
Malvaceae					
Meliaceae					
Musaceae					
Olacaceae					
Poaceae					
Urticaceae					
Zingiberaceae					
Amaranthaceae					
Asparagaceae					
Balanitaceae					
Cactaceae					
Cucurbitaceae					
Cyperaceae					
Lauraceae					
Moraceae					
Pedaliaceae					

The ensuing figure serves as summary for **Table 28** and appears as follows:

Figure 9: Mean pH range of the collected plant species



It is generally known that the pH value is a measure of acidity or alkalinity. As pointed out in Clemson Extension, (undated), the pH scale ranges from 0 to 14, with 7 as neutral. Numbers less than 7 indicate acidity while numbers greater than 7 indicate alkalinity.

Evidently, the majority of the plant species in this research is acidic while no alkaline species were found. On this basis it can be assumed that most if not all of the species in the study area are acidic. If alkaline species exist in Bushbuckridge, these should be very few.

The pH range stretches up to 6.99 if species are considered individually as per appendix A. The ranges therefore appear as shown in Table 28:

Table 28: Categorisation of plant species into pH ranges

	pH RANGE					
	More acidic		Medium acidic		Less acidic	
	4.00 – 4.59	4.60 – 4.99	5.00 – 5.59	5.60 – 5.99	6.00 – 6.59	6.60 – 6.99
No. of species	11 (5.5%)	8 (4%)	73(36.5%)	78 (39%)	26 (13%)	4 (2%)
Food	0	2	33	32	16	2
Medicinal	9	7	48	54	15	2
Fodder	6	5	37	43	13	0

The break-down of the table above into three ranges represented as more acidic (4.00 - 4.99), medium acidic (5.00 – 5.99) and less acidic (6.00 – 6.99) indicates that the bulk of the species - 151 (75.5%) fall within the medium range with 19 (9.5%) and 30 (15%) of them falling within the more acidic and less acidic ranges respectively. This trend exists in all the uses (food, medicinal and fodder) mentioned in the table. Further investigation is required to establish why medium acidic species are far more preponderant than the more acidic and less acidic species.

Investigation is also required to establish if the pH level of a plant has an influence on its significant value. This study for instance found that plant species with the pH levels of between 5.00 and 5.59 are used for the treatment of **xijiso** (a disease caused by a poisonous substance). This includes species such as *Euclea natalensis* (pH 5.24); *Flueggea virosa* (pH 5.24); *Albizia harveyi* (pH 5.27); *Mundulea sericea* (pH 5.36) and *Acacia exuvialis* (pH 5.41).

CHAPTER 4

VARYING LEVELS OF ETHNOBOTANICAL KNOWLEDGE

4.1 Knowledge about specific species

During field-work it soon became evident that residents were not equally knowledgeable about their botanical resources. These discrepancies differ from individual to individual and category to category. This also applies to the utilization of plant species where some individuals and categories of people use species more frequently than others. The mean differences in plant knowledge and uses shall be shown in categories than individuals. Plant uses is categorised into medicinal uses on the one hand and uses as food and drinks on the other hand.

The aim of this chapter therefore, is two-fold:

- To determine the ethnobotanical knowledge for each category and
- To determine the quantitative nature of ethnobotanical uses within each category.

The findings of the investigation are as outlined below:

Table 29: Ethnobotanical knowledge and uses

AGAVACEAE

1 *Agave sisalana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

AIZOACEAE

2 *Zaleya pentandra*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	80 %	100 %	30 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	90 %	60 %	100 %	20 %	10 %

AMARANTHACEAE

3 *Amaranthus hybridus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	80 %	100 %	30 %	70 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	80 %	80 %	100 %	30 %	70 %

4 *Amaranthus spinosus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	80 %	100 %	20 %	60 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	90 %	80 %	100 %	20 %	50 %

5 *Amaranthus thunbergii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100%	100%	100%	70%	100%

AMARYLLIDACEAE

6 *Boophane disticha*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	60 %	100 %	0 %	10 %

Medicinal Uses	100 %	40 %	40 %	0 %	10 %
Uses as food and/or beverages	-	-	-	-	-

ANACARDIACEAE

7 *Lannea discolor*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	40 %	100 %	30 %	10 %
Medicinal Uses	40 %	20 %	0 %	10 %	10 %
Uses as food and/or beverages	60 %	40 %	70 %	20 %	10 %

8 *Lannea edulis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	60 %	70 %	10 %	10 %
Medicinal Uses	70 %	0 %	30 %	10 %	10 %
Uses as food and/or beverages	80 %	60 %	70 %	10 %	10 %

9 *Lannea schweinfurthii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	40 %
Medicinal Uses	60 %	20 %	30 %	0 %	0 %
Uses as food and/or beverages	90 %	100 %	70 %	70 %	30 %

10 *Ozoroa insignis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	60 %	70 %	10 %	0 %
Medicinal Uses	30 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

11 *Ozoroa sphaerocarpa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	60 %	70 %	10 %	0 %

Medicinal Uses	30 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

12 *Rhus rehmanniana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	40 %	90 %	20 %	0 %
Medicinal Uses	60 %	20 %	0 %	0 %	0 %
Uses as food and/or beverages	80 %	0 %	90 %	20 %	0 %

13 *Sclerocarya birrea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	50 %	20 %	30 %	20 %	20 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

ANNONACEAE

14 *Annona senegalensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	80 %	90 %
Medicinal Uses	100 %	20 %	40 %	40 %	20 %
Uses as food and/or beverages	100 %	100 %	100 %	60 %	90 %

APOCYNACEAE

15 *Carissa bispinosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	40 %
Medicinal Uses	80 %	20 %	40 %	40 %	20 %
Uses as food and/or beverages	100 %	100 %	100 %	50 %	30 %

16 *Carissa edulis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	100 %	40 %	70 %	30 %	40 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

ARACEAE

17 *Colocasia esculenta*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	70 %	90 %

18 *Phoenix reclinata*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	10 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	80 %	80 %	70 %	10 %	40 %

19 *Stylochiton natalensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	60 %
Medicinal Uses	60 %	20 %	30 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

ARALIACEAE

20 *Cussonia spicata*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	50 %	20 %	20 %	10 %	0 %
Medicinal Uses	20 %	0 %	0 %	0 %	0 %

Uses as food and/or beverages	-	-	-	-	-

ASCLEPIADACEAE

21 *Asclepias fallax*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	60 %	100 %	0 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	60 %	20 %	100 %	0 %	20 %

ASPARAGACEAE

22 *Asparagus cooperi*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	70 %
Medicinal Uses	100 %	40 %	60 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

ASPHODELACEAE

23 *Aloe marlothii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	100 %
Medicinal Uses	100 %	100 %	100 %	60 %	100 %
Uses as food and/or beverages	-	-	-	-	-

24 *Aloe zebrina*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	60 %	60 %	30 %	20 %
Medicinal Uses	60 %	20 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

ASTERACEAE

25 *Bidens pilosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	90 %
Medicinal Uses	40 %	20 %	20 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	80 %	90 %

26 *Epaltes gariepinia*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	50 %	0 %	10 %
Medicinal Uses	70 %	60 %	50 %	0 %	10 %
Uses as food and/or beverages	-	-	-	-	-

BALANITACEAE

27 *Balanites maughamii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	40 %	70 %	0 %	10 %
Medicinal Uses	80 %	20 %	40 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

28 *Balanites pedicillaris*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	20 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

BIGNONIACEAE

29 *Kigelia africana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	70 %	0 %	10 %
Medicinal Uses	70 %	0 %	30 %	0 %	10 %
Uses as food and/or beverages	-	-	-	-	-

BOMBACACEAE

30 *Adansonia digitata*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	40 %
Medicinal Uses	100 %	20 %	40 %	30 %	40 %
Uses as food and/or beverages	80 %	80 %	40 %	50 %	0 %

BORAGINACEAE

31 *Ehretia amoena*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	80 %
Medicinal Uses	60 %	20 %	0 %	10 %	0 %
Uses as food and/or beverages	80 %	100 %	100 %	90 %	70 %

32 *Ehretia rigida*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	30 %
Medicinal Uses	60 %	20 %	0 %	10 %	0 %
Uses as food and/or beverages	80 %	100 %	100 %	40 %	20 %

BURSERACEAE

33 *Commiphora glandulosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	30 %	20 %	20 %	20 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

34 *Commiphora mollis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	60 %	100 %	20 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

35 *Commiphora pyracanthoides*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	0 %	0 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	80 %	100 %	0 %	0 %

36 *Commiphora schimperi*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	30 %	20 %	20 %	20 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

CACTACEAE

37 *Opuntia ficus-indica.*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	100 %	0 %	30 %	10 %	30 %

Uses as food and/or beverages	100 %	100 %	100 %	90 %	90 %

CAESALPINIACEAE

38 *Afzelia quanzensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	80 %	50 %	40 %	10 %
Medicinal Uses	70 %	20 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

39 *Cassia abbreviata*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	60 %	70 %	10 %	0 %
Medicinal Uses	80 %	20 %	50 %	10 %	0 %
Uses as food and/or beverages	-	-	-	-	-

40 *Colophospermum mopane*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	50 %
Medicinal Uses	40 %	20 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

41 *Peltophorum africanum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	50 %
Medicinal Uses	80 %	20 %	60 %	30 %	40 %
Uses as food and/or beverages	-	-	-	-	-

42 *Piliostigma thonningii*

Category	Traditional healers	Men	Women	Boys	Girls

Knowledge of Plant	100 %	100 %	100 %	30 %	50 %
Medicinal Uses	80 %	20 %	70 %	20 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	30 %	50 %

43 *Schotia brachypetala*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	20 %
Medicinal Uses	90 %	40 %	30 %	30 %	20 %
Uses as food and/or beverages	100 %	100 %	70 %	40 %	20 %

44 *Senna petersiana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	40 %
Medicinal Uses	80 %	20 %	30 %	20 %	30 %
Uses as food and/or beverages	100 %	80 %	90 %	40 %	30 %

CANNABINACEAE

45 *Cannabis sativa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	90 %	60 %	60 %	40 %	20 %
Uses as food and/or beverages	-	-	-	-	-

CAPPARACEAE

46 *Cleome gynandra*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	40 %	0 %	20 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	90 %	100 %

47 *Maerua angolensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	50 %	10 %	10 %
Medicinal Uses	100 %	40 %	50 %	10 %	10 %
Uses as food and/or beverages	-	-	-	-	-

CARICACEAE

48 *Carica papaya*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	80 %	40 %	80 %	50 %	70 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

CELASTRACEAE

49 *Elaeodendron transvaalense*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	80 %	50 %
Medicinal Uses	60 %	20 %	20 %	30 %	40 %
Uses as food and/or beverages	100 %	100 %	20 %	60 %	30 %

50 *Gymnosporia buxifolia*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	40 %
Medicinal Uses	90 %	20 %	70 %	10 %	30 %
Uses as food and/or beverages	-	-	-	-	-

51 *Gymnosporia senegalensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	50 %
Medicinal Uses	90 %	20 %	70 %	20 %	30 %

Uses as food and/or beverages	-	-	-	-	-

52 *Mystroxylon aethiopicum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	90 %	20 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	60 %	80 %	90 %	20 %	0 %

CHRYSOBALANACEAE

53 *Parinari curatellifolia*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	70 %	90 %
Medicinal Uses	60 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	50 %	60 %	30 %	50 %	80 %

COMBRETACEAE

54 *Combretum apiculatum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	30 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

55 *Combretum collinum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	30 %
Medicinal Uses	60 %	60 %	50 %	20 %	20 %
Uses as food and/or beverages	-	-	-	-	-

56 *Combretum erythrophyllum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	30 %
Medicinal Uses	60 %	60 %	50 %	20 %	20 %
Uses as food and/or beverages	-	-	-	-	-

57 *Combretum hereroense*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	40 %
Medicinal Uses	80 %	20 %	20 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

58 *Combretum imberbe*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	90 %
Medicinal Uses	70 %	40 %	50 %	30 %	30 %
Uses as food and/or beverages	-	-	-	-	-

59 *Combretum zeyheri*

Category	Traditional healers	Men	Women	Boy	Girls
Knowledge of Plant	90 %	80 %	70 %	20 %	10 %
Medicinal Uses	40 %	20 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

60 *Terminalia prunioides*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	70 %	40 %	30 %	10 %	10 %
Medicinal Uses	50 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

61 *Terminalia sericea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	80 %
Medicinal Uses	100 %	40 %	50 %	70 %	70 %
Uses as food and/or beverages	-	-	-	-	-

CONVOLVULACEAE

62 *Eriosema species*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	30 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	90 %	100 %	100 %	30 %	40 %

63 *Ipomoea batatas*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

CUCURBITACEAE

64 *Citrillus lanatus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	70 %	0 %	50 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	80 %	90 %	100 %

65 *Cucumis africanus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	80 %	40 %
Medicinal Uses	90 %	80 %	60 %	50 %	40 %
Uses as food and/or	-	-	-	-	-

beverages					

66 *Cucumis metuliferus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	100 %	50 %	60 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

67 *Cucurbita pepo*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	100 %
Medicinal Uses	70 %	20 %	50 %	30 %	30 %
Uses as food and/or beverages	100 %	100 %	100 %	90 %	90 %

68 *Lagenaria siceraria*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	100 %	80 %

69 *Momordica balsamina*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	50 %	20 %	30 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	80 %	100 %

70 *Momordica cardiospermoides*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	30 %	70 %
Medicinal Uses	100 %	20 %	70 %	20 %	50 %
Uses as food and/or	100 %	100 %	100 %	20 %	60 %

beverages					

CYPERACEAE

71 *Cyperus immensus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	30 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

72 *Cyperus textilis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	70 %	70 %	90 %	40 %	70 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

73 *Schoenoplectus brachyceras*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	60 %	60 %	70 %	20 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

DRACAENACEAE

74 *Sanseviera hyacinthoides*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	60 %
Medicinal Uses	70 %	40 %	30 %	20 %	20 %
Uses as food and/or beverages	-	-	-	-	-

EBENACEAE

75 *Diospyros lycioides*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	40 %	80 %	10 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	50 %	40 %	80 %	10 %	30 %

76 *Diospyros mespiliformis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	30 %	0 %	10 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	90 %

77 *Dombeya rotundifolia*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	60 %	60 %	50 %	0 %	0 %
Medicinal Uses	50 %	40 %	20 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

78 *Euclea divinorum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	80 %
Medicinal Uses	100 %	80 %	90 %	80 %	50 %
Uses as food and/or beverages	90 %	100 %	100 %	100 %	70 %

79 *Euclea natalensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	40 %
Medicinal Uses	100 %	100 %	80 %	60 %	10 %
Uses as food and/or beverages	100 %	100 %	100 %	60 %	40 %

EUPHORBIACEAE

80 *Antidesma venosum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	30 %	20 %
Medicinal Uses	60 %	20 %	60 %	20 %	0 %
Uses as food and/or beverages	80 %	80 %	100 %	20 %	0 %

81 *Croton megalobotrys*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	70 %	30 %	10 %
Medicinal Uses	100 %	70 %	20 %	30 %	0 %
Uses as food and/or beverages	-	-	-	-	-

82 *Euphorbia cooperi*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	20 %	20 %	0 %	20 %	0 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

83 *Euphorbia ingens*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	70 %	80 %	60 %	10 %	10 %
Medicinal Uses	40 %	20 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

84 *Euphorbia tirucalli*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	40 %	60 %	10 %	20 %
Medicinal Uses	60 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

85 *Flueggea virosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	40 %
Medicinal Uses	100 %	40 %	70 %	30 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	70 %	30 %

86 *Jatropha curcas*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	40 %	80 %
Medicinal Uses	80 %	20 %	30 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

87 *Manihot esculenta*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	50 %	0 %	70 %	0 %	0 %
Uses as food and/or beverages	100 %	80 %	100 %	90 %	100 %

88 *Monadenium lugardii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	60 %
Medicinal Uses	100 %	60 %	50 %	30 %	50 %
Uses as food and/or beverages	-	-	-	-	-

89 *Ricinus communis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	80 %
Medicinal Uses	60 %	40 %	30 %	10 %	20 %
Uses as food and/or beverages	-	-	-	-	-

90 *Spirostachys africana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	60 %	30 %
Medicinal Uses	80 %	20 %	30 %	40 %	30 %
Uses as food and/or beverages	-	-	-	-	-

FABACEAE

91 *Arachis hypogea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	100 %	90 %

92 *Bauhinia galpinii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	80 %	50 %	20 %	10 %
Medicinal Uses	30 %	0 %	20 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

93 *Bolusanthus speciosus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	50 %	0 %	20 %	10 %	0 %
Medicinal Uses	30 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

94 *Dalbergia melanoxylon*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	60 %
Medicinal Uses	70 %	20 %	40 %	20 %	10 %
Uses as food and/or beverages	-	-	-	-	-

95 *Erythrina humeana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	30 %	10 %	0 %	0 %	0 %
Medicinal Uses	30 %	10 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

96 *Mundulea sericea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	40 %
Medicinal Uses	30 %	10 %	0 %	10 %	0 %
Uses as food and/or beverages	-	-	-	-	-

97 *Ormocarpum trichocarpum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	50 %	40 %	70 %	0 %	10 %
Medicinal Uses	50 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

98 *Philenoptera violacea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	50 %
Medicinal Uses	100 %	40 %	50 %	30 %	30 %
Uses as food and/or beverages	-	-	-	-	-

99 *Pterocarpus angolensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	90 %	60 %	30 %
Medicinal Uses	100 %	20 %	70 %	30 %	30 %
Uses as food and/or beverages	-	-	-	-	-

100 *Pterocarpus rotundifolius*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	80 %	90 %	0 %	0 %
Medicinal Uses	60 %	20 %	30 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

101 *Vigna subterranea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	90 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	90 %	80 %

102 *Vigna unguiculata*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	60 %	20 %	30 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	90 %

FLACOURTIACEAE

103 *Flacourtia indica*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	70 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	60 %	60 %

104 *Scolopia zeyheri*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	70 %	40 %	70 %	0 %	10 %
Medicinal Uses	40 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	50 %	40 %	50 %	0 %	10 %

GRAMINEAE

105 *Bambusa vulgaris*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

HYPOXIDACEAE

106 *Hypoxis hemerocallidea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	60 %	90 %	10 %	50 %
Medicinal Uses	100 %	20 %	80 %	10 %	50 %
Uses as food and/or beverages	-	-	-	-	-

107 *Hypoxis rigidula*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	10 %	10 %
Medicinal Uses	100 %	60 %	70 %	10 %	10 %
Uses as food and/or beverages	-	-	-	-	-

IRIDACEAE

108 *Gladiolus crassifolius*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	20 %	40 %
Medicinal Uses	60 %	0 %	30 %	0 %	0 %
Uses as food and/or beverages	60 %	60 %	70 %	20 %	30 %

KIRKACEAE

109 *Kirkia acuminata*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	40 %	0 %	20 %	0 %	0 %
Medicinal Uses	20 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

110 *Kirkia wilmsii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	40 %	0 %	20 %	0 %	0 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

LAURACEAE

111 *Persea americana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	90 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	100 %	90 %

LOGANIACEAE

112 *Strychnos madagascariensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	70 %	0 %	50 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	90 %	80 %	90 %

113 *Strychnos spinosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	100 %	60 %	100 %	50 %	50 %

Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

MALVACEAE

114 *Gossypium herbaceum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	60 %	70 %	0 %	20 %
Medicinal Uses	60 %	20 %	30 %	0 %	20 %
Uses as food and/or beverages	-	-	-	-	-

115 *Hibiscus cannabinus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	70 %	70 %	80 %
Medicinal Uses	40 %	0 %	20 %	0 %	0 %
Uses as food and/or beverages					

MELIACEAE

116 *Ekebergia capensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	50 %	60 %	40 %	20 %	0 %
Medicinal Uses	50 %	20 %	40 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

117 *Melia azedarach*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	80 %	70 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

118 *Trichilia emetica*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	90 %	60 %	50 %	50 %	80 %
Uses as food and/or beverages	100 %	100 %	70 %	70 %	100 %

MENISPERMACEAE

119 *Cocculus hirsutus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	70 %	60 %	100 %	0 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

MIMOSACEAE

120 *Acacia ataxacantha*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	80 %	60 %	0 %	0 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

121 *Acacia caffra*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	40 %	30 %	20 %	20 %	10 %
Medicinal Uses	40 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

122 *Acacia erubescens*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	40 %	0 %	20 %	0 %	0 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or	-	-	-	-	-

beverages					

123 *Acacia exuvialis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	60 %
Medicinal Uses	100 %	30 %	50 %	20 %	10 %
Uses as food and/or beverages	-	-	-	-	-

124 *Acacia galpinii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	80 %	20 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

125 *Acacia gerrardii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	60 %
Medicinal Uses	60 %	10 %	30 %	0 %	0 %
Uses as food and/or beverages	30 %	40 %	20 %	0 %	0 %

126 *Acacia goetzei*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	40 %	30 %	20 %	20 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

127 *Acacia karroo*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	80 %	20 %	20 %

Medicinal Uses	80 %	0 %	60 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

128 *Acacia nigrescens*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	70 %
Medicinal Uses	80 %	60 %	70 %	50 %	50 %
Uses as food and/or beverages	-	-	-	-	-

129 *Acacia nilotica*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	80 %	60 %	20 %	20 %
Medicinal Uses	40 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

130 *Acacia senegal*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

131 *Acacia sieberiana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	70 %	10 %	20 %
Medicinal Uses	20 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

132 *Acacia xanthophloea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	40 %	90 %	30 %	20 %

Medicinal Uses	60 %	20 %	40 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

133 *Albizia harveyi*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	80 %	30 %
Medicinal Uses	70 %	40 %	30 %	20 %	10 %
Uses as food and/or beverages	-	-	-	-	-

134 *Albizia versicolor*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	20 %	20 %
Medicinal Uses	100 %	100 %	90 %	20 %	20 %
Uses as food and/or beverages	-	-	-	-	-

135 *Dichrostachys cinerea subs. africana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	10 %
Medicinal Uses	50 %	0 %	30 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

136 *Dichrostachys cinerea subs. nyassana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	20 %
Medicinal Uses	70 %	0 %	40 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

137 *Faidherbia albida*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	40 %	20 %	20 %	0 %	10 %

Medicinal Uses	20 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

138 *Sesbania bispinosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	100 %	70 %	30 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

MORACEAE

139 *Ficus burkei*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	60 %	20 %	20 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	80 %	70 %

140 *Ficus ingens*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	40 %	60 %	0 %	10 %
Medicinal Uses	40 %	20 %	20 %	0 %	0 %
Uses as food and/or beverages	20 %	0 %	40 %	0 %	10 %

141 *Ficus lutea*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	80 %	70 %	50 %	70 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	70 %	60 %	50 %	30 %	50 %

142 *Ficus stuhlmannii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	100 %
Medicinal Uses	60 %	20 %	20 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	80 %	70 %

143 *Ficus sur*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	80 %	70 %	50 %	70 %
Medicinal Uses	50 %	0 %	30 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

144 *Ficus sycomorus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	60 %	0 %	50 %	0 %	0 %
Uses as food and/or beverages	70 %	80 %	90 %	100 %	90 %

145 *Morus alba*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	90 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	90 %	90 %

MUSACEAE

146 *Musa sapientum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	40 %	20 %	20 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

MYRTACEAE

147 *Psidium guajava*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	90 %	40 %	50 %	60 %	60 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

148 *Syzygium guineense*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	100 %	90 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	80 %	80 %	100 %	100 %	80 %

149 *Syzygium species B*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	40 %	80 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	40 %	70 %

OLACACEAE

150 *Ximenia caffra*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	80 %
Medicinal Uses	100 %	20 %	50 %	30 %	40 %
Uses as food and/or beverages	100 %	100 %	100 %	60 %	70 %

PEDALIACEAE

151 *Dicerocaryum senecioides*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	90 %	100 %

Medicinal Uses	60 %	20 %	40 %	0 %	30 %
Uses as food and/or beverages	-	-	-	-	-

152 *Sesamum indicum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	0 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	0 %	10 %

153 *Sesamum triphyllum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	70 %	0 %	10 %
Medicinal Uses	30 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

POACEAE

154 *Aristida meridionalis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	60 %	70 %	40 %	50 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

155 *Cenchrus ciliaris*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	10 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

156 *Dactyloctenium australe*

Category	Traditional healers	Men	Women	Boys	Girls

Knowledge of Plant	70 %	40 %	60 %	30 %	30 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

157 *Heteropogon contortus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	40 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

158 *Hyparrhenia dichroa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	80 %	50 %	10 %	0 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

159 *Hyparrhenia hirta*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	60 %	80 %	50 %	0 %	30 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

160 *Hyperthelia dissoluta*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	30 %
Medicinal Uses	40 %	0 %	30 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

161 *Melinis repens*

Category	Traditional healers	Men	Women	Boys	Girls

Knowledge of Plant	80 %	80 %	70 %	40 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

162 *Panicum maximum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	40 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

163 *Pennisetum glaucum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	80 %	60 %
Medicinal Uses	80 %	20 %	50 %	50 %	40 %
Uses as food and/or beverages	100 %	100 %	60 %	60 %	60 %

164 *Phragmites mauritianus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	90 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

165 *Saccharum officinarum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

166 *Sorghum bicolor*

Category	Traditional healers	Men	Women	Boys	Girls

Knowledge of Plant	100 %	100 %	100 %	90 %	50 %
Medicinal Uses	30 %	20 %	30 %	0 %	0 %
Uses as food and/or beverages	100 %	80 %	70 %	60 %	50 %

167 *Sorghum species*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	90 %	100 %

168 *Sporobolus pyramidalis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	20 %	50 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

169 *Themeda triandra*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	20 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

170 *Tricholaena monachne*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	40 %	20 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

171 *Urochloa stolonifera*

Category	Traditional healers	Men	Women	Boys	Girls

Knowledge of Plant	90 %	60 %	100 %	0 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	70 %	60 %	50 %	0 %	0 %

172 *Zea mays*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	70 %	50 %	0 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	100 %	100 %	100 %

PROTEACEAE

173 *Faurea saligna*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	40 %	0 %	0 %	0 %	0 %
Medicinal Uses	20 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

RHAMNACEAE

174 *Berchemia discolor*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	60 %	30 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	40 %	30 %

175 *Berchemia zeyheri*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	50 %	40 %
Medicinal Uses	60 %	0 %	20 %	0 %	0 %
Uses as food and/or beverages	100 %	100 %	90 %	40 %	40 %

176 *Ziziphus mucronata*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	70 %	40 %
Medicinal Uses	100 %	40 %	100 %	30 %	20 %
Uses as food and/or beverages	100 %	100 %	100 %	70 %	40 %

RUBIACEAE

177 *Breonadia salicina*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	80 %	20 %	20 %
Medicinal Uses	80 %	40 %	60 %	10 %	20 %
Uses as food and/or beverages	-	-	-	-	-

178 *Catunaregam spinosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	60 %	70 %	10 %	0 %
Medicinal Uses	100 %	0 %	70 %	10 %	0 %
Uses as food and/or beverages	-	-	-	-	-

179 *Gardenia volkensii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	30 %	0 %
Medicinal Uses	100 %	60 %	70 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

180 *Pavetta schumanniana*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	60 %	0 %	0 %	0 %	0 %
Medicinal Uses	60 %	0 %	0 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

181 *Vangueria infausta*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	80 %	90 %
Medicinal Uses	90 %	40 %	50 %	30 %	60 %
Uses as food and/or beverages	100 %	100 %	100 %	80 %	80 %

RUTACEAE

182 *Zanthoxylum capense*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	90 %	60 %	70 %	10 %	40 %
Medicinal Uses	90 %	20 %	50 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

SAPINDACEAE

183 *Pappea capensis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	30 %	0 %	20 %	0 %	0 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	30 %	0 %	20 %	0 %	0 %

SAPOTACEAE

184 *Englerophytum magalismontanum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	60 %	40 %	60 %	20 %	30 %
Medicinal Uses	20 %	0 %	20 %	10 %	10 %
Uses as food and/or beverages	60 %	20 %	60 %	20 %	20 %

SOLANACEAE

185 *Capsicum annuum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	80 %	90 %	100 %

186 *Datura stramonium*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	80 %	60 %	90 %	30 %	30 %
Medicinal Uses	50 %	40 %	40 %	20 %	30 %
Uses as food and/or beverages	-	-	-	-	-

187 *Nicotiana tabacum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	90 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	-	-	-	-	-

188 *Solanum lichtensteinnii*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	0 %	10 %
Medicinal Uses	80 %	60 %	50 %	50 %	0 %
Uses as food and/or beverages	-	-	-	-	-

189 *Solanum nigrum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	30 %	40 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	20 %	40 %

190 *Solanum panduriforme*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	50 %	10 %
Medicinal Uses	80 %	0 %	50 %	20 %	10 %
Uses as food and/or beverages	-	-	-	-	-

TILIACEAE

191 *Corchorus tridens*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	100 %	100 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	100 %	100 %	90 %	100 %

192 *Grewia flavescens*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	40 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	80 %	100 %	30 %	10 %

193 *Grewia monticola*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	30 %	10 %
Medicinal Uses	80 %	20 %	50 %	10 %	0 %
Uses as food and/or beverages	90 %	80 %	100 %	30 %	10 %

194 *Grewia subspathulatas*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	80 %	100 %	20 %	10 %
Medicinal Uses	-	-	-	-	-
Uses as food and/or beverages	100 %	80 %	100 %	20 %	10 %

URTICACEAE

195 *Pouzolzia mixta*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	20 %	90 %	0 %	10 %
Medicinal Uses	100 %	20 %	70 %	0 %	10 %
Uses as food and/or beverages	-	-	-	-	-

VERBENACEAE

196 *Clerodendrum glabrum*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	70 %	0 %	60 %	0 %	0 %
Medicinal Uses	70 %	0 %	60 %	0 %	0 %
Uses as food and/or beverages	-	-	-	-	-

197 *Lantana rugosa*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	70 %	70 %	60 %
Medicinal Uses	70 %	40 %	30 %	10 %	10 %
Uses as food and/or beverages	100 %	100 %	70 %	70 %	60 %

198 *Lippia javanica*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	60 %	100 %	20 %	10 %
Medicinal Uses	100 %	40 %	70 %	10 %	10 %
Uses as food and/or beverages	-	-	-	-	-

VITACEAE

199 *Cissus quadrangularis*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	80 %	30 %	20 %

Medicinal Uses	100 %	80 %	80 %	30 %	10 %
Uses as food and/or beverages	-	-	-	-	-

ZINGIBERACEAE

200 *Siphonochilus aethiopicus*

Category	Traditional healers	Men	Women	Boys	Girls
Knowledge of Plant	100 %	100 %	100 %	20 %	10 %
Medicinal Uses	100 %	100 %	100 %	20 %	10 %
Uses as food and/or beverages	-	-	-	-	-

The tables below indicate the average knowledge of plants and the average uses thereof per category:

Table 30: Mean scores on ethnobotanical knowledge and uses by different categories

Descriptive					
		N	Mean	Std. Deviation	Std. Error
Knowledge	Trad.Healer	50	180.26	3.1416	0.4443
	Males	50	162.98	3.7225	0.5264
	Females	50	168.22	3.8507	0.5446
	Boys	50	95.7	5.3232	0.7528
	Girls	50	87.56	5.0675	0.7167
Medicine	Trad.Healer	50	89.74	4.6017	0.6508
	Males	50	32.64	4.4205	0.6252
	Females	50	48.44	5.4066	0.7646
	Boys	50	18.76	3.4733	0.4912
	Girls	50	17.54	3.3455	0.4731
Uses	Trad.Healer	50	75.62	2.5546	0.3613
	Males	50	71.84	2.3850	0.3373
	Females	50	73.76	2.5679	0.3632
	Boys	50	48.64	3.0221	0.4274
	Girls	50	48.18	3.2682	0.4622

Table 31: Multiple comparisons

Multiple Comparisons					
Bonferroni					
Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	p-value Sig.
Knowledge	Trad.Healer	Males	17.28	0.8606	0.000
		Females	12.04	0.8606	0.000
		Boys	84.56	0.8606	0.000
		Girls	92.7	0.8606	0.000
	Males	Trad.Healer	-17.28	0.8606	0.000
		Females	-5.24	0.8606	0.000
		Boys	67.28	0.8606	0.000
		Girls	75.42	0.8606	0.000
	Females	Trad.Healer	-12.04	0.8606	0.000
		Males	5.24	0.8606	0.000
		Boys	72.52	0.8606	0.000
		Girls	80.66	0.8606	0.000
	Boys	Trad.Healer	-84.56	0.8606	0.000
		Males	-67.28	0.8606	0.000
		Females	-72.52	0.8606	0.000
		Girls	8.14	0.8606	0.000
	Girls	Trad.Healer	-92.7	0.8606	0.000
		Males	-75.42	0.8606	0.000
		Females	-80.66	0.8606	0.000
		Boys	-8.14	0.8606	0.000
Medicinal	Trad.Healer	Males	57.1	0.8635	0.000
		Females	41.3	0.8635	0.000
		Boys	70.98	0.8635	0.000
		Girls	72.2	0.8635	0.000
	Males	Trad.Healer	-57.1	0.8635	0.000
		Females	-15.8	0.8635	0.000
		Boys	13.88	0.8635	0.000
		Girls	15.1	0.8635	0.000
	Females	Trad.Healer	-41.3	0.8635	0.000
		Males	15.8	0.8635	0.000
		Boys	29.68	0.8635	0.000
		Girls	30.9	0.8635	0.000
	Boys	Trad.Healer	-70.98	0.8635	0.000
		Males	-13.88	0.8635	0.000
		Females	-29.68	0.8635	0.000
		Girls	1.22	0.8635	1.000
	Girls	Trad.Healer	-72.2	0.8635	0.000
		Males	-15.1	0.8635	0.000
		Females	-30.9	0.8635	0.000
		Boys	-1.22	0.8635	1.000
Other Uses	Trad.Healer	Males	3.78	0.5559	0.000

		Females	1.86	0.5559	0.009
		Boys	26.98	0.5559	0.000
		Girls	27.44	0.5559	0.000
	Males	Trad.Healer	-3.78	0.5559	0.000
		Females	-1.92	0.5559	0.007
		Boys	23.2	0.5559	0.000
		Girls	23.66	0.5559	0.000
	Females	Trad.Healer	-1.86	0.5559	0.009
		Males	1.92	0.5559	0.007
		Boys	25.12	0.5559	0.000
		Girls	25.58	0.5559	0.000
	Boys	Trad.Healer	-26.98	0.5559	0.000
		Males	-23.2	0.5559	0.000
		Females	-25.12	0.5559	0.000
		Girls	0.46	0.5559	1.000
	Girls	Trad.Healer	-27.44	0.5559	0.000
		Males	-23.66	0.5559	0.000
		Females	-25.58	0.5559	0.000
		Boys	-0.46	0.5559	1.000

N.B: The mean difference is significant at the 0.05 level

Graphically the mean score knowledge and uses above can be presented as follows:

Figure 9 Knowledge of different plants species

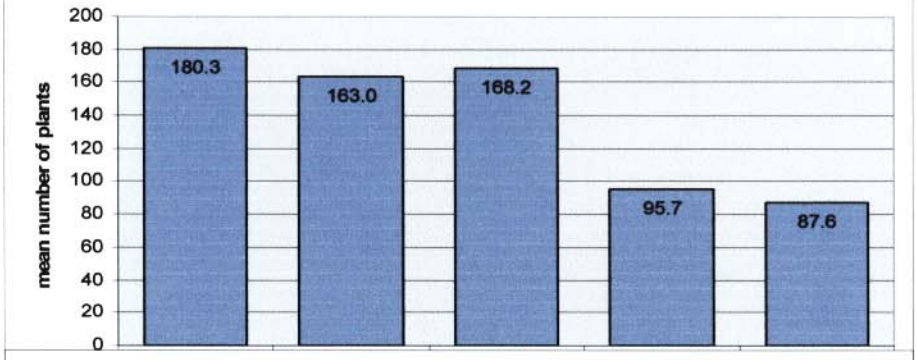


Figure 10 Knowledge about medicinal uses of plants

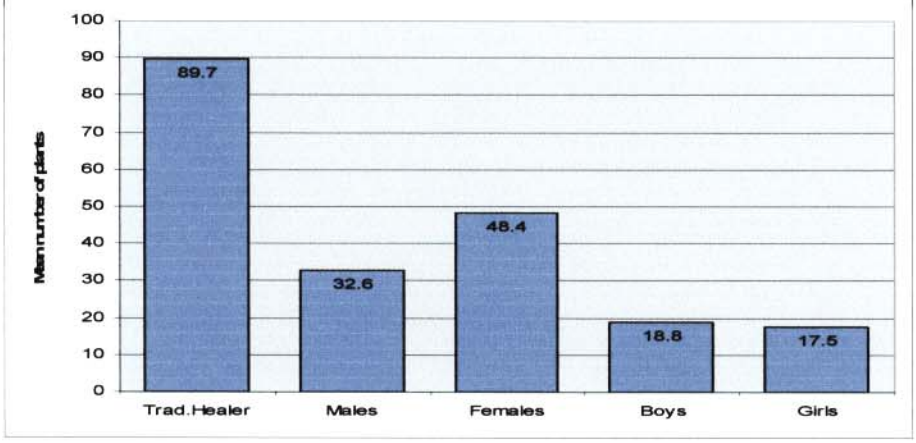
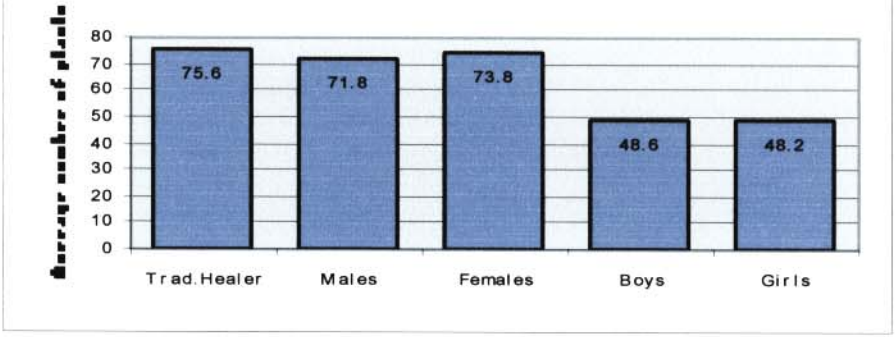


Figure 11 Average uses of plants as food and drinks



4.2 Comparisons of mean knowledge scores, mean medicinal score uses and mean scores for other uses between traditional healers, males, females, boys and girls

4.2.1 Comparison of mean knowledge of plant species between traditional healers, males, females, boys and girls (**Figure 10**):

The Analysis of Variance (ANOVA) indicates that the mean knowledge of all five groups is not equal. The measure rate of differences between the dependent variables is the p-value 0.05. If the p-value is <0.05 the differences are significant but not significant if the p-value is >0.05. The traditional healers (180.3) differ significantly from other groups (comparison shows that in all instances $P<0.05$). Traditional healers' mean knowledge is significantly higher than all other groups because of their daily association with plants. The analysis shows that there are no significant differences between the female (168.2) and male (163.0) groups ($P>0.05$). Males and females in rural areas are almost equally exposed to their physical environment; males cutting different plant species for the construction of kraals, huts and maize storages and women collect firewood, fruits and sedge for making mats and basketry. Both males and females have significantly the second highest mean knowledge of plants because they are more exposed to the natural environment than girls and boys who attend schooling. The differences in mean knowledge between boys (95.7) and girls (87.6) are significant ($P<0.05$). In the early years of their life both boys and girls are exposed to the natural environment. Boys however, spend more time in the veld than girls. For instance they may spend the whole day in the veld tending cattle compared to girls who will spend about two to three hours only collecting firewood which is not even a daily activity.

4.2.2 Comparison of mean medicinal plant uses between traditional healers, males, females, boys and girls (**Figure 11**):

The ANOVA also indicates that there are significant differences between all groups in the mean medicinal uses. Traditional healers (89.7) are significantly higher than all the

groups; followed by females (48.4); males (32.6); boys (18.8) and lastly girls (17.5), ($P<0.05$). The daily exposure of the traditional healers to medicinal plants and the training that they receive from their mentors during the initiation period make them differ significantly from the rest of the groups. There are significant differences also between females (48.4) and males (32.6), ($P<0.05$). This could be due to the fact that the health care of the entire family rests upon the woman who should constantly visit traditional practitioners. Men who are usually away from home due to migrancy visit practitioners less frequently than females and only when the illness is more severe. Between boys (18.8) and girls (17.5) the differences in the mean medicinal uses is not significant ($P>0.05$). The Tsonga–Shangana culture does not encourage young people to visit traditional pactitioners alone. Parents usually consult on behalf of their children. Young people therefore are denied the opportunity of coming into closer contact with traditional practitioners and use medicines less frequently.

4.2.3 Comparison of 'other uses' between traditional healers, males, females, boys and girls (**Figure 12**):

The ANOVA further shows that in the mean uses of plants other than medicinal uses the difference between traditional healers (75.6) and females (73.8) is not significant ($P>0.05$). The difference between traditional healers (75.6) and males (71.8) or females (73.8) and males (71.8) is statistically significant ($P<0.05$). Usually most of the males in rural areas are migrant labourers while women are constantly at home accomplishing domestic duties including collection of firewood and fruits of *Sclerocarya birrea* and other plants. Like females all traditional healers were full-time present at home fulfilling activities other than medical. The activities of females and traditional healers in this regard are somewhat similar but different from the males. Shilubane (1990: 98) in support of other researchers maintains that spirit possession being a profession for women compels possessed males to perform activities that are culturally assigned to females. Between boys (48.6) and girls (48.2) the differences are not significant ($P>0.05$). The issue of engagement in schooling makes the two groups to have equal but limited opportunities to associate with the natural environment.

Table 32: Knowledge about the 200 plant species among the informants

Legends:

% species represented											
Total no. of species represented	2	8	6	6	18	20	29	26	35	22	28
% informant range knowing species	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100

Name plant species	Percentage of informant range knowing the species										
	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100
Erythrina humeana											
Faurea saligna											
Euphorbia cooperi											
Bolusanthus speciosus											
Kirkia acuminata											
Kirkia wilmsii											
Acacia erubescens											
Faidherbia albida											
Pavetta schumanniana											
Pappea capensis											
Cussonia spicata											
Commiphora glandulosa											
Commiphora schimperi											
Acacia caffra											
Acacia goetzei											
Clerodendrum glabrum											
Terminalia prunioides											

Dombeya rotundifolia											
Ormocarpum trichocarpum											
Scolopia zeyheri											
Ekebergia capensis											
Ficus ingens											
Lannea edulis											
Ozoroa insignis											
Ozoroa sphaerocarpa											
Rhus rehmanniana											
Epaltes gariepinia											
Balanites maughamii											
Cassia abbreviata											
Euphorbia ingens											
Euphorbia tirucalli											
Gossypium herbaceum											
Cocculus hirsutus											
Acacia ataxacantha											
Dactyloctenium australe											
Hyparrhenia dichroa											
Hyparrhenia hirta											
Catunaregam spinosa											
Englerophytum magalismontanum											
Pouzolzia mixta											
Boophane disticha											
Lannea discolor											
Asclepias fallax											

Aloe zebrine											
Kigelia africana											
Commiphora mollis											
Afzelia quanzensis											
Maerua angolensis											
Combretum zeyheri											
Schoenoplectus brachycerus											
Diospyros lycioides											
Bauhinia galpinii											
Pterocarpus rotundifolius											
Acacia nilotica											
Acacia sieberiana											
Sesamum triphyllum											
Urochloa stolonifera											
Zanthoxylum capense											
Datura stramonium											
Lippia javanica											
Zaleya pentandra											
Balanites pedicillaris											
Commiphora pyracanthoides											
Mystroxylon aethiopicum											
Cucumis metuliferus											
Cyperus textilis											
Antidesma venosum											
Croton megalobotrys											

Hypoxis hemerocallidea											
Hypoxis rigidula											
Gladiolus crassifolius											
Acacia galpinii											
Acacia karroo											
Albizia versicolor											
Sesbania bispinosa											
Sesamum indicum											
Aristida meridionalis											
Cenchrus ciliaris											
Melinis repens											
Themeda triandra											
Zaleya pentandra											
Balanites pedicillaris											
Commiphora pyracanthoides											
Mystroxylon aethiopicum											
Cucumis metuliferus											
Cyperus textilis											
Antidesma venosum											
Croton megalobotrys											
Hypoxis hemerocallidea											
Amaranthus hybridus											
Amaranthus spinosus											
Phoenix reclinata											
Ehretia rigida											
Piliostigma											

thonningii											
Senna petersiana											
Gymnosporia buxifolia											
Combretum apiculatum											
Eriosema species											
Cyperus immensus											
Spirostachys Africana											
Pterocarpus angolensi											
Bambusa vulgaris											
Acacia xanthophloea											
Dichrostachys cinerea subs. Africana											
Ficus lutea											
Ficus sur											
Heteropogon contortus											
Hyperthelia dissolute											
Panicum maximum											
Tricholaena monachne											
Sporobolus pyramidalis											
Berchemia discolour											
Berchemia zeyheri											
Solanum nigrum											
Schotia brachypetala											
Lannea schweinfurthii											
Carissa bispinosa											
Stylochiton natalensis											

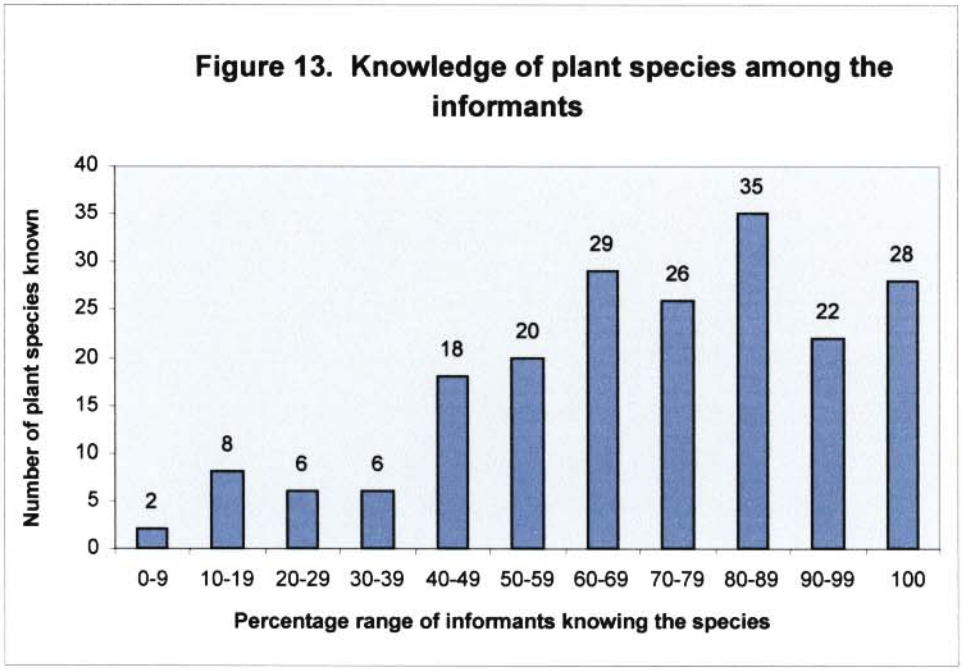
Asparagus cooperi											
Adansonia digitata											
Colophospermum mopane											
Peltophorum africanum											
Elaeodendron transvaalense											
Gymnosporia senegalensis											
Parinari curatellifolia											
Combretum collinum											
Combretum erythrophyllum											
Combretum hereroense											
Cucumis africanus											
Momordica cardiospermoides											
Sanseviera hyacinthoides											
Euclea natalensis											
Flueggea virosa											
Jatropha curcas											
Monadenium lugardii											
Mundulea sericea											
Philenoptera violacea											
Flacourtia indica											
Hibiscus cannabinus											
Acacia exuvialis											
Acacia gerrardii											
Acacia senegal											
Albizia harveyi											
Dichrostachys											

cinerea subs. Nyassana											
Syzygium species B											
Ximenia caffra											
Pennisetum glaucum											
Sorghum bicolor											
Ziziphus mucronata											
Lantana rugosa											
Agave sisalana											
Annona senegalensis											
Aloe marlothii											
Bidens pilosa											
Ehretia amoena											
Combretum imberbe											
Terminalia sericea											
Cucurbita pepo											
Euclea divinorum											
Ricinus communis											
Dalbergia melanoxylon											
Vigna subterranea											
Persea americana											
Melia azedarach											
Acacia nigrescens											
Ficus stuhlmannii											
Morus alba											
Syzygium guineense											
Dicerocaryum senecioides											
Phragmites mauritianus											

Vangueria infausta											
Nicotiana tabacum											
Amaranthus thunbergii											
Sclerocarya birrea											
Carissa edulis											
Colocasia esculenta											
Opuntia ficus-indica.											
Cannabis sativa											
Cleome gynandra											
Carica papaya											
Ipomoea batatas											
Citrillus lanatus											
Lagenaria siceraria											
Momordica balsamina											
Diospyros mespiliformis											
Manihot esculenta											
Arachis hypogea											
Vigna unguiculata											
Strychnos madagascariensis											
Strychnos spinosa											
Trichilia emetica											
Ficus burkei											
Ficus sycomorus											
Musa sapientum											
Psidium guajava											
Saccharum officinarum											
Sorghum species											

Zea mays											
Capsicum annuum											
Corchorus tridens											

The graph below illustrates the differences in the knowledge of the 200 plant species more vividly.



The following 135 plant species are medicinally used by the informants as follows:

Table 33: Frequency of use of medicinal plant species by the informants

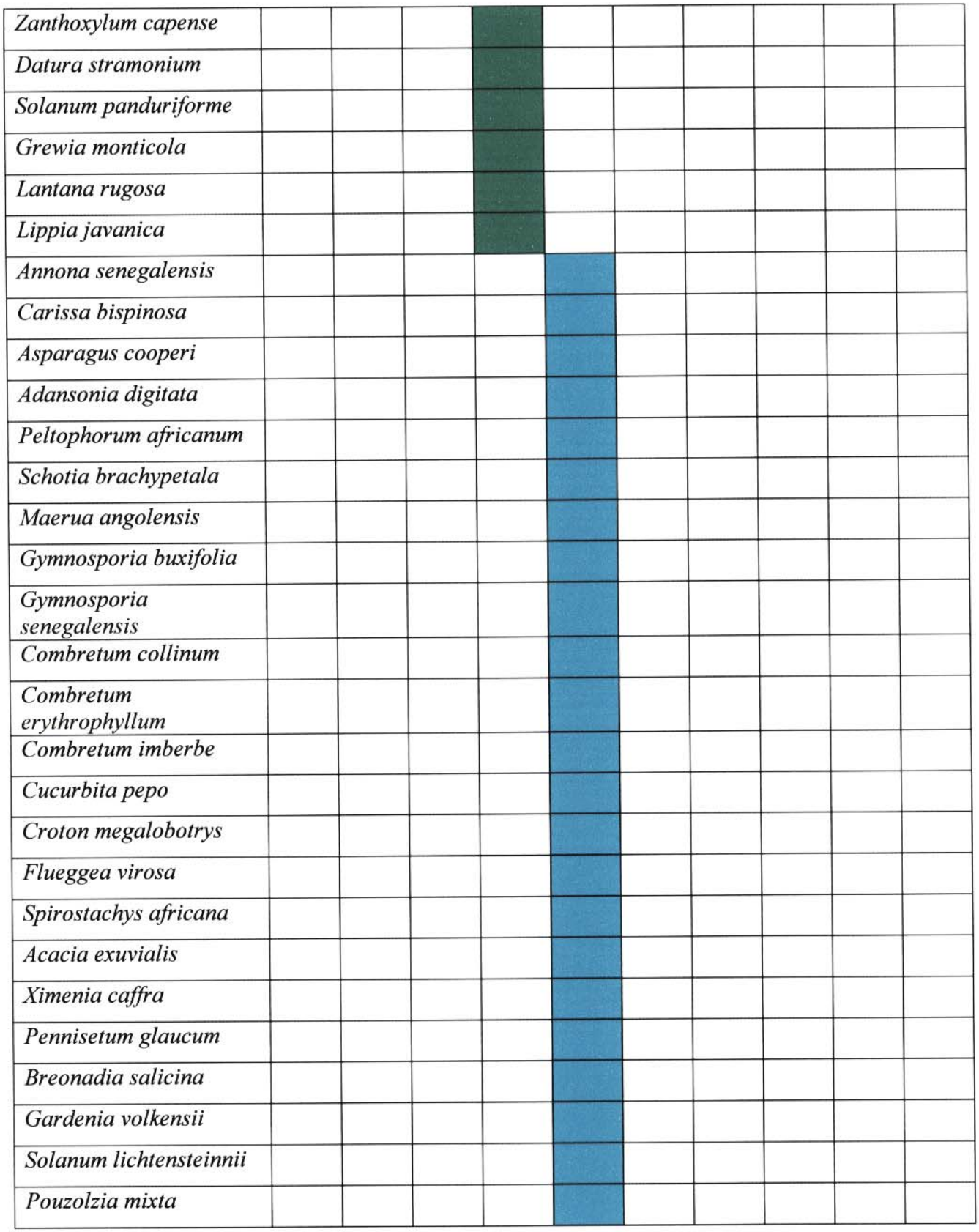
Legends:

% species represented										
Total no. of species represented	15	28	26	20	23	9	9	3	1	1
% informant range using the species medicinally	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99

Name of the species	Percentage range of informants using the species medicinally									
	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Ozoroa insignis										
Ozoroa sphaerocarpa										
Cussonia spicata										
Diospyros mespiliformis										
Bolusanthus speciosus										
Erythrina humeana										
Scolopia zeyheri										
Kirkia acuminata										
Acacia caffra										
Acacia nilotica										
Acacia sieberiana										
Faidherbia albida										
Sesamum indicum										
Sesamum triphyllum										
Faurea saligna										
Lannea discolor										
Rhus rehmanniana										
Aloe zebrina										
Bidens pilosa										
Ehretia amoena										
Ehretia rigida										
Afzelia quanzensis										
Colophospermum mopane										
Cleome gynandra										
Parinari curatellifolia										
Combretum zeyheri										

Terminalia prunioides										
Euphorbia ingens										
Euphorbia tirucalli										
Bauhinia galpinii										
Mundulea sericea										
Ormocarpum trichocarpum										
Gladiolus crassifolius										
Hibiscus cannabinus										
Dichrostachys cinerea subs. africana										
Ficus ingens										
Ficus sur										
Musa sapientum										
Hyperthelia dissoluta										
Sorghum bicolor										
Berchemia zeyheri										
Pavetta schumanniana										
Englerophytum magalismontanum										
Lannea edulis										
Lannea schweinfurthii										
Sclerocarya birrea										
Stylochiton natalensis										
Balanites maughamii										
Kigelia africana										
Combretum hereroense										
Citrillus lanatus										
Momordica balsamina										
Dombeya rotundifolia										
Jatropha curcas										
Manihot esculenta										

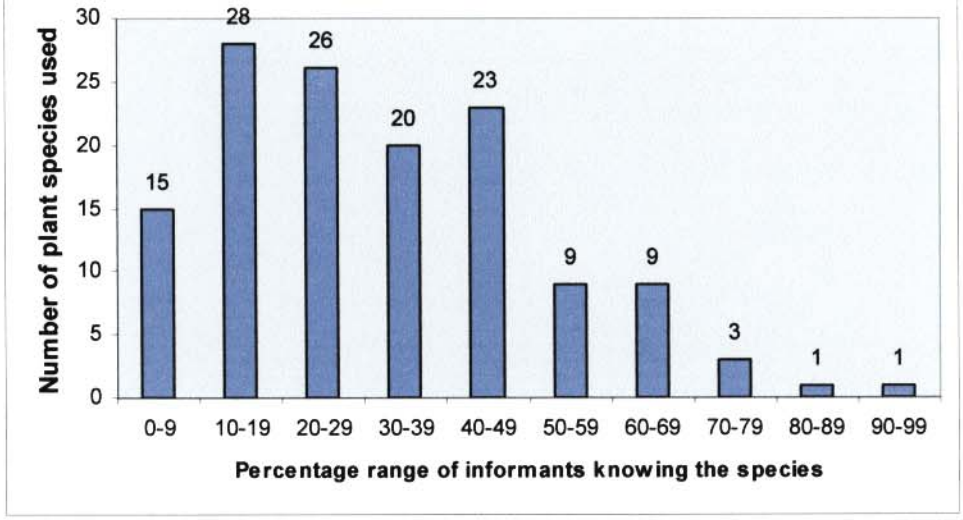
Pterocarpus rotundifolius										
Vigna unguiculata										
Strychnos madagascariensis										
Gossypium herbaceum										
Ekebergia capensis										
Acacia gerrardii										
Acacia karroo										
Acacia xanthophloea										
Dichrostachys cinerea subs. nyassana										
Ficus burkei										
Ficus stuhlmannii										
Ficus sycomorus										
Zea mays										
Clerodendrum glabrum										
Boophane disticha										
Epaltes gariepinia										
Opuntia ficus-indica.										
Cassia abbreviata										
Piliostigma thonningii										
Senna petersiana										
Elaeodendron transvaalense										
Sanseviera hyacinthoides										
Antidesma venosum										
Ricinus communis										
Dalbergia melanoxylon										
Albizia harveyi										
Dicerocaryum senecioides										
Catunaregam spinosa										


Zanthoxylum capense
Datura stramonium
Solanum panduriforme
Grewia monticola
Lantana rugosa
Lippia javanica
Annona senegalensis
Carissa bispinosa
Asparagus cooperi
Adansonia digitata
Peltophorum africanum
Schotia brachypetala
Maerua angolensis
Gymnosporia buxifolia
Gymnosporia senegalensis
Combretum collinum
Combretum erythrophyllum
Combretum imberbe
Cucurbita pepo
Croton megalobotrys
Flueggea virosa
Spirostachys africana
Acacia exuvialis
Ximenia caffra
Pennisetum glaucum
Breonadia salicina
Gardenia volkensii
Solanum lichtensteinnii
Pouzolzia mixta

Carissa edulis										
Cannabis sativa										
Monadenium lugardii										
Philenoptera violacea										
Pterocarpus angolensi										
Hypoxis hemerocallidea										
Hypoxis rigidula										
Ziziphus mucronata										
Vangueria infausta										
Carica papaya										
Terminalia sericea										
Cucumis africanus										
Trichilia emetica										
Acacia nigrescens										
Albizia versicolor										
Psidium guajava										
Cissus quadrangularis										
Siphonochilus aethiopicus										
Momordica cardiospermoides										
Euclea natalensis										
Strychnos spinosa										
Euclea divinorum										
Aloe marlothii										

The ensuing bar graph gives a more vivid picture of the frequency of use of the various medicinal plants by the informants

Figure 16. Frequency of medicinal uses of plant species by informants



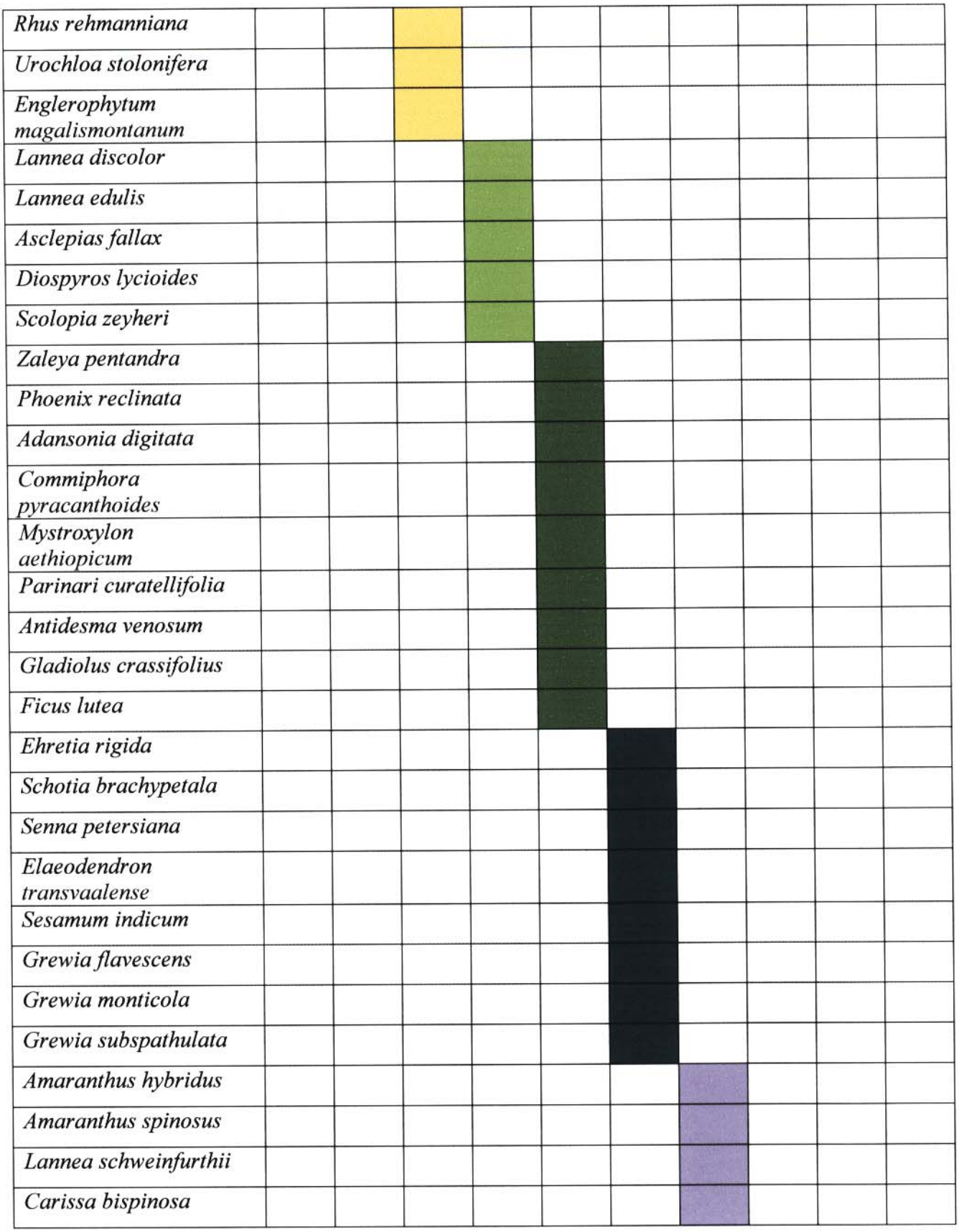
In the following table a total number of 85 plant species are listed and their frequency of use by the informants indicated.

Table 34: Plant species used for food and beverage by the informants

Legends:

% species represented										
Total no. of species represented	3	0	3	5	9	8	12	11	25	9
% informant range using the species for food and beverage	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100

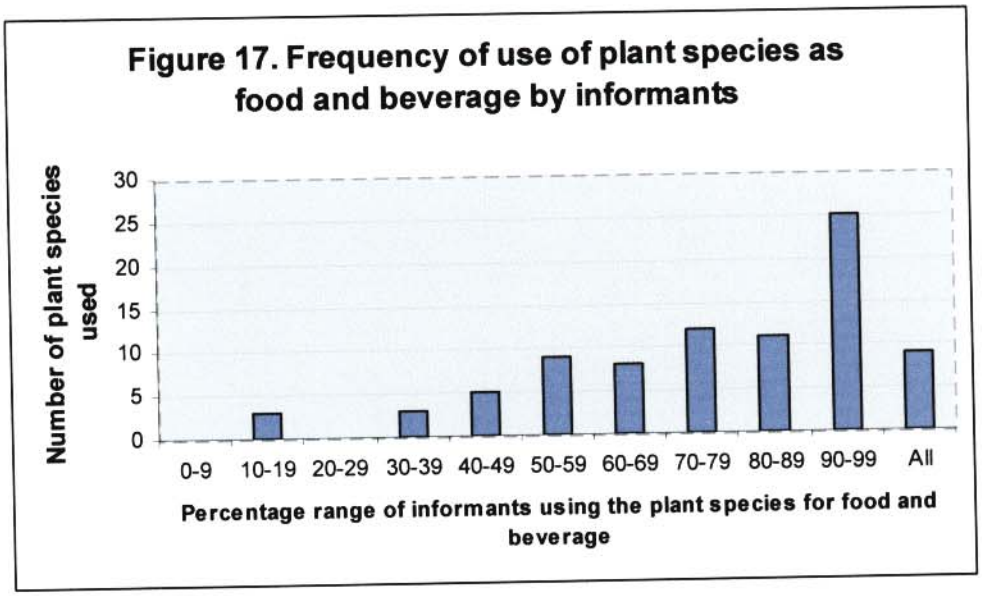
Name of the plant	Percentage range of informants using the species for food and beverage									
	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100
Acacia gerrardii										
Ficus ingens										
Pappea capensis										


Rhus rehmanniana
Urochloa stolonifera
Englerophytum magalismontanum
Lannea discolor
Lannea edulis
Asclepias fallax
Diospyros lycioides
Scolopia zeyheri
Zaleya pentandra
Phoenix reclinata
Adansonia digitata
Commiphora pyracanthoides
Mystroxylon aethiopicum
Parinari curatellifolia
Antidesma venosum
Gladiolus crassifolius
Ficus lutea
Ehretia rigida
Schotia brachypetala
Senna petersiana
Elaeodendron transvaalense
Sesamum indicum
Grewia flavescens
Grewia monticola
Grewia subspathulata
Amaranthus hybridus
Amaranthus spinosus
Lannea schweinfurthii
Carissa bispinosa

Piliostigma thonningii										
Eriosema species										
Momordica cardiospermoides										
Pennisetum glaucum										
Sorghum bicolor										
Berchemia discolor										
Berchemia zeyheri										
Solanum nigrum										
Ehretia amoena										
Euclea natalensis										
Flueggea virosa										
Flacourtia indica										
Trichilia emetica										
Ficus sycomorus										
Syzygium guineense										
Syzygium species B										
Ximenia caffra										
Ziziphus mucronata										
Lantana rugosa										
Amaranthus thunbergii										
Annona senegalensis										
Colocasia esculenta										
Bidens pilosa										
Opuntia ficus-indica										
Cleome gynandra										
Citrillus lanatus										
Cucurbita pepo										
Lagenaria siceraria										
Momordica balsamina										

Diospyros mespiliformis	
Euclea divinorum	
Manihot esculenta	
Arachis hypogea	
Vigna subterranea	
Vigna unguiculata	
Persea americana	
Strychnos madagascariensis	
Ficus burkei	
Ficus stuhlmannii	
Morus alba	
Sorghum species	
Vangueria infausta	
Capsicum annuum	
Corchorus tridens	
Sclerocarya birrea	
Carissa edulis	
Carica papaya	
Ipomoea batatas	
Strychnos spinosa	
Musa sapientum	
Psidium guajava	
Saccharum officinarum	
Zea mays	

The following bar graph gives a summary of the information in Table 34 to show the extent to which each of the 85 species is utilised by the informants.



From both Table 34 and Figure 15, it is evidently clear that plant species differ in their popularity; with some being better known than others. A total number of 28 species for instance is known by all informants as compared to the two species as reflected in Table 34 and Figure 15 which are known to a small percentage of informant range of 1-9. A total number of other species included in the bracket of more familiar species are 22; 35; 26 and 29 that are known by the informant range of 90-99 %; 80-89 %; 70-79 % and 60-69 % respectively. Other plant species that are less famous constitute a total of 18; 6; another 6 and 8 in numbers known to the informant range of 40-49 %; 30-39 %; 20-29 %; and 10-19 % respectively. From Figure 15 it is also evident that 35 species form the highest number of all species known as opposed to the 2 species which constitute the least known number of species.

The research also identified a total of 135 plant species, as having some medicinal value (see Table 33 and Figure 14). The research further established that the frequency of medicinal uses of the various species also differ markedly, with 1 species each used by a total informant range of 90-99 % and 80-89 % while 15 species are used by informant range of 1-9 only. Species 3 and 9 are used by a range of 70-79 %and 60-69 %, with 9 other species used on an average basis. The total number of plant species used below

average is 23; 20; 26 and 28 which are used by a range of 40-49 %; 30-39 %; 20-29 % and 10-19 % respectively. Evidently the 14 species that are medicinally used above average are far less than the112 species used below the average.

A total number of 85 plant species (see Table 34 and Figure 15) were identified as used for food and beverage. Out of the 85 species, 9 species are used by all the informants while 25 other species are utilized by the range of 90-99 % informants. The 25 species constitute the highest number of species utilized for food and beverage. Other species which belong to the category of above average uses are 11; 12; and 8, which are used by the ranges of 80-89 %; 70-79 % and 60-69 % respectively. Species that are used the least include 5; 3 and another 3 used respectively by ranges 40-49 %; 30-39 % and 10-19 %. No plant species used by ranges 1-9 % and 20-29 % was identified. These ranges have therefore not been reflected in the bar graph in Figure 15.

CHAPTER 5

CATEGORIES OF PLANT USES AND INDIGENOUS CLASSIFICATION

The purpose of this chapter is to give an analytic review of plant species and their uses described in Chapter 3. The analysis lays the foundation for easy cross-references and the facilitation of a comparative study offered in the next chapter. The mode of the classification and categorization of the flora bear evidence of the people's knowledge system. From the categories, the degree of the functional significance of the plant resources to the local inhabitants becomes clear.

5.1 Plant uses

The entire area of Bohlabela district is exceptionally rich in plant diversity. The list of the 200 plant species identified in this study is far from exhaustive. The Tsonga-Shangana have a wide variety of plants at their disposal and regularly use them for food, medicine, beverage, shelter, fuel, building and other necessities of life. Although the socio-cultural and environmental landscapes are changing as illustrated in Chapter 7, and have severely eroded the indigenous knowledge base, plants still play an important role in the daily lives of the Tsonga-Shangana. This chapter presents a breakdown of the 200 plant species collected and identified during fieldwork. The analysis indicates the part of the plant used and the nature of its use. The list makes provision for the following features:

a) Where two or more options appear in the same column and the plant part is used for all the options, the entire column is coloured without anything written in it, e.g.

Plant name	Part used	Food & beverage
Sclerocarya birrea	Fr	

If the plant part is used for one option only, the relevant use is indicated in writing, e.g.

Plant name	Part used	Food & beverage
Sclerocarya birrea	Fr	Food

b) To avoid long description of diseases and conditions the following medical terms which are shorter and accurate, have been used:

Snake or scorpion bite	=	Antidote
Heavy menstruation	=	Menorrhagia
Body swelling	=	Oedema
Painful menstruation	=	Dysmenorrhoea
Cessation of menses	=	Amenorrhoea
To increase sweating	=	Diaphrotic
Remedy for all diseases	=	Panacea
Nose bleeding	=	Epistaxis
Blood in urine	=	Haematuria

c) The following abbreviations specific to this study only have been used:

Bark	= Bk	Root smoke	= Rt.smk
Bulb	= Blb	Sap	= S
Flower	= Flw	Seeds	= Sds
Fruit	= Fr	Stem	= St
Gum	= G	Thorn	= Thn
Inner bark	= In.b	Twig	= Twg
Leaf	= Lf	Whole plant	= W.plt
Root	= Rt	Wood	= Wd
Root bark	= Rt.b		

The 200 plant species with their uses are listed alphabetically according to their genera in the following table:

Table 35: USES OF PLANT SPECIES

Legends



Medicine (Disease) type

Food Beverages

Fuel

Animal Fodder

Building & Materials

Household utensils

Religious & Magical

Rope & Twine

Entertainment &Games

Hunting tools

Miscellaneous

SPECIES	Part used	Medicine (Disease) type	Food Beverage	Fuel	Animal Fodder	Building & Materials	Household utensils	Religious & Magical	Rope & Twine	Entertainment &Games	Hunting	Miscellaneous
AGAVACEAE												
Agave sisalana	Lf.						Mats		Rope Twine			
	St.					Fencing post						
	W.plt											Hedge
AIZOACEAE												
Zaleya pentandra	Lf		Food									
	Ash		Food									Snuff
AMARANTHACEAE												
Amaranthus hybridus	Lf.		Food									
	W.plt	Poison										
Amaranthus spinosus	Lf.		Food									
	W.plt		Food (ash)									Snuff (ash)
Amaranthus thunbergii	Lf		Food									
	W.plt	Poison										
AMARYLLINDACEAE												
Boophane disticha	Blb	Hallucinations Gen. body cleansing Wounds						Magical				
ANACARDIACEAE												

Lannea discolor	Fr		Food									
	Bk.g		Food									
	Rt.g	Weaning										
	In.b							Cordage				
	Lf	Epilepsy										
	Wd						Utensils					
Lannea edulis	Fr		Food									
	Lf	Boils Abscesses										
	Rt	Rash Mortuary Rites										
Lannea schweinfurthii	Bk	Kidneys Lucky Charm (bathe)										
	Fr		Food									
	Lf	Applied to boils etc. Lucky charm (bathe)										Dye
	Rt	Lucky charm (bathe)										
	St						Sledge					
Ozoroa insignis	Bk	Chest Dysentry										
	Fr											Tanning Lace
	Rt	Kidney problems										
Ozoroa sphaerocarpa	Bk	Chest Inflammation Dysentry										

	Fr											Lace
	Lf	Colic; Diarrhoea										
	Rt	Colic; Diarrhoea										
	S										Bird lime	
Rhus rehmanniana	Fr		Food									
	Rt	Diarrhoea Removes bad luck										
	Wd											Toothbrush
Sclerocarya birrea	Bk	Diarrhoea Dysentry Malaria										
	Fr		Beer									
	Inb	Soothes Insect bite	Food									
	Lf									Loin dress		
	Wplt							Ancestral Shrine				Shade
	Wd						Sledge					
ANNONACEAE												
Annona senegalensis	Fr		Food		Baboon							
	Lf											
	Rt	Weaning Insanity Dizziness										
	St.b	Toothache										
	Wd											Match stick
APOCYNACEAE												

Carissa bispinosa	Fr		Food									
	Lf											
	Rt	Emetic **Xijiso** (poisonous substance) Venereal disease										
	St	**Ndaphya** (burning sensation)										
	Thn							Magical (hump)				
Carissa edulis	Flw		Food									
	Fr.		Food									
	Rt	**Xijiso** (poisonous substance)										
ARACEAE												
Colocasia esculenta	Blb		Food									
	Lf		Food									
	St		Food									
Phoenix reclinata	Fr		Food									
	Lf					Hut	Basketry Costume					
	Wplt											Shelter
	Rt.s		Wine									
Stylochiton natalensis	Rt	Causes hallucination Insanity **(Midlukulu) (Micwa)**						**Baso** medicine				

ARALIACEAE												
Cussonia spicata	Bk	Biliousness Insanity V.D										
	Flw				Birds							
	Fr				Birds							
	Lf											
	Rt	Malaria Insanity Biliousness V.D										
ASCEPIADACEAE												
Asclepias fallax	Flw		Food									
	Lf		Food									
ASPARAGACEAE												
Asparagus cooperi	W.plt							Magical				
	St	**Mafularha** (ritual impurities)						Religious				
ASPHODELACEAE												
Aloe marlothii	Lf	Weaning										Snuff
	Rt											Dye
	S	Syphilis										
Aloe zebrina	Lf									**Mbhakanani**		
	Rt											Dye
	S	Earache										

ASTERACEAE												
Bidens pilosa	Lf	Intestinal worms	Food									
	Rt	Epilepsy										
	S	Earache										
Epaltes gariepinia	Lf											Toilet paper
	Rt	Coughs Cold Flu										
BALANITACEAE												
Balanites maughamii	Bk	Enema **Xijiso** (poisonous substance)						Religious				
	Fr											Divination
	Rt	Enema **Xijiso** (poisonous substance)						Magical				
	St				Shoots		Bowls & Drum			Musical instrument		
Balanites pedicillaris	Thn									**Mbhakanani**		
	Wd						Yoke Bowl					
BIGNONIACEAE												
Kigelia africana	Bk	Toothache										
	Fr	Enlarges penis										
	St							Protect **Ndhumba** hut				

BOMBACACEAE												
Adansonia digitata	Fr		Food									
	St.b											
	W.plt	Fatten babies										
BORAGINACEAE												
Ehretia amoena	Fr		Food									
	Rt	Venereal disease										
	Wd					Fencing post	Tool handle					
Ehretia rigida	Fr		Food									
	Lf	Poultice										
	Wd	**Xikuna** (blooded stool) Venereal Disease						Lucky Charm				
	W											Dowsing rod
BURSERACEAE												
Commiphora glandulosa	Fr											
	Lf											
	W.plt											Shade Hedge
	Wd						Utensils					
Commiphora mollis	Rt											
	W.plt											Shade Hedge
Commiphora pyracanthoides	Fr											
	Rt		Juice									
	Wd											Match

												stick
Commiphora schimperi	Lf											
	W.plt											Hedge
	Wd											
CACTACEAE												
Opuntia ficus-indica	Fr		Food									
	Lf	Asthma										
	Wplt					Protects grave						
CAESALPINIACEAE												
Afzelia quanzesis	Lf											
	Rt	Bilharzia										
	Sds											Necklace
	Wd						Mortar					
Cassia abbreviata	Rt	Toothache Laxative Abortion Aphrodisiac Menorrhagia										
	Rbk	Bilharzia; Abscess										
	Sds	Tonic										
	Smk Wd	Headache										
Colophospermum mopane	Bk	Diarrhoea										
	Lf	Wound dressing Stops bleeding										
	St	Toothbrush				Fencing post Hut	Utensils					

						Kraal						
	Rt	Cancer						Arouse Spirits (smoked) Paraphernelia				
Peltophorum africanum	Fr	Panacea										
	Lf											Toilet paper
	Rt											
	Wd					Fencing post	Tool handle					
Piliostigma thonningii	Bk								Rope			Dye
	Fr		Food									Dye Soap Sandal
	Lf	Depressed fontanelle Aphrodisiac Flu, Coughs										
	Rt	Chicken pox Prevents miscarriage										Dye
	Wd											Soap
Schotia brachypetala	Bk	Diarrhoea										
	Flw		Nectar		Insects							
	Lf											
	Wd											
Senna petersiana	Fr		Food					Lucky charm				
	Rt	Toothache						Purification rite Lucky charm				

	St											
CANNABINACEAE												
Cannabis sativa	Lf	Asthma Insanity										Cigarette
CAPPARACEAE												
Cleome gynandra	Fr		Food									
	Lf	Eardrop	Food									
	St		Food									
Maerua angolensis	Bk	Blood purifying										
	Lf	Haematuria Insanity Child convulsions										
	Wd											
CARICACEAE												
Carica papaya	Fr		Food									
	Lf											Cigarette
	Rt	Gonorrhoea										
	Sds	Abortion										
CELASTRACEAE												
Elaeodendron transvaalense	Bk	Body cleansing Fever Diaphoretic Diarrhoea Emetic **Xifulana** (gangrene) Venereal disease										
	Fr		Food									

	Lf											
	Wd						Utensils					
Gymnosporia buxifolia	Bk	Diarrhoea										
	Lf	Stomach pains Dysmenorrhoea								**Ku tlogana**		Plug
	Rt	**Xijiso** (poisonous substance)										
	Wd						Utensils					
Gymnosporia senegalensis	Lf	Epilepsy Venereal disease										
	Rt	Antidote Chest pains Diarrhoea Epilepsy Infertility **Matlulana**(disease caused by haiving had sexual intercourse with same woman) Venereal disease										
	Thn											Plaiting pin
	Wd						Utensils					
Mystroxylon aethiopicum	Bk										Bird lime	
	Fr		Food									
	Rt	Fractures						Love charm				

	St						Stick				Snare Knob stick Catapuit hand le	
CHRYSOBALANACEAE												
Parinari curatellifolia	Bk											Tanning
	Fr		Food									
	Lf											Tanning
	Rt	Toothache Earache Cataract										
	Sds		Food									
	Wd						Carving					
COMBRETACEAE												
Combretum apiculatum	Lf											
	Wd											
Combretum collinum	Lf											
	Rt	Purgative Venereal disease										
	Wd					Kraal Fencing post						
Combretum erythrophyllum	Lf											
	Rt	Purgative										

	Wd						Utensils Furniture	Protect homestead				
Combretum hereroense	Bk	Heart problems										
	Lf											
	St	Tonsils Coughs (shoots)					Carving, e.g. Yoke Yoke pin				Knob stick	Rod
	Rt	Stomach; V.D.										
Combretum imberbe	LF (smk)	Coughs Colds										
	Rt Rtb	Diarrhoea Bilharzia										
	Stb	Toothache										
	Wd					Fencing post Building Kraal	Mortar and stamper					White-wash (ash)
Combretum zeyheri	Bk							Protect homestead				
	Rt	Menorrhagia						Defeat enemies Calm down unruly person				
Terminalia prunioides	Bk	Stomach pains										
	Lf											
	Wd					Fencing post Hut pole Kraal	Implement Sledge Handle Yoke Yoke pin				Knob stick	

Terminalia sericea	Inb	Panacea							Rope			
	Lf											
	Rt											
	Wd					Fencing post Building pole	Implement Sledge Handles Yoke Yoke pin					
CONVOLVULACEAE												
Eriosema species	Bb		Food									
Ipomoea batatas	Blb		Food									
	Lf		Food									
CUCURBITACEAE												
Citrillus lanatus	Fr		Food Juice Liquor									
	Rt	Depressed fontanelle										
	Sds	Intestinal parasites										
Cucumis africana	Rt	Enema Blood purification Venereal disease										
	Sds	Poisonous										
Cucumis metuliferus	Fr				Birds							
Cucurbita pepo	Flw		Food									

	Fr		Food									
	Lf		Food									
	Rt	Rheumatism										
Lagenaria sicereria	Fr		Food				Utensils			Musical instrument		
Momordica balsamina	Lf	*Varicella*										
	Wplt		Food									
	Rt	Varicella Earache										
Momordica cardiospermoides	Fr		Food									
	Lf	Earache	Food									
	Rt	Cancer										
CYPERACEAE												
Cyperus immensus	St						Trad. Mat **Sangu**		Fibre			
Cyperus textiles	St						Trad. Mat **Sangu**					
Schoenoplectus brachyceras	St						Mat					
DRACAENACEAE												
Sansevieria hyacinthoides	Lf	Hot presses Diaphoretic Purification rite Blood purification										
	S	Earache										
	Rt	**Nda phya** (burning sensation)										

		Swelled legs Blood purification										
EBENACEAE												
Diospyros lycioides	Fr		Food									
	Rt											Dye
	Rt Smk							Clear chest (spirits) Ancestral shrine				
	Twig						Toothbrush					
	Wd						Withies					
Diospyros mespiliformis	Bk	Stomach pains Diarrhoea										
	Fr		Food									
	Rt Smk							Clear chest (spirits) **Gandzelo**				
	Twg						Toothbrush					
	Wplt											Shade
	Wd				Fencing post	Furniture Sledge						
Dombeya rotundifolia	Inb	Migraine							Rope			
	Rt	Intestinal ulcers Diarrhoea										
	Wd				Fencing post	Carving						

Euclea divinorum	Fr		Food									
	Lf											Plug
	Rt	Purgative Venereal disease Toothache										Dye
	Twg						Toothbrush Broom					Fire extinguisher
Euclea natalensis	Bk	High blood pressure										
	Fr		Food									
	Lf	*Rubella* *Varicella*										
	Rt	**Xijiso** (poisonous substance) Venereal disease										
	Rtb	Purgative										Dye
	Twg						Toothbrush					
EUPHORBIACEAE												
Antidesma venosum	Bk	Fish poison										
	Fr		Food									
	Lf	Hot presses										
	Rt	Purgative Pneumonia Infertility										
	Rsmk							Religious chest cleansing				
Croton megalobotrys	Sds	Purgative										
	Stb	Aphrodisiac										

	Wd											Match stick
Euphorbia cooperi	S	Fish poision										
	Sds				Birds							
	Wd											
Euphorbia ingens	S	Fish poison Cancer										
	Wd						Furniture					Tinder
Euphorbia tirucalli	Lf	Prophylatic against poison										
	S	Antidote Impotence										
	Wplt											shelter
Flueggea virosa	Fr		Food									
	Rt	Venereal disease **Xijiso** (poisonous substance) Stomach Cancer. Dep. Font. Antedote										
	Wd											
	Fr	Emetics										
Jatropha curcas	Bk	Purgative										
	Lf	Hot presses										
	Wplt											Hedge
	Sds	Purgative; Oil										
Manihot esculenta	Lf		Food									
	Rt	Tonic (cancer)	Food									

Monadenium lugardiae	Lf	Blood purification										
	Rt	Abortificient										
	S	Cataract Thorn remover										
Ricinus communis	Fr (Oil)	Purgative **Xifulana** (gangrene) Aid for rubbing medicine										Shampoo
	Lf	Oedema Poultice										
Spirostachys africana	Bk smk							Attracts customers Spirits				
	Bks	Abdominal pains										
	Lf	Attract customers										
	Rt	Constipation Stomach pains										
	Wd											
FABACEAE												
Arachis hypogea	Fr		Food		Mice & Duiker							
Bauhinia galpinii	Rt	Support pregnancy										
	St					Roof	Basketry					
	Sds	Amenorrhoea										
Bolusanthus speciosus	Bk	Colic										
	Flw											

	Rt	Colic										
	Wd					Fencing post	Furniture Tool					
Dalbergia melanoxylon	Bk	Eusol										
	Wd						Utensils Walking stick			Music instrument **Xizambi**		
Erythrina humeana	Bk	Topical wounds & sores										
	Rt	TB										
Mundulea sericea	Bk	Fish poison										
	Lf											
	Wplt	Causes quarrels										
	Rt	Cancer **Xindzawu** (vaginal wart) **Xijiso** (poisonous substance) Menorrhagia										
	St	Fish poison									Trap	
Ormocarpum trichocarpum	Bk	Emetic										
	Rt	High blood pressure										
	St					Goat kraal Fire enclosure						
Philenoptera violacea	Bk	Asthma **Xijiso** (poisonous substance)										

		Xifulana (gangrene) High blood pressure **Ndaphya** (burning sensation) Venereal disease										
	Lf											
	Rt	Prophylactic **Mafularha** (impurity) **Matlulana** (sexual intercourse with same woman)										
	Rt smk	Cold										
	Wd					Fencing post	Utensils					
Pterocarpus angolensis	Bk	Menorrhagia										
	Rt	Bilharzia										
	Wd						Furniture					
Pterocarpus rotundifolius	Bk	Ringworm										
	S	**Nciko**										
	Wd						Furniture Utensils					
Vigna subterranea	Fr		Food		Mouse *Sylvicapra grimmia*							

Vigna unguiculata	Fr		Food		Duiker							
	Lf		Food		Duiker							
	Rt	Bilharzia Chest pains Antidote Epilepsy										
	Sds	Misanthrope	Food		Duiker							
FLACOURTIACEAE												
Flacourtia indica	Fr		Food									
	Thn							Protect Homes against witches		**Mbhakanani** game		Plaiting pin
Scolopia zeyheri	Fr		Food									
	Rt	**Tindzhaka** (pollution of death)										
	Thn											Pin
GRAMINEAE												
Bambusa vulgaris	W.plt											
	St					Fencing post Building	Furniture Basketry Stick			Flute		Flag mast
HYPOXIDACEAE												
Hypoxis hemerocallidea	Wplt	Panacea										
Hypoxis rigidula	Blb	Venereal disease AIDS										
	Lf								Rope			

IRIDACEAE												
Gladiolus crassifolius	Blb	Kidney ailments Swelled glands										
	St		Food									
KIRKACEAE												
Kirkia acuminata	Inb								Rope			
	Rt	Toothache										
	Wd											
Kirkia wilmsii	Inb											
LAURACEAE												
Persea americana	Bk				Toxic							
	Fr		Food		Baboon							
	Lf dry											
	Lf fresh				Toxic							
	Sds				Toxic							
LOGANIACEAE												
Strychnos madagascariensis	Frs		Food Juice							Musical instument		
	Lf											
	Rt	**Nda phya** (burning sensation)										
	Sds	Purgative, Poisonous										
	St	Switches										
Strychnos spinosa	Fr	Antedote	Food							Magical instrument		

	Lf.s	Eyedrop Antedote								Musical instrument		
	Fr pulp	Emetic										Nqhephu
	Rt	Antedote **Nda phya** (burning sensation) Depressed fontanelle										
	St											
MALVACEAE												
Gossypium herbaceum	Fr Cotton	Cleanse wounds					Plug for snuff box					
	Rt	Oedema										
Hibiscus cannabinus	Inb	Child vomit										
	Rt	Child vomit										
MELIACEAE												
Ekebergia capensis	Bk	Emetic Cough Chest pains										
	Lf	Purgative										
	Rt	Coughs Chest pains										
	Wd						Furniture Utensils					
Melia azedarach	Wplt							Causes death			Shade	
Trichilia emetica	Bk	Fever; Purgative										
	Fr		Food									

	Sds		Oil									
	Wplt											Shade
	Rt	General body cleansing Fever; Purgative										
	Wd						Furniture					Match
MENISPERMACEAE												
Cocculus hirsutus	St						Basketry					
MIMOSACEAE												
Acacia ataxacantha	Twg						Weaving					
Acacia caffra	St.b	Blood purification										
	Lf.											
	Fr.											
	Wd					Fencing post Hut building						
Acacia erubescens	L.											
	Wd					Fencing						
Acacia exuvialis	Bk.	Cataract										
	In.b											
	Rt.	**Xijiso** (poisonous substance)										
	Th.n	**Xifulana** (gangrene)										
	Wd					Fencing	Handle					Nest
Acacia galpinii	Fr.											
	In.b								Rope			

	Lf.											
	Wd					Crib Kraal						
	Rt											
Acacia gerrardii	Fr.											
	In.b								Rope			
	Lf.											
	Rt.	**Micwa**										
Acacia goetzei	Wd					Fencing	Tool handle					Nest
Acacia karoo	Flw											
	Fr. G.											
	In.b								Rope			
	Lf.											
	St.b	Diarrhoea Dysentery										Tanning
	Wd						Fencing Building					
Acacia nigrescens	Lf.											
	Rt.	Kidney ailments										
	St.b											
	Wd					Fencing Kraal						Nest
Acacia nilotica	Fr.	Diarrhoea										Dye
	In.b								Rope			
	Rt.	TB										
	St.b	Cough										
	Wd					Fencing						
Acacia senegal	Fr.											
	Lf.											
	Wd						Handle					Hedge

Acacia sieberiana	Fr.											
	In.b								Twine			
	Lf.											
	Rt.	Arthritis										
	Wd											Nest
Acacia xanthophloea	Fr.											
	Lf.											
	Rt.	**Nhlaviso**										
	St.b	Asthma						Magical				
	W.plt							Magical				
	Wd					Building						
Albizia harveyi	Lf											
	Rt	**Xijiso** Depressed fontanelle										
	St.b											
	Wd					Kraal	Sledge					
Albizia versicolor	Bk.	Enema Purgative						Chest cleansing				Soap
	Rt.	Enema Purgative						Chest cleansing				Soap
	Wd						Furniture Sledge					
Dichrostachys cinerea africana	Fr	Depressed Fontanelle										
	Lf											
	Inb	Toothache Stomach problems										
	Rt	Depressed fontanelle Antidote										

		(snake bite) (Scorpion bite)										
		Aphrodisiac Support weak pregnancies										
	W.plt					Trad. fence						
	Wd						Tool handle					
Dichrostachys cinerea nyassana	Fr											
	Inb	Toothache Stomach problems							Corda ge			
	Lf											
	Wplt					Trad. fence						
	Wd					Fire Enclosur e **guma**						
Faidherbia albida	Bk	Diarrhoea Epistaxis										
	Fr											
	Wplt											Sleeping Place for baboon
	Wd											
Sesbania bispinosa	St					Fire place Hut						
	Wplt											
MORACEAE												

Ficus burkei	Bk	Cold; Throat infection Steaming						Drives away bad luck Protect home				
	Fr		Food		B & B							
	Inb						Constume					
	Lf											
	Rt	**Nda phya**										
	S	Cataract										
Ficus ingens	Bk	Increase lactation										
	Fr		Food									
Ficus lutea	Bk						Constume					
	Fr		Food									
	Wplt											Shade
Ficus stuhlmannii	Bk	Phungula						Magical				
	Fr		Food									
Ficus sur	Inb											
	S	Burns Sore eye Septic Conjunctivitis										
	Rt	Rash										
	Wd									Drums		
Ficus sycomorus	Bk	Phungula Chest pains Diarrhoea Glandular indisposition										
	Fr		Food									
	Lf	Chest pains										

		Glandular indisposition Diarrhoea										
Morus alba	Fr		Food									
	Lf	Hot presses										
	Wplt					Live fence						Shade
	Wd											
MUSACEAE												
Musa sapientum	Fr		Food									
	Rt	High blood pressure Depressed fontanelle										
MYRTACEAE												
Psidium guajava	Fr		Food									
	Lf	Coughs, Fever Hot presses										
	Wd											
Syzygium guineense	Fr		Food									
	Wd					Building	Furniture					
Syzygium species B	Fr		Food									
	Wplt											Shade
OLACACEAE												
Ximenia caffra	Fr		Food		Baboon Monkey							
	Lf											
	Rt	Aphrodisiac **Nda phya** Prevent										

		miscarriage Venereal disease **Xijiso**										
	Wd											
PEDALIACEAE												
Dicerocaryum senecioides	Lf	Expels placenta										Shampoo
	Rt	Cystitis V.D Kidneys										
	St											Shampoo
	Thn	Injure feet Bewithching Aid **Xifulana**										
Sesamum indicum	Sds	To determine a number of men a pregnant women had slept with	Food Oil									
Sesamum triphyllum	Rt	**Xilumi Ntlhelelo**										
POACEAE												
Aristida meridionalis	Awn											Nest
	Wplt					Thatching	Broom					
Cenchrus ciliaris	Plt											
	Spk							Binds lovers (magical)				
Dactyloctenium australe	Wplt											Lawn prevent soil

												erosion
Heteropogon contortus	Plt					Thatching (roof)						
	Thn	Penetrate skins										
Hyparrhenia dichroa	Wplt					Roof thatch						
Hyparrhenia hirta	Wplt					Roof thatch	Basketry Nest for hens					
Hyperthelia dissoluta	Wplt					Roof thatch						
	Rt	Dysentry Diarrhoea										
Melinis repens	Hair						Pillows					
	Wplt											
Panicum maximum	Sds											
	St									Bangle		
Pennisetum glaucum	Sds	**Tindzhaka Mafularha** Determine the Infertile Enlarges penis										
	St					Fire enclosure						
Phragmites mauritianus	Lf											
	St	Strecher			Roof under cover Wattling	Fire enclosure						Whistle Snuff box
Saccharum officinarum	St											
Sorghum bicolor	Sds (grain	**Mafularha**			Birds							

	)											
	St					Fire place enclosure Hut Granary						
Sorghum sp	St		Food									
Sporobolus pyramidalis	Wplt						Basketry					Panama hat
Themeda triandra	Wplt					Thatching						
Tricholaena monachne	Wplt											Nest
Urochloa stolonifera	Fr		Food									
	Wplt											
Zea mays	Fr		Food									
	Panicle											Filter
	Wplt											
	Shelled cob	Mumps										
PROTEACEAE												
Faurea saligna	Lf	Earache										
	Rt	Earache Dysmenorrhoea										
	Wd					Fencing posts Building posts	Furniture Yoke Sledge					Dye
RHAMNACEAE												
Berchemia discolor	Bk	Poultice										Dye
	Fr											

	Lf											
	Twg						Toothbrush					
	Wd						Utensils Furniture					
Berchemia zeyheri	Bk	Lucky Charm										Dye
	Fr		Food									
	Lf											
	Wd						Utensils					
Ziziphus mucronata	Bk	Blood purification Diarhoea Dysentry										
	Fr		Food									
	Lf	Oedema										
	Wplt					Live fence						
	Rt	Blood purication Diarhoea Dysentry Venereal diseases **Xifulana**										
	Wd					Building Protect grave	Implement handle					
RUBIACEAE												
Breonadia salicina	Bk	Stomach & Heart ailments										
	Rt	Dysentry Diarrhoea						Magical				
	Wd					Huts Kraal	Furniture Utensils					

Catunaregam spinosa	Fr	Emetic										
	Lf											
	Wd											
Gardenia volkensii	Fr	Emetics										
	Lf											
	Rt	Emetics Earache Headache						To arouse spirits (magical)				
	Wd						Utensils	Protect homes				
Pavetta schumanniana	Rt	Insanity										
Vangueria infausta	Fr		Food									
	Lf											
	Rt	Toothache **Nda phya Xifambi**										
	Wd							Protect home against witches				
RUTACEAE												
Zanthoxylum capense	Bk	Toothache										
	Lf	Gastric pains Internal disorders Internal parasites										
	Rt	Toothache Gastric disorders Internal disorders										

		Internal parasites Increases ferocity in dogs										
	Wd						Handles				Knob stick	
SAPOTACEAE												
Englerophytum megalismontanum	Bk	Toothache										
	Fr		Food Wine									
	Rt	Headache Stomach pains										
SAPINDACEAE												
Pappea capensis	Fr		Food									
	Lf											
	St											
SOLANACEAE												
Capsicum annuum	Fr		Food									
	Rt	Protect household against witchcraft						Magical				
Datura stramonium	Lf	Poultice										
	Rt	Aphrodisiac Toothache										
Nicotiana tabacum	Lf	Smoked; Thorn remover						Sacrifices Divination Ancestors Sneezing (mortuary				

								rites)				
Solanum lichtensteinii	Fr	Chest pains Toothache Insanity										
	Lf	Coughs Sore throats Venereal disease										
	Rt	Coughs Sore throats Venereal disease										
Solanum nigrum	Fr		Food									
	Lf		Food									
Solanum panduriforme	Rt	"Mad goat disease" Vitiate Opponent Madness/Insanity										
TILIACEAE												
Corchorus tridens	Lf		Food									
Grewia flavescens	Fr		Food									
	St					Withies	Stick Basketry				Knob stick	
Grewia monticola	Fr		Food									
	Lf											
	Rt	Depressed fontanelle										
	St										Knob	

											stick Trap	
Grewia subspathulata	Fr		Food									
	In.b								Rope			
	Lf											
	St										Knob stick Trap	
URTICACEAE												
Pouzolzia mixta	Inb								Fibre			
	Rt	Abortificient **Makhuma** Aphrodisiac Painful uterine **Ntlhelelo** Venereal disease										
VERBENACEAE												
Clerodendrum glabrum	Lf	Animal wounds										Insecticide
	Rt	Antidote (Snake bite)										
	Wd					Carving						Match stick
Lantana rugosa	Fr		Food		Birds							
	Rt	Stomach pains Coughs										
Lippia javanica	Lf	Cold Cough Fever										Gives Flavour to Ricinus..

												communis oil
VITACEAE												
Cissus guandrangularis	Rt	Oedema										
	St	Oedema Kills maggots										
ZINGIBERACEAE												
Siphonochilus aethiopicus	Rt (rhyzomes)	Coughs Colds **Ku sonya** **Micwa**										

Table 36: Total number of species used in the classification below

Uses	No. of species	% species
Medicine	135	67.5%
Food and Beverage	85	42.5%
Fuel	70	35%
Animal fodder (and birds)	104	52%
Building	46	23%
Household utensils	69	34.5%
Religious and Magical	29	14.5%
Rope and Twine	19	9.5%
Entertainment and Game	13	6.5%
Hunting	10	5%
Miscellaneous	66	33%

Generally species fulfil more than one function. Only 4% (8 species) of the 200 species fulfil just one function. These are: *Colocasia esculenta; Asclepias fallax; Eriosema species; Ipomoea batatas; Cucumis metuliferus; Cyperus textiles; Schoenoplectus brachycerus* and *Coculus hirsutus.*

Some species like *Sclerocarya birrea* are used for various purposes. This includes medicinal purposes, food, firewood, animal fodder, ancestral shrine, household utensil and shade. Other species of *Combretum* and *Acacia* fulfil different uses as well. They however feature strongly in medicine, provision of fire, building material, animal fodder and carving. Species belonging to *Ficus* are used for various purposes including medicine, food and animal fodder.

The list of plant uses mentioned in the table above shows the functional interaction between the Tsonga-Shangana and the flora of their natural habitat. As stated by Rankoana, such a list "reflects an important dimension of the cultural ecology of the local people which emerges from the process of adaptation to their habitat. It also explains the true nature of a traditional subsistence economy in which family units are not only dependent on pastoral and agricultural institutions to fulfil their basic needs,

but also on the extensive utilisation of natural resources such as the indigenous flora" (2000:104). It should be emphasized that much of the wisdom was acquired the hard way, by trial and error, and handed down from generation to generation

5.2 Ethnotaxonomy

The term 'taxonomy' derives from two Greek words: **taxis** meaning arrangement or classification and **nomo**, indicating law or custom (Dharani, 2002:307). *Ethnos* refers to a national or racial group of people (Cambridge 2002:470). Taxonomy is a broad field of science dealing with the description, identification and naming of living organisms and their classification into groups in accordance with their resemblances and differences, mainly in their form, and structure or morphology (Dharani, 2002:307). A similar explanation is given by Radford (1986:18) when he writes that the fundamental components of taxonomy are classification, identification, description and nomenclature. It must be emphasized that these conceptually independent components are actually closely interrelated. The ensuing discussion deals with the perception of the Tsonga-Shangana of their natural environment and how they adapt to it.

Only two components, viz classification and nomenclature, will be dealt with since the other components (identification and description) have already been accomplished at the herbarium and in the previous chapter, respectively.

5.2.1 Classification

Stace (1989:5) defines 'classification 'as the production of a logical system of categories, each containing any number of organisms, which allows for easier reference to its components. Radford (1986:19) is even more precise in his description of classification that it is the arrangement of groups with particular circumscriptions by rank and position according to artificial criteria, which are systems based on habit, form, colour, or characteristics of similar nature; phonetic similarities, which are over all similarities and phylogenetic relationships, which are based on common evolutionary descent. It is clear from the two definitions above that

the concept of classification has to do with many sorts and the system employed in the grouping of these in accordance with their similarities or relationships. In short, classification is the placement of objects and organisms into groups and categories for effective organization.

5.2.2 Nomenclature

Nomenclature is described as "a precise and simple system used by botanists in all countries that deal on the one hand with terms denoting the ranks of taxonomic groups or units, and on the other hand with the scientific names that are applied to the individual taxonomic groups of plants" (Radford, 1986:22-23). An impression could be created that nomenclature is confined to scientists or botanists only. The naming of organisms is as old as the history of human kind itself. In Genesis 2 verses 19-20 (Holy Bible, 1996:4) it is stated:

> So the Lord God formed from the
> soil every kind of animal and
> bird. He brought them to Adam to
> see what he would call them and
> Adam chose a name for each one.
> He gave names to all the livestock,
> birds, and wild animals.

Naming of organisms is a continuous universal process that has its origin from time immemorial. Innovations, whether from within or outside, have to be given names. People have always been nomenclaturists; they have given names to animals, objects and plants, and have placed them in categories with or without employing special terminology and systems.

5.2.3 The need for classification and nomenclature

This need has been described as absolute by Stace (1989:6) because it is only by first naming organisms and then grouping them in recognizable categories that we can

begin to sort out and understand the vast array which exists. This is emphasized in the following quotation:

> How strange and chaotic life would become if it were possible to abandon the use of names for the identification of everything we see, make, or handle. The acquisition and dissemination of knowledge would become impossible, and the business of the world could not go on (Macself in Johnson, 1971 in Radford 1986:61).

Naming and classification therefore, are processes which mankind naturally and instinctively carries out and which have been carried out from the very beginning. But Adam must have had systems of naming and classification, for he inevitably needed to convey to others the names and properties of organisms which were of significance to him. In their folk-taxonomy, the Tsonga-Shangana certainly have systems of (plant) classification for the accurate recognition of food, fuel, building materials, medicines, poison, etc. which are essential for their survival (Chapter 4).

5.2.4 The Tsonga-Shangana nomenclature and classification of the flora

Classification is a basic human activity. As stated by Radford, the ability to classify is a characteristic inherent in all of us (1986:147). The Tsonga-Shangana are no exception to this. It is common knowledge that nouns in African languages are divided into noun classes according to Karl Meinhof's international numbers. Without entering into a disquisition on the classification of all nouns in Xitsonga, the following abridged table can be considered to enable us to understand the naming and classification of plant species among the people:

Table 37: Tsonga noun classes.

1.	**mu-**	2.	**va-**
3.	**mu-**	4.	**mi-**
5.	**ri-**	6.	**ma-**
7.	**xi-**	8.	**swi-**

9.	**yi-**	10.	**ti-**
11.	**ri-**	10.	**ti-**
14.	**vu- , by-**	6.	**ma-**
21	**dyi-**	6.	**ma-**

Noun classes on the left column show singular forms with their plurals on the right column. Each class represents a particular group of objects or organisms. People for instance, are represented in classes 1 and 2, while animals belong to classes 7 (**xi-**) and 8 (**swi-**). Coincidentally plants also belong to classes 7 and 8, but are categorized into different classes as shown below. Basically plants are classified into nine broad categories: 1) **Mirhi** – trees, 2) **Swihlahla** – shrubs, 3) **Byanyi** – grasses, 4) **Tinhlanga** – reeds, 5) **Miroho** – vegetables, 6) **Mihandzu** – fruits, 7) **Timhanga** – aloes, 8) **Nhova** – weeds and 9) **Marhanga** – bulbs.

The table below represents the classification by the Tsonga-Shangana of the 200 plant species collected from the study area.

Legends

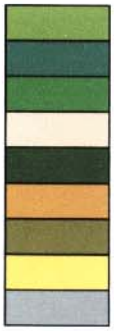


Table 38: Classification of plant species by the Tsonga-Shangana.

Plant species	Tree	Shrub	Grass	Reed	Veg	Fruit	Aloe	Weed	Bulb
AGAVACEAE									
Agave sisalana									
AIZOACEAE									
Zaleya pentandra									
AMARANTHACEAE									
Amaranthus hybridus									
Amaranthus spinosus									
Amaranthus thunbergii									
AMARYLLINDACEAE									
Boophane disticha									
ANACARDIACEAE									
Lannea discolor									
Lannea edulis									
Lannea schweinfurthii									
Ozoroa insignis									
Ozoroa sphaerocarpa									
Rhus rehmanniana									
Sclerocarya birrea									
ANNONACEAE									
Annona senegalensis									
APOCYNACEAE									
Carissa bispinosa									
Carissa edulis									
ARACEAE									
Colocasia esculenta									
Phoenix reclinata									
Stylochiton natalensis									
ARALIACEAE									
Cussonia spicata									
ASCLEPIADACEAE									
Asclepias fallax									
ASPARAGACEAE									
Asparagus cooperi									
ASPHODELACEAE									
Aloe marlothii									
Aloe zebrina									
ASTERACEAE									
Bidens pilosa									
Epaltes gariepinia									
BALANITACEAE									
Balanites maughamii									
Balanites pedicillaris									

Plant species	Tree	Shrub	Grass	Reed	Veg	Fruit	Aloe	Weed	Bulb
BIGNONIACEAE									
Kigelia africana									
BOMBACACEAE									
Adansonia digitata									
BORAGINACEAE									
Ehretia amoena									
Ehretia rigida									
BURSERACEAE									
Commiphora glandulosa									
Commiphora mollis									
Commiphora pyracanthoides									
Commiphora schimperi									
CACTACEAE									
Opuntia ficus-indica									
CAESALPINIACEAE									
Afzelia quanzesis									
Cassia abbreviata									
Colophospermum mopane									
Peltophorum africanum									
Piliostigma thonningii									
Schotia brachypetala									
Senna peterisiana									
CANNABINACEAE									
Cannabis sativa									
CAPPARACEAE									
Cleome gynandra									
Maerua angolensis									
CARICACEAE									
Carica papaya									
CELASTRACEAE									
Elaeodendron transvaalense									
Gymnosporia buxifolia									
Gymnosporia senegalensis									
Mystroxylon aethiopicum									
CHRYSOBALANACEAE									
Parinari curatellifolia									
COMBRETACEAE									
Combretum apiculatum									
Combretum collinum									
Combretum erythrophyllum									
Combretum hereroense									
Combretum imberbe									
Combretum zeyheri									
Terminalia prunioides									
Terminalia sericea									

Plant species	Tree	Shrub	Grass	Reed	Veg	Fruit	Aloe	Weed	Bulb
CONVOLVULACEAE									
Eriosema species									
Ipomoea batatas									
CUCURBITACEAE									
Citrillus lanatus									
Cucumis africanus									
Cucumis metuliferus									
Cucurbita pepo									
Lagenaria sicereria									
Momordica balsamina									
Mormodica cardiospermoides									
CYPERACEAE									
Cyperus immensus									
Cyperus textiles									
Schoenoplectus brachyceras									
DRACAENACEAE									
Sansevieria hyacinthoides									
EBENACEAE									
Diospyros lycioides									
Diospyros mespiliformis									
Dombeya rotundifolia									
Euclea divinorum									
Euclea natalensis									
EUPHORBIACEAE									
Antidesma venosum									
Croton megalobotrys									
Euphorbia cooperi									
Euphorbia ingens									
Euphorbia tirucalli									
Flueggea virosa									
Jatropha curcas									
Manihot esculenta									
Monadenium lugardiae									
Ricinus communis									
Spirostachys africana									
FABACEAE									
Arachis hypogea									
Bauhinia galpinii									
Bolusanthus speciosus									
Dalbergia melanoxylon									
Erythrina humeana									
Mundulea sericea									
Ormocarpum trichocarpum									
Philenoptera violacea									
Pterocarpus angolensis									
Pterocarpus rotundifolius									

Plant species	Tree	Shrub	Grass	Reed	Veg	Fruit	Aloe	Weed	Bulb
Vigna subterranean									
Vigna unguiculata									
FLACOURTIACEAE									
Flacourtia indica									
Scolopia zeyheri									
GRAMINEAE									
Bambusa vulgaris									
HYPOXIDACEAE									
Hypoxis hemerocallidea									
Hypoxis rigidula									
IRIDACEAE									
Gladiolus crassifolius									
KIRKACEAE									
Kirkia acuminata									
Kirkia wilmsii									
LAURACEAE									
Persea americana									
LOGANIACEAE									
Strychnos madagascariensis									
Strychnos spinosa									
MALVACEAE									
Gossypium herbaceum									
Hibiscus cannabinus									
MELIACEAE									
Ekebergia capensis									
Melia azedarch									
Trichilia emetica									
MENISPERMACEAE									
Cocculus hirsutus									
MIMOSACEAE									
Acacia ataxacantha									
Acacia caffra									
Acacia erubescens									
Acacia exuvialis									
Acacia galpinii									
Acacia gerrardii									
Acacia goetzei									
Acacia karroo									
Acacia nigrescens									
Acacia nilotica									
Acacia senegal									
Acacia sieberiana									
Acacia xanthophloea									
Albizia harveyi									
Albizia versicolor									
Dichrostachys cinerea africana									

Plant species	Tree	Shrub	Grass	Reed	Veg	Fruit	Aloe	Weed	Bulb
Dichrostachys cinerea nyassana									
Faidherbia albida									
Sesbania bispinosa									
MORACEAE									
Ficus burkei									
Ficus ingens									
Ficus lutea									
Ficus stuhlmannii									
Ficus sur									
Ficus sycomorus									
Morus alba									
MUSACEAE									
Musa sapientum									
MYRTACEAE									
Psidium guajava									
Syzygium guineense									
Syzygium species B									
OLACACEAE									
Ximenia caffra									
PEDILLIACEAE									
Dicerocaryum senecioides									
Sesamum indicum									
Sesamum triphyllum									
POACEAE									
Aristrida meridionalis									
Cenchrus cillaris									
Dactyloctenium australe									
Heteropogon contortus									
Hyparrhenia dichroa									
Hyparrhenia hirta									
Hyperthelia dissoluta									
Melinis repens									
Panicum maximum									
Pennisetum glaucum									
Phragmites mauritianus									
Saccharum officinarum									
Sorghum bicolor									
Sorghum sp									
Sporobolus pyramidalis									
Themeda triandra									
Tricholaena monachne									
Urochloa stolonifera									
Zea mays									
PROTEACEAE									
Faurea saligna									

Plant species	Tree	Shrub	Grass	Reed	Veg	Fruit	Aloe	Weed	Bulb
RHAMNACEAE									
Berchemia discolor									
Berchemia zeyheri									
Ziziphus mucronata									
RUBIACEAE									
Breonadia salicina									
Catunaregam spinosa									
Gardenia volkensii									
Pavetta schumanniana									
Vangueria infausta									
RUTACEAE									
Zanthoxylum capense									
SAPINDACEAE									
Pappea capensis									
SAPOTACEAE									
Englerophytum megalismontanum									
SOLANACEAE									
Capsicum annuum									
Datura stramonium									
Nicotiana tabacum									
Solanum lichtensteinii									
Solanum nigrum									
Solanum panduriforme									
TILIACEAE									
Corchorus tridens									
Grewia flavescens									
Grewia monticola									
Grewia subspathulata									
URTICACEAE									
Pouzolzia mixta									
VERBENACEAE									
Clerodendrum glabrum									
Lantana rugosa									
Lippia javanica									
VITACEAE									
Cissus quandrangularis									
ZINGIBERACEAE									
Siphonochilus aethiopicus									

Mirhi - Trees

Trees among the Tsonga-Shangana mostly belong to classes 3 (**mu-**) and 4 (**mi-**) – singular and plural respectively, e.g.

Muvambangoma	:	**mivambangoma**
Musenje	:	**misenje**
Munga	:	**minga**

Mostly the prefixes in singular forms are not very apparent due to the coalition of prefixes as in

nkanyi < **mu-** + k = nk	:	**mu-** + **kanyi** = **nkanyi**
nsala < **mu-** + s = ns	:	**mu-** + **sala** = **nsala**
mbhandzu < **mu-** + h = mbh	:	**mu-** + **handzu** = **mbhandzu**
ndzhenga < **mu-** + r = ndzh	:	**mu-** + **rhenga** = **ndzhenga**
ntoma < **mu-** + t = nt	:	**mu-** + **toma** = **ntoma**

If the names of tree species collected were indicated in plural, the prefix of class 4 **(mi-)** would be visible.

The Tsonga-Shangana in general, classify trees in terms of a size hierarchy. To this end trees are plant species with a thick upright stem or trunk which are relatively tall with branches that are not pliable. The word **nsinya** is used by the Tsonga-Shangana as the synonym of **murhi**. A younger tree or an old tree that grows only up to a medium size is called **xi-mudyana** or **xinsinyana** – diminutive forms of **murhi** and **nsinya** respectively.

Xinsinyana or **ximudyana** also refers to a single stemmed tree with thin upright stem, commonly classified as a shrub, in a scientific sense. Such a plant will be variably called **xinsinyana** (small tree) or **xihlahla** (shrub).

Nsinya (tree) also refers to a plant with soft stem such as *Euphorbia ingens*, *E. cooperi, Carica papaya* and *Opuntia ficus-indica*. Stemless plants like *Agave sisalana* are also classified as trees. The classification is based on the inflorescence of the plant which grows very tall. This is called **mhandze ya xikwenga** (the pole of the sisal) and is used for building purposes as mentioned in Chapter 3.

From the table above, 111 (55.5%) plant species are classified as trees by the Tsonga-Shangana.

The following families have all their species classified as trees:

Agavaceae; Annonaceae; Araliaceae; Balanitaceae; Bignoniaceae; Bombaceae; Boraginaceae; Cactaceae; Caricaceae; Chrysobalanaceae; Combretaceae; Dracaenaceae; Ebenaceae; Kirkaceae; Lauraceae; Loganiaceae; Meliaceae; Moraceae; Musaceae; Myrtaceae; Proteacea; Rhamnaceae; Rutaceae; Sapindaceae; Vitaceae and Zingiberaceae. Other families like Euphorbiaceae; Mimosaceae and Rubiaceae have more than 80% of their species classified as trees.

Swihlahla – Shrubs

Xihlahla (sing.) and **swihlahla** (pl.) belong to noun classes 7 (**xi**-) and 8 (**swi**-) respectively. **Xihlahla** is usually a multi-stemmed and densely branched tree. Both stems and branches are slender. The branches are mostly whip-like. **Xihlahla** is rarely 5m tall unless it is a climber. Cuenod describes a shrub as a "bush, forest, sprig" or a piece of dry wood used for fuel" (1982:232). This description is closer to the Tsonga- Shangana's perception of **xihlahla**.

Not all plant species belonging to noun classes 7 (**xi**) and 8 (**swi**-) are shrubs. **Xirhomberhombe** (sing.) – **Swirhomberhombe** (pl.) – *Ficus burkei*, belongs to these noun classes but is not a shrub. It is only by virtue of the **xi- swi-** prefixes that this tree falls under classes 7 and 8.

In the table above, 63 species are classified as shrubs by the Tsonga-Shangana. They constitute 31.5% of the total species collected. The following families have all their species classified as shrubs: Annonaceae; Apocynaceae; Asparagaceae; Boraginaceae; Cannabinaceae; Dracanaceae; Flacourtiaceae; Malvaceae; Menispermaceae; Olacaceae; Sapotaceae; Urticaceae and Verbenaceae.

Some species have overlapping features and are classified as trees and/or shrubs by the Tsonga-Shangana. These include *Ozoroa insignis; Rhus rehmanniana; Annona senegalensis; Ehretia amoena; E. rigida; Commiphora pyracanthoides; Commiphora schimperi; Colophospermum mopane; Gymnosporia buxifolia; Terminalia pruinioides; Diospyros lycioides; Euclea divinorum; Ricinus communis; Bauhinia galpinii; E. natalensis; Antidesma venosum; Croton megalobotrys; Bauhinia galpinii; Dalbergia melanoxylon; Erythrina humeana; Acacia exuvialis; A. gerrardii; A. goetzei; A. karoo; A. nilotica; A. senegal; Dichrostachys species; Psidium guajava; Gardenia volkensii; Paveta schumaniana; Vangueria infausta* and *Clerodendrum glabrum.*

They are all 32 in number, thus constituting 16% of the total species.

Byanyi – grass

Grass belongs to noun classes 5 (**ri-**) and 6 (**ma-**). The singular form **byanyi** does not clearly show the class to which it belongs since the prefix is concealed. Two ways can be used to establish the noun class. First, by considering the plural prefix of the word **mabyanyi**, its noun class could be determined. Second, by constructing a sentence and considering either the pronoun or concord of the word as in:

Tlhongwe leri ri lehile

(This yellow thatching is tall)

Juva leri ri vupfile

(This common thatching grass is matured)

Strictly speaking '**byanyi**' does not have a plural form. For convenient sake **ma-** is regarded as the plural form.

From the table above, only two families have all their species classified as grasses. These are Cyperaceae and Iridaceae. Grasses generally belong to the Poaceae family and there are a number of grass species in the table classed under this family. The total grass species in the table is 19, i.e. 9.5% of the 200 collected species.

Tinhlanga - reeds

Rihlanga (sing.) and **tinhlanga** (pl.) belong to classes 11 (**ri-**) and 10 (**ti-**) respectively. A reed is a plant with a thin upright stem with unbranched culms. The stem is either hollow or have soft pulp. Reeds often develop inflorescences at the tip of the culms. Usually they are a tall stiff grass – like plants growing in group either terrestrially or near water. The leaves are usually long with open leaf blade and conspicuous mid-rib.

In the table above, 8 species (4 %) are classified as reeds. Only one family, Graminaceae, has all species classified as reeds. Most of the species under Poaceae are reeds.

Muroho - vegetables

Muroho (sing.) and **miroho** (pl.) have noticeable prefixes. **Muroho** is also commonly known as **ximila** (pl. **swimila**) owing to their ability to sprout. **Ximila** is anything that sprouts. **Miroho** are potherbs enjoyable to the Tsonga-Shangana. Generally these are plants shorter than a metre with edible leaves and shoots.

Species classified as vegetables by the Tsonga-Shangana constitute 4 % (8 species) of the species collected. Only one family, Asclepiadaceae, in the table has been identified to be consisting of species of vegetables only.

Mihandzu - Fruits

The Tsonga-Shangana make a clear distinction between **mihandzu ya nhova** (wild fruits) and **mihandzu ya le kaya** (domestic fruits). They explain wild fruits as fruits from naturally growing plant species whereas domestic fruits are fruits from trees cultivated by humans. Whereas the Tsonga-Shangana would call wild fruit species as a tree or shrub, cultivated fruits plant species are commonly classified as **mihandzu** (fruits). Thus the following plant species are called **mihandzu** by the Tsonga-Shangana: *Colocasia esculenta, Opuntia ficus-indica, Carica papaya, Ipomoea batatas, Citrillus lanatus, Cucurbita pepo, Manihot esculenta; Lagenaria sicereria, Arachis hypogea, Vigna subterranean, V. unguiculata; Psidium guajava* and *Persea americana*. Species in the table classified as fruits by the Tsonga-Shangana total 13 in number (6.5%).

Timhanga - aloes

These are succulent plants usually with spines. The two species classified as aloes are *Aloe marlothii* and *A. zebrina*. This constitutes 1% of the total species.

Nhova - weeds

The Tsonga-Shangana conceptualise a weed as any wild plant which grows in a place where it is not wanted, especially a garden or field where it prevents the cultivated plants from growing freely. Weeds can be runners or small shrubs of usually less than a meter tall. The 11 species (5.5 %) classified as weeds appear in the following families: Aizoaceae, Amaranthaceae, Convolvulaceae, Cucurbitaceae, Mimosaceae and Pedilliaceae.

Rhanga - bulb

This is a plant with almost round, thick, underground stem or organ, sending roots downwards and leaves upwards. Seven species have been identified as bulbs. They constitute 3.5% of the total species collected.

In the world of science it is the primary duties of specialists in nomenclature to name new taxa and to determine the correct name of old taxa that have for instance, been remodelled, united or changed in rank. In modern science therefore, new taxa are given names and old taxa are changed names by experts in nomenclature. Nomenclature is a continuous process. Among the pre-literates the picture is slightly different. Nomenclature is a conventional phenomenon without any recognizable nomenclaturists. While new taxa could be given new names, the names for old taxa are never changed by anybody. These names are static and not dynamic. In science nomenclature as stated by Radford (1986:72) is a precise and simple system used by botanists in all countries that deal on one hand with terms denoting the ranks of taxonomic groups or units, and on the other hand with the scientific names that are applied to the individual taxonomic groups of plants. The scientific name of a taxon is a word or combination of words by which it is known. All scientific names are in Latin. The purpose of a scientific name is to provide one correct name for a taxon with a particular circumscription, position and rank that is universal, stable, and unambiguous (Radford, 1986: 72). This element is lacking among the pre-literates. Among the Tsonga-Shangana for instance, the name **munga** is used for both *Acacia nilotica* and *Acacia karroo*.

Name giving among the Tsonga-Shangana is not done randomly as shown in Section 1.16.1. To them a name is more than a label or a mere arrangement of sounds and letters. Certain events, facts or essential characteristics are live to their name. The blue gum tree for instance is called **ndlhulamithi** (lit. taller than all other trees). The height of this tree species distinguishes it from any other species in the Tsonga-Shangana territory. The Tsonga-Shangana have considered its height in giving a name to it. An analysis of the species listed in Chapter 3 reveals that certain circumstances, characters, etc. were taken into account in the naming of some plant species. The following serve as examples:

HABITAT

Certain epithets relate to habitat.

Nkuwa – maribye/ *Ficus ingens*: this name derives from two nouns –

nkuwa = fig tree and

maribye = stones

Nkuwa – maribye is a montane fig tree as opposed to the common terrestrial fig trees.

Rininga-nhova/ *Sesamum tryphyllum.* This name is also formed from a combination of two nouns –

rininga = sesame plant and

nhova = veld or bush

The structure of this plant, i.e. the stem, flowers, fruits, leaves and seedlings are all conservative characters, resembling those of the cultivar, **rininga/** *Sesamum indicum.* **Rininga-nhova** describes the location of this sesame plant.

COLOUR

Sometimes the epithet relates to colour.

Nhlangula-ntima/ *Euclea natalensis* < **nhlangula** = guarri tree

ntima = black

Nhlangula-ntima refers to 'black guarri' (hairy guarri) in contrast to **nhlangula wo basa. Wo basa** means the white guarri.

SEASON

Epithet also relate to season.

Bikanguva / *Dombeya rotundifolia* is derived from **bika** = to report and **nguva** = season. During a particular period of the year, the tree begins to blossom, shedding new leaves, buds and flowers. All this is indicative of the forthcoming season – the spring.

ASSOCIATION / SIMILARITIES WITH OTHER OBJECTS

Sometimes trees are named in accordance with their similarities with other species more famous than themselves. The case in point is **ximombonkanyi** / *Lannea schweinfurthii*. The name suggests that the tree is similar to the **marula** species. **Ximombo** = face and **nkanyi** = marula. The naming of **manungwana** / *Zanthoxylum capense* is another example. **Manungwana** is a diminutive form of **nungu** / *Hystrix Africa-eaustralis* (porcupine). The short but dangerous thorns of the tree are associated with the long and equally dangerous quills of the porcupine.

ACTION AND USE

Some species are named in accordance with the utilization of some of its parts. **Ximunyamunyana** / *Ehretia amoena* is named after the utilization of its cluster of berries eaten simultaneously by means of sucking, like sweets. This is called **ku munyungela** or **ku munyamunya**, hence the name **ximunyamunyana**, i.e. that which is sucked.

Chochelamandleni / *Schotia brachypetala*

chochela = shake

mandleni = on the palm

The plant produces abundant liquid in the flowers which are shaken so that the nectar drips on the palm when consumed.

Mahlalakufeni / *Cucumis africanus*

Literally, **mahlalakufeni** means 'living in the shadow of death'. This is in view of the poisonous nature of the seeds of this plant if used as an enema, causes extensive damage to the organs resulting to a death. Using it is like risking a death.

Xinun'hwelambeva / *Clerodendrum glabrum*

The name is derived from

nun'hwa = stink and

mbeva = a mouse

The leaves of this plant produce a strong unpleasant smell particularly when crushed. The crushed leaves are used as repellent to insects, small animals and mice.

ALIEN PLANTS

From the list of 200 plant species above, it is clear that a proportion of the flora in Mhala consists not of native plants only, but of alien species from other areas introduced either deliberately or accidentally by people. This process of distribution of plants by human beings is called *anthropochores* (cf. Stace, 1989:173). The alien plants have neologistic names occurring through dialectical and intimate borrowing.

In dialectical borrowing, the foreign name is retained but assimilated into the Tsonga-Shangana orthography. The following examples can be mentioned:

Murubeyila / *Morus alba* / mulberry. The name **murubeyila,** has been borrowed from the English word 'mulberry' and has been assimilated into the Tsonga-Shangana CVCV (i.e. consonant, vowel – consonant, vowel) system which is characteristic of the Tsonga-Shangana orthography. Other such examples are:

Mupopo < Paw-paw (*Carica papaya*)

Mubanana < banana (*Musa sapientum)*

Mugwava < guava (*Psidium guajava*)

Other names have been given through intimate borrowing whereby the alien plant is given a Tsonga-Shangana name through its conservative characters, e.g.

Xidlaya-mesisa */Amaranthus spinosus*

Xidlaya-mesisa literally means 'the killer of a madam' or 'white woman'. The plant has a slender stalk and thorny with a pair of spines at the leaf base. The spines are numerous and very dangerous so that walking over them is risky.

Nqozi-ya-xilungu *Syzygium species B*

Nqhozi means water berry, **ya** (of) and **xilungu** means western. Various conservative organs of this plant, such as fruits, leaves and flowers resemble those of the indigenous **nqhozi** / *Syzygium guineense* species and yet it is of western origin.

CHAPTER 6

COMPARATIVE EVALUATION OF MEDICINAL PLANT USES

The art of traditional healing in Africa in general is probably as old as people themselves. Unfortunately this precious and valuable knowledge and experience of the oldest traditional healers has not been preserved nor properly documented. It is common knowledge that African cultures are dominated by a verbal tradition, and written documentation of cultural features in the past is not readily available in Africa as compared to other parts of the world.

It was not until the end of the 19th century and the imposition of European colonial rule that a flood of written documents began to appear. These were sources written by Arabs and Europeans which did not necessarily give a true account of African cultures: Firstly, because Arabic sources devoted more attention to religion and criticised "pagan" societies. Secondly, most of the European accounts before the 19th Century were largely confined to the communities along the coast and these accounts were written with an air of superiority and arrogance (Malan, 2003:9). The accounts of African medicines were either not properly documented or ignored.

6.1 Comparative ethnopharmacological list

The onset of the African Renaissance in the 1990s gave fresh impetus to the rediscovery and quantitative probing of indigenous knowledge systems. Ethnopharmacology, the major concern in this chapter, is a nascent phenomenon brought about with the birth of African Renaissance. This chapter presents a comparative study of various ethnopharmacologies within and outside the Limpopo Province with the Tsonga-Shangana ethnopharmacological uses as the main target group. The aim of this chapter is to show similarities and differences between medicine systems. It must be clearly understood that any reference to medicinal uses, even where similarities between medicine systems are displayed, is untested, and should not be accepted unconditionally.

Proponents of herbal medicines in particular, should not use the 'prescriptions' described in this research. The author therefore, indemnifies himself of any responsibility for any adverse condition that may result from the use of any species mentioned in this study. This does not, however, undermine the potency of these medicinal herbs.

Hereunder is a table of plant species with medicinal uses only, collected during fieldwork. In terms of the analysis in Chapter 3, the plants with medicinal value comprise a total of 135 species. The species in the table are listed alphabetically according to genera. In this table, the findings of the medicinal application of specific plants among the Tsonga-Shangana are compared to those of the Venda, Tswana and Zulu.

Table 39: Comparative ethnopharmacological uses

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Acacia caffra	Infusions from the bark are used for blood purification.	-	The Zulu use infusion of the bark as an emetic for blood cleansing. A milk enema of the leaf is administered for infantile abdominal disorders and sometimes the child is made to chew and swallow the leaf (Watt & Breyer – Brandwijk, 1962:538).
Acacia exuvialis	The infusions of the roots are used for the treatment of **xijiso** (poisonus substance). The bark is used for treating cataract while the thorn is used for the treatment of **xifulana** (gangrene).	-	-
Acacia galpinii	Powdered root is used as an ingredient for the **baso** – medicine used to dispel evil spirits or witches.	-	-
Acacia gerrardii	The root is used for the treatment of **micwa** (paranoia).	-	The Zulu use a decoction of the bark as an emetic and enema. Sometimes the vapour from the hot decoction is inhaled (Watt & Breyer – Brandwijk, 1962:542).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Acacia karroo	Bark infusions are used as remedies for diarrhoea and dysentery.	Thorns are anointed with magical powders and nailed down along the fence of the homestead to keep out evildoers such as witches and sorcerers. Sometimes they are placed with tips facing upwards for the same purpose (Mabogo, 1990:103).	The Zulu use the decoction of the bark as an emetic (Watt & Breyer – Brandwijk, 1932:64).
Acacia nigrescens	Bark and root extracts are used for the treatment of kidney problems.	-	-
Acacia nilotica	Infusions of the bark, pods and roots are used to treat coughs, diarrhoea and tuberculosis respectively. Els also reports that powdered bark and roots of this species treat the same ailments as those mentioned above (1996:267).	-	A decoction of the bark is taken by the Zulu for a dry cough and is used to be effective in loosening it (Watt & Breyer – Brandwijk, 1962:550).
Acacia sieberiana	Root extract is used against arthritis.	-	Both the Zulu and Tswana use a hot infusion as a gargle in quinsy (Watt & Breyer – Brandwijk, 1962:551).
Acacia xanthophloea	Infusions of the bark are used as enema for the removal of bad luck. They are also used for asthma treatment. Smoke from burnt root is inhaled for the treatment of **nhlaviso** (pain on the flank). Root infusions also prolong a man's ejaculation.	-	The Zulu take the powdered root or bark stem as an emetic in cases of malaria and often as prophylactic on entering a malaria area. The preparation produces purging and sweating (Watt & Breyer – Brandwijk, 1962:552).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Adansonia digitata	Infusions of the bark are used to wash babies to fatten them.	Infusions of the bark are used to wash babies with to fatten them. Any semiparasite or epiphytic orchid is used to protect a homestead against witches (Mabogo, 1990:66). Powdered seed is a remedy for a whooping cough in infants and children (pers. comm.)	-
Afzelia quanzensis	Root infusions are used for the treatment of bilharzia.	-	Powdered bark rubbed on eczema spots after python fat has been applied among the Zulu (Hutchings, et al., 1996: 129).
Albizia harveyi	Root decoctions are used for the treatment of **xijiso** (poisonous substance) and a depressed fontanelle	-	A decoction of roots is taken by the Batswana for the treatment of gonorrhoea in both sexes (Hedberg & Staugard, 1989:60).
Albizia versicolor	The root and bark are used as ingredients in the preparation of the **bhudlu** medicine used to cleanse a chest for clear divination. According to Liengme (1981: 504) the roots and bark are used for driving out demons.	The infusion of the bark is used for washing the face for painful eyes, short sightedness and for luck. It is also used for gonorrhoea, syphilis and bilharzia. The roots are used as an aphrodisiac and the general cleansing of the stomach (Mabogo, 1990:105).	The Zulu use pods to treat hypersensitivity and titanic convulsions and cattle mortality (Hutchings, et al., 1996: 129).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Aloe marlothii	The sap of fresh leaves is used for the treatment of syphilis and child weaning	Leaves are pounded and the resulting sap used as an ingredient in the treatment of **divhu** (depressed fontanelle in adults) and a malfunctioning of the alimentary and urinary systems. A decoction of the root is used as a purgative for the treatment of stomach problems and infection (Mabogo, 1990:94).	The Zulu administer a decoction of the leaves and roots as an enema in the treatment of round worms. They also use the sap of the leaves to wean children, while a decoction of the shoots is taken orally for stomach problems (Watt & Breyer – Brandwijk, 1962:983). The Batswana use a decoction of leaves to treat constipation in babies while an infusion of powdered leaves or leaf juice is smeared into the eyes for sore eyes (Hedberg & Staugard, 1989:63).
Annona senegalensis	Decoctions of the roots are used to treat insanity and dizziness. Infusion of the bark is gargled for toothaches.	Root bark powder is an antidote against snake-bite. Decoction of the root is taken with gruel for venereal diseases and bilharzia. The bark is chewed for stomach ache, diarrhoea and dysentery (Mabogo, 1990:54).	The Zulu use the roots to treat madness; to ward off dizziness and to induce forgetfulness in small children, thus facilitating the weaning process (Hutchings, et al., 1996: 104).
Antidesma venosum	Infusions of the roots are used as purgative. Decoctions of the roots treat pneumonia and infertility in women. Smoke from smouldering root is inhaled for better divination.	-	Leaves are used for abdominal disorders by the Zulu whereas the root bark is used for dysentery (Hutchings, et al., 1996:164).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Asparagus cooperi	The stem is used to ward off unwanted rain. The ash is used for the treatment of **mafularha** (impurity). Liegme (1981:504) also reports that the youngest child in the family waves this plant to chase away an unwanted rain.	-	Infusions or decoctions of roots, mixed with those of *Zanthoxylum capense* and root bark of an *Indigofera* species are used by the Zulu as anthelmintics for humans and animals. Tuber infusions are taken by them as love charm emetics and also used as protective charms against evil (Hutchings, et al., 1996: 46).
Balanites maughamii	Powdered roots are used to drive out demons and to bar witches from entering a homestead. The decoctions of the roots and barks are used as enemas. Bark extract is used to induce vomiting. Bark and roots extracts treat **xijiso** (poisonous substance). Els (1996:268) mentions that the decoction of the pounded root is used to cleanse the blood	The thorns are used magically to protect homestead against witches (Mabogo, 1990:65).	Roots and bark infusions are used by the Zulu in protective rituals against evil spirits. Froth from the infusion is licked three times a day, without use of hands, and then thrown over roof to spill over the entrance. Bark is also used by them to make an exhilarating bath (Hutchings, et al., (1996: 151).
Bauhinia galpinii	Decoctions of the roots are used to sustain weak pregnancies. Decoctions of the seeds are used against the cessation of menstruation.	The root is soaked together with other medicines, and the infusion given to a baby to treat childhood diseases (Mabogo, 1990:68).	-
Berchemia discolor	The bark is used to make poultices for treating wounds.	-	The bark is used by the Zulu as an alluring love charm. They also use boiled leaves are as poultices (Hutchings, et al., 1996: 193).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Berchemia zeyheri	Decoctions of the bark are used as a bathe for good luck.	-	Bark infusions are taken by the Zulu and also administered as enemas for pains in the back and for rectal ulceration in children. Further more infusions of bark, mixed with that of *Ozoroa paniculosa* are taken and also administered as enemas for dysentery in adults (Hutchings, et al., 1996: 194).
Bidens pilosa	Crushed fresh leaves are used to treat worm infection. Sap from the leaves treat earache. Infusions of the roots are used to treat epilepsy.	The infusion of boiled leaves is used against long lasting menstruation. It also promotes conception (Mabogo, 1990:62).	Infusions of leaves or roots mixed with those of *Lagenaria sphaerica* are used by the Zulu for stomach ache or administered as enemas (Hutchings, et al., 1996: 306).
Bolusanthus speciosus	Infusions of the roots are used as an emetic. Bark and root infusions are used against colic. According to Els (1996:269) the powdered root is used as purgative a for blood purification. Liengme (1981:505) found that the root has a sleep-inducing effect.	Infusions of the root and stem bark are used as enema to treat venereal disease and for the general cleansing of blood and kidneys. It is also included in the preparation of medicine given to a man defiled for sleeping with a woman who had just committed abortion (Mabogo, 1990:69).	Either the root or the stem bark is used by the Zulu as a purgative. This is ground up, and, in very small quantity, mixed with porridge of *Spirostachys africanus* (Stevenson – Hamilton, 1934:39).
Boophane disticha	The dry bulb scales are applied topically as an antiseptic and pain relieving dressing for the circumcised. Medicine from dry bulb scales is used for the general cleansing of the body.	The Vhavenda also apply bulb scales topically as an antiseptic and pain relieving dressing for the circumcised (Pers. comm. Eric Rasengani).	The Batswana and Zulu use dry bulb scales as poultice for boils and abscesses while the fresh leaf is applied to cuts to stop bleeding. The bulb scales are also used to treat painful wounds (see also Manning 2003:47 and Van Wyk, et al. 2002:52).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Breonadia salicina	Root infusions are used for the treatment of dysentery and diarrhoea. The bark is used as tonic and remedy for stomach and heart ailments.	Root decoctions are used three times a day for tachycardia (Hutchings, et al., 1996: 295).	The Zulu use the bark for stomach complaints (Hutchings, et al., 1996: 295).
Cannabis sativa	Infusions of the leaf are used for the treatment of asthma and insanity.	-	Leaves used with powdered bark of *Warburgia salutaris*, are smoked by the Zulu for relief of a dry cough. Leaves are also taken for asthma and decoctions. Sometimes leaves are used for hypertension and diabetes (Hutchings, et al., 1996: 76).
Capsium annuum	Powdered roots and capsules are used to protect a homestead against witches.	-	Roots are used by the Zulu as traditional medicine (Hutchings, et. al., 1996: 244).
Carica papaya	Roots are used for the treatment of gonorrhoea. Powdered roots taken in large quantities are used as abortificient.	-	-
Carissa bispinosa	Decoctions of the roots are used for the treatment of venereal diseases and also serve as an emetic. Infusions of the roots are used to treat **xijiso** (poisonous substance). The stem is used for the treatment of **nda phya** (burning sensation).	-	Roots are used by the Zulu as traditional medicine (Hutchings, et al., 1996: 244).
Carissa edulis	Infusions of the roots are used for the treatment of **xijiso** (poisonous substance).	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Cassia abbreviata	Decoction of the root is used for toothache. Dried and powdered root is used as laxative. Powdered bark of the root is used for bilharzias and abscesses. Root infusion is taken against menorrhagia and as an abortificient. Powdered root is taken orally as an aphrodisiac. The bark of this plant is used to cook the meat of the first prey or kill of a dog to ensure its future success in hunting (see Els, 1996:270). He also found that the infusions of the bark and root are used against diarrhoea.	The infusions of the root bark taken with other medicine are used for the treatment of the diseases called **divhu** (a disease caused by sexual intercourse with a woman who has had an abortion or miscarriage) (Mabogo, 1990:69).	A decoction of the bark and root is drunk by the Zulu for diarrhoea (Stevenson-Hamilton, 1934:40).
Catunaregam spinosa	Infusions of dried fruit are taken orally as emetics.	-	The plant is used by the Zulu as a purgative. The roasted and powdered root bark is rubbed by the Zulu into scarification over fractures to hasten healing. The root is an ingredient in an emetic (Watt & Breyer – Brandwijk, 1962:393).
Cissus quadrangularis	Decoctions of the root and crushed stems are used against oedema. Infusion of the stem is used for maggots in cattle.	-	The Batswana soak fresh leaves in cold water and use them with other species for the prevention of witchcraft (Hedberg, & Staugard, 1989:91). The Zulu use it in a drench for sick horses (Hutchings, et al., 1996: 196).
Citrillus lanatus	Powdered seeds and grounded rind seasoned with salt and sugar are used for treatment of intestinal parasites.	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Clerodendrum glabrum	Leaf infusions are used on animal wounds against parasites. Crushed leaves are used as repellent to insects and mice. Decoctions of the root are used against snake bite.	The infusion of leaves is taken against sore throats, colds and related chest complaints. It is also used to protect homesteads as it is popularly believed to have repelling effects on familiars used by witches. It is also used to return the effects of witches (Mabogo, 1990:136).	The Zulu use the leaf for cough and fever. They use the infusion of the root for snake bites, especially mamba. The same infusion is used by them for intestinal parasites (Watt & Breyer – Brandwijk, 1932:154 – 155).
Cloeme gynandra	Leaf sap mixed with those of other herbs is used as an eardrop.	-	Infusions are taken by the Zulu as love charm emetics (Hutchings, et al., 1996: 109).
Colophospermum mopane	Chewed leaves are applied to wounds to stop bleeding and for healing purposes. Bark decoctions are used for diarrhoea.	-	-
Combretum apiculatum	Powdered roots are smoked by the possessed to activate spirits. Smoke from the smouldering roots is inhaled to induce spirits to manifest themselves.	-	Infusions of the leaves are used by the Zulu against abdominal disorders while the decoctions thereof have long been used as a steam bath. The decoction was also used by the Zulu as an enema (Watt & Breyer – Brandwijk, 1962:192).
Combretum collinum	Powdered roots are used as a purgative while the infusions of the roots are used for the treatment of venereal diseases.	-	-
Combretum erythrophyllum	Powdered root is used as a purgative. Infusions of the roots are used/ administered to protect a newly built homestead against witches.	A decoction of the bark is used for women with pregnancy problems. It also supports pregnancy (Mabogo, 1990:79).	The Zulu regard it as poisonous but give small doses of the root to dogs as a fattening tonic. The root is purgative (Watt & Breyer – Brandwijk, 1962:193).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Combretum hereroense	Root infusions are used for treating stomach disorders and venereal diseases. Dried young shoots are used for treating tonsils and coughs. A decoction of the bark is used for heart diseases and heartburn.	A decoction of the root bark is used as a remedy for heart diseases (Mabogo, 1990:80).	Among the Batswana, a decoction of fresh roots is used for the treatment of venereal diseases and pains in any part of the body. Dried powdered roots mixed with Vaseline are applied to affected area for swelling of penal and vulval areas (Hedberg & Staugard, 1989:94). The Zulu use root infusions for stomach complaints and as enemas (Hutchings, et al., 1996: 215).
Combretum imberbe	Smoke inhaled from the burning leaves relieves coughs and colds. Root decoctions are used against diarrhoea. Infusions from root bark treat bilharzia. Stem bark infusion is gargled for toothache.	Roots are used together with those of other species, like *Sclerocarya birrea*, etc to restore or revive fertility in women (Mabogo, 1990:80).	The Batswana people put sliced fresh roots into porridge to be eaten for the cleansing of **boswagadi** (widowhood). The porridge is eaten for two to three weeks (Hedberg & Staugard, 1989:95).
Combretum zeyheri	The bark ash is buried at the four cardinal points of the homestead to protect it against witches. The powdered root is used to win cases in courts. It is also used to control a feverish person or an unruly child.	-	The Zulu use the bark for gallstones (Hutchings, et al., 1996: 215).
Croton megalobotrys	Crushed seeds are used as a purgative. Powdered bark is used as an aphrodisiac. Els (1996:272) found that the bark was earlier used against malaria and also as a purgative. (See also Liengme, 1981:506).	The seed is pulverised and taken with water as a purgative. The purgative is generally used for venereal diseases and regular purification of blood and kidneys (Mabogo, 1990:88). The Vhavenda use the powdered seeds for roundworms and tapeworms as well (see Hedberg & Staugard, 1989:103).	A decoction of one ground, dried seed is drunk as a laxative among the Batswana (Heberg & Staugard, 1989:102-103).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Cucumis africanus	Infusions of the seeds are used as enema in the treatment of venereal diseases. Precaution should be taken against seeds entering the stomach as they have a detrimental effect on the intestines.	The seeds have a purgative effect and are usually used with *Trichilia emetica* as an enema. Only two or three seeds are enough for one dose. The use of more seeds is said to be fatal (Mabogo, 1990:82).	The Zulu administer a warm water infusion of the fruit pulp as an enema for the relief of lumbago (Watt & Breyer – Brandwijk, 1962:350).
Cucurbita pepo	The fruit's axil is used for the treatment of a depressed fontanelle.	-	-
Cussonia spicata	Powdered roots are used against malaria. Infusions of the bark and roots are used for the treatment of venereal diseases, insanity and biliousness.	Infusions of the bark are taken orally to treat internal ulcers called **zwipfula** (magically caused ulcers) and **pfuko** (Mabogo, 1990:59-60).	The Zulu use *Cussonia spicata* as an emetic in biliousness, an infusion of the decorticated bulbous thickening at the base of the fruit stem and sometimes use the infusion of the root for the same purpose (Watt & Breyer – Brandwijk, 1962:117). The root is also used as an antifebrile.
Dalbergia melanoxylon	Decoctions of the bark are used in cleaning and healing wounds.	-	Among the Zulu the root of this shrub is burned, ground up fine, mixed with water, and the solution used to wash out septic wounds (Stevenson – Hamilton, 1934:41).
Datura stramonium	Warmed leaves are used as a poultice on boils, wounds and abscesses. Infusions of the roots are taken by males as aphrodisiacs and also gargled for toothache.	An infusion of the leaf is used for the treatment of insanity and venereal diseases (Mabogo, 1990: 130).	Powdered leaf is used by the Zulu to bruises and wounds in both humans and animals. The application being thought to draw out pus and inflammations. It is also used as soothing application to painful wounds and sores.

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Dicerocaryum senecioides	An infusion of the leaf is used in the expulsion of the placenta in women and animals. Decoctions of the roots are used to treat cystitis and venereal diseases. Root infusions are a remedy for kidney problems. Grounded thorns are used to treat **xifulana** (gangrene).	The infusion from soaked leaf and stem is used to expedite the expulsion of hanging placenta in cattle and humans. The infusion is also administered orally in cattle for the treatment of a blood disease known as **mali** (black quarter evil) (Mabogo, 1990:117).	-
Dichrostachys cinerea subsp. africana	Powdered fruit and root treat a depressed fontanelle. Chewed roots treat scorpion stings and snake bites. Bark fibre is used against toothache and stomach problems. Root decoctions support a weak pregnancy. Powdered roots are used as an aphrodisiac. Els (1996:272) also lists a variety of uses; sore throat, colic, headache, toothache, diarrhoea, venereal diseases and lung inflammation	An infusion of the root is used against a depressed fontanelle. A decoction of the root bark is taken for toothache and stomach troubles. The infusion of the leaf and bark are used to treat sores and painful eyes. Powdered root and bark is used for treating snake-bite and scorpion stings, while the fruit is used for fettering sores and scabies. The plant is used against witches (Mabogo, 1990:106).	The Batswana take a decoction of either dried or fresh roots for coughs whereas roots fried with pig fat are applied to top of head to cause the baby to vomit and have diarrhoea so that the fontanelle should stop fluttering (Hedbeger & Staugard, 1989:103). The Zulu on the other hand use the roots as an ingredient in a decoction taken to ease pain or rubbed into incision cut over the painful area (Hutchings, et al., 1996: 125).
Dichrostachys cinerea subsp. nyassana	Medicinal uses same as those of subsp. *africana* described above.	-	Medicinal uses same as those of subsp. *africana* described above.

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Diospyros lycioides	Smoke from burnt roots is inhaled by the possessed to 'open up' their chest.	The infusion of the root is used as an ingredient in the preparation of **ntswu**, given to children for nutritious purposes (Mabogo, 1990:84). The Vhavenda use the infusion of the root against epilepsy and to treat dysentery (Hedberg & Staugard, 1989:112).	The Batswana take a decoction of fresh roots three times a day with a cup for the treatment of womb pains. The same decoction is also used during pregnancy to sustain it (Hedberg & Staugard, 1989:112).
Diospyros mespiliformis	Decoctions of the bark are used for treating stomach pains and diarrhoea. Els (1996:273) also found that young shoots are crushed and pasted on wounds and sores and that the extract is also used against diarrhoea.	A decoction of boiled root is taken for dysentery and as a febrifuge (Mabogo, 1990:85). The Vhavenda use root infusions for cough, fungal disease on skull, pulsating anterior fontanelle in infants and headaches (Hedberg & Staugard, 1989:114).	Among the Batswana, powdered dried plant is mixed with fat and massaged onto painful areas for the treatment of general internal body pain. The dried plant can also be stamped and rubbed onto affected areas in the treatment of scabies. The powdered plant is directly applied on wounds (Hedberg & Staugard, 1989:114).
Dombeya rotundifolia	Infusions of the root are used for intestinal ulceration, diarrhoea and stomach pains. The bark fibre of saplings is used to treat migraine. Liengme (1981:507) found that the flowers are sprinkled over a hen's eggs to prevent chickens from dying, once they have been hatched. They also drink a decoction of the bark to regulate irregular menses or to hasten the onset of labour when this is delayed (Watt & Breyer – Brandwijk, 1932:119).	An infusion of the root is used to promote fertility and conception in women. Because its flowering is very profuse, it can make a woman bear a large number of children (Mabogo, 1990:131-132).	The Zulu use the infusion of the bark or wood orally or rectally for intestinal ulceration (Watt & Breyer – Brandwijk, 1932:119).
Ehretia amoena	Infusions of the roots are used for the treatment of venereal diseases.	-	Among the Batswana, the roots and stems are boiled in water to be taken as an analgesic for general internal body pain (Hedberg & Staugard, 1989:119).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Ehretia rigida	Infusions of the root are used for the treatment of **xikuna** (blooded stool) and venereal diseases. Roots are also used to attain luck.	A stick from this plant is used magically as a protective rod to ward off enemies and dangerous animals. The soot of the root is applied on cuts around sprained joints. Powdered root bark is used against **pfuko**(ulcers caused magically) disease (Mabogo, 1990: 67).	The Zulu use the plant as traditional medicine while the Tswana use unspecified parts in rain making ceremonies (Hutchings, et al., 1996: 261).
Ekebergia capensis	An infusion of the bark is used as an emetic. Leaf infusion is used as a purgative. Root and bark decoctions are used against coughs and chest pains.	The bark is used as a remedy for headaches and also as an emetic (Mabogo, 1990: 99).	The bark is used by the Zulu as an emetic and enema for people disliked by their fellows in order to establish better relationships. Leaf infusion on the other hand is used as an anthelmintic while a decoction of the bark or root treats heartburn (Watt & Breyer – Brandwijk, 1932:94).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Elaeodendron transvaalenses	Bark infusions are used to induce vomiting. Bark decoctions are used for steaming patients. Infusions of the bark are also used to treat fever, stomach pains, diarrhoea, venereal diseases and **xifulana** (gangrene).	The root bark is boiled and the decoction used to treat **nowa – khulu** (piles or haemorrhoids) in humans and domestic animals. The medicine is also used against venereal diseases and as an anthelmintic (Mabogo, 1990:75).	The Zulu use the infusion as a general stomach conditioner. It is also used as an enema to relieve stomach aches and fevers (Mashimbye in Masoga & Musyoki, 2004:263).
Englerophytum magalismontanum	Decoctions of the root are used to treat headaches and stomach pains. Infusions of the bark are gargled for toothaches.	The boiled root decoction is a remedy for abdominal pains. A semiparasite or lichen on this plant is used as an ingredient of medicines, prepared and burnt to invoke ancestral spirits during malombo(spirit) cults (Mabogo, 1990:129).	The fruit and roots are used for headaches among the Zulu (Hutchings, et al., 1996: 230).
Epaltes gariepinia	Decoctions of the roots are used for the treatment of coughs, cold and flu.	-	Unspecified parts are used for fevers by the Zulu (Hutchings, et al., 1996: 317).
Erythrina humeana	Powdered bark is applied topically to treat wounds and sores. Decoctions of the roots are used to treat tuberculosis.	-	The Zulu use the infusion of the bark for the treatment of earache while the hot infusion is used as a fomentation on sprains (Watt & Breyer-Brandwijk, 1932: 78).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Euclea divinorum	A decoction of the root is used as a purgative. Root infusions are used in the treatment of venereal diseases. They are also used as ear-drops to treat earache.	A decoction of the root is used as a purgative. It is also taken as an enema for blood purification, noisy stomach, headache and **divhu** (disease caused by having sexual intercourse with a woman who had a miscarriage or abortion). Root infusions taken for general ill health and the decoction for ear and toothache (Mabogo, 1990:85).	An infusion of the bark is used as an emetic to treat certain chest related ailments among the Zulu. A decoction of the root, thought to be mildly purgative, is generally used by the Zulu for the treatment of venereal diseases, particularly syphilis (Watt & Breyer – Brandwijk, 1962:390). The Batswana people use a decoction of powdered roots for a man who became ill due to sleeping with an adulteress who got pregnant by another man. The decoction is also given to a woman who fails to menstruate. A larger quantity of the decoction is taken against constipation (Hedberg & Staugard, 1989:123).
Euclea natalensis	Root bark is roasted and chewed as a purgative. An infusion of the root is used to treat venereal diseases, and *varicella*. Leaf infusions treat *rubella*. Bark decoctions treat high blood pressure. Root concoctions treat **xijiso** (poisonous substance) and cancer. Watt & Breyer – Brandwijk (1932:138) mention that they (Shangana) apply charred powder to skin lesions in leprosy and internally for ankylostomiasis while powdered root is used for toothache and headache.	-	The Zulu use the infusion of the root as a purgative for abdominal complaints (Watt & Breyer – Brandwijk, 1932:138).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Euphorbia ingens	Latex is eaten with gruel for cancer.	The bark is used against chronic ulcers and cancer. The bark is heated in a clay pot and the affected part exposed to the hot steam. Bony material will afterwards come out and together with the bark of *E. ingens* and *Ehretia rigida* be burnt and applied on the affected area (Mabogo, 1990:88-89).	A very small dose of latex is used by the Zulu as a drastic purgative. Cases of fatalities were cited which resulted from the use of large doses (see Watt & Breyer – Brandwijk, 1932:104).
Euphorbia tirucalli	Grounded powder of the leaf is used prophylactically against poisoning. Latex is used for the treatment of impotence and snake bite. Infusions of the root treat gonorrhoea. Liengme (1981:511) mentions that the milky sap is added to food given to cows in the belief that it will make them produce more milk.	An infusion of the root is used for body pains. Burnt leaves are grounded into powder and used prophylactically against poisoning (Mabogo, 1990:89).	Latex is used by the Zulu as a fish poison and an irritant. The poison is reported to stupefy the fish (Watt & Breyer – Brandwijk, 1932:105).
Faidherbia albida	A decoction of the bark is used to treat diarrhoea and bleeding.	-	The Zulu use the bark as traditional medicine (Hutchings, et al., 1996:318)

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Faurea saligna	Infusions of the root and leaf are used to treat earache. The root infusion is used in a vapour bathe for the relief of menstrual pains.	The infusion of the leaf is a strong remedy for **divhu** or **devhu**, an illness suffered by a man who had sexual intercourse with a woman who had recently committed an abortion or had a miscarriage (Mabogo, 1990:120).	The Zulu use the bark as traditional medicine (Hutchings, et al., 1996:318).
Ficus burkei	The milky latex is used to treat eye cataracts. Bark extract is used against colds and throat infections. Decoction of the bark is used for steam bathe. Bark concoction is used for the protection of homesteads against witches. The root strangler is used for the treatment of **nda phya** (burning sensation).	A semiparasite plant growing on this species is used in the remedy for insanity. Mabogo (1990:107) suggests that this plant may be used for other medicinal purposes.	A decoction of the root bark is drunk by the Zulu for a suspected laceration in the lungs while an infusion of the roots, leaves and bark is given to cows that yield insufficient milk (Watt & Breyer – Brandwijk, 1962:774-775).
Ficus ingens	Infusion of the bark is given to cows during lactation to improve their milk production.	Mabogo (1990: 107) mentions that no medicinal uses have been reported for this plant in spite of a wide range of uses recorded for other *Moraceae*.	Decoctions of the bark are given to cows yielding insufficient milk among the Zulu (Watt & Breyer – Bandwijk, 1932:35).
Ficus stuhlmannii	An infusion of the bark is sprinkled on members of the bereaved family as part of the mortuary ritual. Decoctions of the bark are used for a steam bathe for attainment of luck.	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Ficus sur	The milky latex is used for burns, sore eyes, and septile conjunctivitis. Powdered bark is used for rashes.	-	The Zulu use the root and bark decoctions for suspected ulceration of the lung. Leaf and bark infusions are used as bovine galactagogues (Hutchings, et al., 1996: 75).
Ficus sycomorus	Infusions of the bark and leaves are used to treat chest pains, glandular indispositions and diarrhoea. The bark infusion is used for steam bathing.	The decoctions from the root bark are taken for chest troubles and colds in general. In children the decoctions treat stomach problems and prevent diarrhoea. Fresh fruits increase lactation in animals (Mabogo, 1990:108). Among the Vhavenda, the plant is used also for the treatment of tuberculosis (Hedberg & Staugard, 1989:131).	Among the Botswana, a nursing mother who produces insufficient milk takes three cups of cold water extract of stem bark during the day (Hedberg & Staugard, 1989:131).
Flueggea virosa	Root infusions are used against venereal diseases. Decoctions of the root are used to treat **xijiso** (poisonous substance), **mavabyi ya ku vutla** (snatching diseases) and cancer. Infusions of the roots treat abdominal pains in adults. Powdered root is taken with soft porridge to treat a depressed fontanelle.	A decoction of the root is given to children for general body health (Mabogo, 1990:90).	The Batswana use a decoction of fresh roots for the treatment of venereal diseases and heart palpitations (Hedberg & Staugard, 1989:132).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Gardenia volkensii	Infusions of the roots and fruits are used as emetics. Root infusions are used to treat ear and headaches. They are also applied as a cold compress on the forehead. Pegs from the twigs are used to protect a home. Infusions of the roots are used to induce the Ndau spirits. Els (1996:274) reports that the branch of this tree or its stump is buried at the entrance of the hut to protect it against witches, sorcerers and lightning. (See also Liengme, 1981:508).	The plant is said to have a prophylactic effect against several diseases. An extract of the root and leaf is given to a child for weaning. The pegs from the twigs are nailed at the sides of entrances to protect a homestead from witches. Generally it causes forgetfulness (Mabogo, 1990:125).	-
Gladiolus crassifolius	Infusions of the corm are used for the treatment of kidney ailments and swelled glands.	-	-
Gossypium herbaceum	The cotton is used to cleanse wounds. Infusions of the roots are used against oedema.	-	Among the Batswana, a decoction of roots, beans and sheep's heart is taken for heart palpitations while that of the roots alone is used against disturbed thinking (Hedberg & Staugard, 1989:139).
Grewia monticola	Decoctions of the roots are used to treat a depressed fontanelle.	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Gymnosporia buxifolia	Leaf infusions are used against dysmenorrhoea. Infusions of the bark are used as emetics and also as enemas for diarrhoea. Decoctions of the root are used for **xijiso** (poisonous substance).	-	Among the Batswana, one cup of water boiled with roots is taken for the treatment of urine retention. One small cup of water boiled with roots is taken for the treatment of venereal diseases. The leaves are boiled with goat droppings and smeared on the body of a patient suffering from measles (Hedberg & Staugard, 1989:170-171). The Zulu use the infusion of the bark given as an emetic and enema for diarrhoea. The bark and leaf infusions treat diarrhoea in stock (Watt & Breyer – Brandkwijk, 1932:110).
Gymnosporia senegalensis	Infusions of the roots are used for treating chest pains and root decoctions for diarrhoea, infertility and snake bite. Infusions of leaves and roots are used for epilepsy and venereal diseases. Powdered roots are used as a **matlulana** (sexual impurities) medicine.	The infusion of soaked roots are used as prophylactic and remedy of childhood diseases, like diarrhoea and depressed fontanelle. Roots are used for nerve pains (Mabogo, 1990:76).	Among the Batswana, small twigs and leaves are powdered and boiled with water to be taken twice a day with a tablespoon for the treatment of measles. The liquid is also rubbed on the child's body with corn husks (Hedberg & Staugard, 1989:171).
Hibiscus cannabinus	Infusions of the bark and inner roots are used to control excessive vomiting of a child.	-	The Zulu use infusion of leaf and stem for penile, irritation of any sort including venereal sores and urethritis. It is also used as an injection into the urethra and vagina for gonorrhoea and other inflammations (Watt & Breyer – Brandwijk, 1932:118).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Hyperthelia dissoluta	Decoctions of the root are used against dysentery and diarrhoea.	-	-
Hypoxis hemerocallidea	The infusions of the corms are used for the treatment of venereal diseases and are very popular for the treatment of AIDS. The corm is also used for the treatment of a depressed fontanelle, cancer, **nda phya** (burning sensation), **xijiso** (poisonous substance), **xilumi** (womb pain), **tindzhaka** (sexual pollution of death), headache, etc.	-	The Batswana use the decoctions of the bulb for skin, lung, stomach and liver cancer. The decoction is also given to children to prevent cancer (Hedberg & Staugard, 1989:151). The Zulu use corm infusions as emetics for dizziness and mental disorders (Hutchings, et al., 1996: 55).
Hypoxis rigidula	Decoctions of the corm are used for the treatment of gonorrhoea, syphilis, and AIDS.	-	Infusion of the corm is given to cattle with gall – sickness among the Zulu (Watt & Breyer – Brandwijk, 1932:29).
Jatropha curcas	Extracts of the bark and seeds are taken as purgatives. Leaves are used for hot presses.	-	This is a popular Tswana traditional medicine, and extracts of the leaves, seeds or bark are taken as a purgative (Van Wyk, et al. 2002:130). Two seeds are said to be strongly purgative while larger numbers may cause severe diarrhoea, abdominal pain and vomiting (see also Van Wyk, et al. 1997:158). The Zulu also use this species as a purgative (see Watt & Breyer – Brandwijk, 1932: 102).
Kigelia africana	A decoction of the fruit is used for the enlargement of a male organ. Pieces of roots are buried inside the **ndhumba** (hut for Ndau spirits) to protect it against witches. This has the same effects as those of *Asparagus virgatus* as reported by Liengme (1981: 509) that its dense smoke is believed to chase the clouds away of an unwanted storm.	-	A powdered fruit is used by the Zulu as an ulcer dressing (Stevenson – Hamilton, 1934: 38).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Kirkia acuminata	Powdered roots are used against toothache.	-	Among the Batswana the powdered inner bark is mixed with cold water and the solution is washed with to bring good luck. A decoction of boiled stem bark is taken by children for coughs. Adults chew the bark and swallow the juice for the same purpose (Hedberg & Staugard, 1989:161).
Lagenaria siceraria	Warmed leaves are applied as hot compresses on pulled muscles or fresh wounds.	-	The Zulu use infusions of leaves for stomach ache or use it as an enema (Hutchings, et al 1996, 306).
Lannea discolor	The gum from the roots is used to wean babies. Leaf decoctions are used for the treatment of epilepsy.	-	Among the Tswana, fresh roots are boiled in water, mixed with porridge and one to two cups are eaten, twice a day for the treatment of bloody diarrhoea (Hedberg & Staugard, 1989: 162).
Lannea edulis	Leaf poultices are applied externally in the treatment of boils and abscesses. Root extract is used in mortuary rituals.	A decoction of the root, particularly of its bark, is taken in frequent large doses for blackwater fever (Watt & Breyer – Brandwijk, 1962:.46).	-
Lannea schweinfurthii	Leaves are pasted on boils, abscesses and sores. Decoctions of the roots bark and leaves are used as a bathe for good luck.	The root causes people to forget their recently deceased relative. It makes people forget unpleasant events and witches postpone their plans (Mabogo, 1990: 51).	The bark is used by the Zulu as traditional medicine (Hutchings, et al, 1996: 178).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Lantana rugosa	Infusions of roots are used for stomach pains and coughs.	The infusion of leaves is used for incipient bronchial infection, and also as an enema for abdominal pains. The same infusion can be used as an anti-emetic, especially against **tshiliso** (poisonous substance), a disease with vomiting and breathing problems (Mabogo, 1990:137).	The Zulu administer the powdered root in milk to young children as an enema for abdominal troubles while the Batswana administer a decoction of the root in capful doses to a woman with ovarian troubles (Watt & Breyer – Brandwijk, 1962:1050).
Lippia javanica	Infusions of the leaf are taken for coughs, fever and colds (cf. Liengme, 1981:509).	The infusion of leaves is drunk for coughs, flu and headaches. The same infusion is used for general body sickness. It is also used as a prophylactic against malaria, dysentery and diarrhoea. It is also used as an anthelmintic. Powdered burnt root is applied to cuts around sprained joints (Mabogo, 1990:137).	Among the Batswana, the roots are boiled in water, and the eyes washed with the infusion for eye problems indicated by redness and discharge (Hedberg & Staugard, 1989:166). The Zulu on the other hand use the infusion of the leaf for gangrenous rectitis, measles, urticaria, and other rashes (Watt & Breyer – Brandwijk, 1932:154).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Maerua angolensis	Vapour from leaves and bark treat childhood convulsions and insanity. Decoctions of roots and bark are used for the general cleansing of the blood. Infusions of the leaves treat **mbhundzwana** (smallpox). A purgative medicine is made from the bark (Liengme, 1981:510).	A decoction of leaves and bark is taken as a remedy for stomach-ache. Crushed leaves are used as a remedy for headache through steaming. Bark decoctions are used as a purgative. Leaves and bark are heated in a clay pot without water against child convulsions (Mabogo, 1990; 73).	Among the Batswana, fresh roots and stem barks are powdered and mixed with cold water. The fluid is sprinkled for the prevention of witchcraft (Hedberg & Staugard, 1989:169).
Manihot esculenta	Tuberous roots act as a tonic for cancer patients.	-	-
Momordica balsamina	Infusions of the roots and leaves are used to treat chicken pox. Root infusions are also used as eardrops.	The infusion of the leaves is drunk as an anti-emetic (Mabogo, 1990:82).	A powdered dried fruit is applied locally to the wound as a drying agent (Hedberg & Staugard, 1989:176).
Momordica cardiospermoides	The sap of crushed fresh leaves is used as eardrops for earaches. Infusions of the roots are used to treat cancer.	-	The Batswana boil one half cup of water with roots for the treatment of boils. The mixture is taken twice a day until recovery. (Hedberg & Staugard, 1989; 177).
Monadenium lugardii	The milky latex is rubbed on the eye-brows of cattle for the treatment of cataracts. Infusions of the roots are used as abortificient. Chewed leaves are used for cleansing of the blood.	-	Among the Batswana, three drops latex are put into acidic drink and given to a patient who has been bitten by a snake to induce vomiting. Cramps are also induced by this medicine. (Hedberg & Staugard, 1989:178). Among the Zulu, large quantities of the root are believed to produce hallucinations and deliriums. A piece thereof is swallowed by the **sangoma** (diviner) to make him see visions and to prophesy under its influence (Watt & Breyer – Brandwijk, 1962:426).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Morus alba	The leaves are used for hot presses.	-	The Zulu use the leaves for hot presses (pers. comm.).
Mundulea sericea	The bark and seeds are used as a fish poison. Infusions of the roots are used to treat **xindzawu** (viginal wart), **xijiso** (poisonous substance), cancer and menorrhagia.	The root bark is an ingredient of the medicine applied to the body as a protection against witchcraft (Mabogo, 1990:115).	This plant is a Zulu emetic for treating human poisoning. It is also used as a source of effective fish and insect poison and is used to kill fish (not merely stun them) and even crocodiles (Van Wyk, et al. 2002:154).
Musa sapientum	Decoctions of the root are used in the treatment of high blood pressure and the depressed fontanelle.	-	-
Mystroxylon aethiopicum	Powdered roots are applied on cracked bones to heal them. They are also used to keep a husband and wife together.	The root bark is used as an ingredient of the magical medicine used for keeping lovers together (Mabogo 1990:74).	Infusions of the root bark are taken by the Zulu for dysentery and diarrhoea. Roots are used for heartburn. Milk or whey bark infusions are used to drench worm – infested calves (Hutchings, et al, 1996: 185).
Opuntia ficus-indica	The leaf pad is sliced and boiled to be taken against asthma.	A decoction of the root is dripped into an affected tooth for toothache (Mabogo, 1990:68).	-
Ormocarpum trichocarpum	Decoctions of the bark are used as an emetic. Root infusions are used for the treatment of high blood pressure.	The plant is used as a protection against witches (Mabogo, 1990:115).	Emetics made from bark are used by the Zulu for suspected poisoning (Hutchings, et al., 1996: 140).
Ozoroa insignis	Powdered bark is used as an enema to treat inflammations of the chest and dysentery. Infusions of the roots are used for kidney problems.	-	In Botswana, a decoction of fresh roots is taken daily for the treatment of "too much blood in the body" or sores apparent on the body. The same decoction also treats stomach bleeding (Hermatemese as quoted by Hedberg & Staugard 1989:183).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Ozoroa sphaerocarpa	Decoctions of the bark are used for chest inflammation and dysentery. Extracts from the roots and leaves are used against colic and diarrhoea. According to Liengme (1981:510) the roots and bark are used to make a purgative.	-	Leaves, roots and bark are used by the Zulu as traditional medicine. Bark may be used by them for dysentery and acute inflammation of the chest (Hutchings, et al., 1996: 180).
Pappea capensis	Decoctions of the bark are used against venereal diseases and as an aphrodisiac. Root infusions treat internal parasites in animals.	The infusion from crushed and soaked leaves is used as a remedy for painful eyes (Mabogo, 1990:129).	Among the Batswana the infusion of the powdered inner bark is sprinkled on the yard and used together with other species to prevent witchcraft. Powdered leaves are mixed with water and the fluid is put into nose and splashed on centre of skull for nose bleeding (Hedberg & Staugard, 1989:185). Although the oil produced from the species is edible, the Zulu have long been using it as a purgative. They also apply it externally in *tinea, capitis, alopecia*, etc. (Watt & Breyer – Brandwijk, 1932:112).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Parinari curatellifolia	Root infusion is used as an oral rinse for toothache. It is also used to treat earache and cataracts.	The bark from the stem together with the stem bark of *Rauvolfia caffra*, is boiled and the decoction used for making soft porridge eaten for general cleansing related to pelvic pains, VD's and kidneys (Mabogo, 1990:123).	-
Pavetta schumanniana	Infusions of the roots treat insanity.	-	-
Peltophorum africanum	Roots are used for the treatment of **nda phya** (burning sensation), **midlukulu** (kind of insanity), wounds, fever, coughs, blood purification, nausea, chest pain, sore throat and venereal diseases. Leaf infusions treat toothache and abdominal pains.	An infusion from soaked bark is taken as an anthelmintic and for stomach problems. Bark decoctions are used against colds and other chest problems (Mabogo, 1990:70). Hedberg & Staugard (1989:188) report the following uses by the Vhavenda: cough, wandering rash of the tongue in babies, eye sickness, menorrhagia, venereal diseases, sore throat, sores, ulcers and blisters or the oral cavity.	The Batswana slice fresh roots and put them into porridge to be eaten by widows to cleanse **boswagadi** or widowhood (Hedberg & Stuagard, 1989:188). The Zulu take the infusion of the bark by the mouth for the treatment of abdominal disorders (Watt & Breyer – Brandwijk, 1932:69). Decoctions, made from roots boiled with *Bridelia cathartica* and an *Ochna* species are also used by the Zulu for infertility. Root decoctions alone are also used by them as enemas. Roots and barks are used for sterility and backache (Hutchings, et al., 1996: 132).
Pennisetum glaucum	Sprouted grains are grounded and used for the treatment of **tindzhaka** (sexual pollution of death) and **mafularha** (impurity). They are also used to enlarge an underdeveloped male organ.	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Philenoptera violacea	Smoke inhaled from a smouldering root is used to treat colds. Decoctions of the bark are used for the treatment of **xijiso** (poisonous substance), **xifulana** (gangrene), **nda phya** (burning sensation) and high blood pressure. Bark extracts are used to treat asthma. Infusions of the root are used against venereal diseases. Powdered roots are used as prophylactic for **mafularha** (impurity) and **matlulana** (disease caused when two male relatives sleep with the same woman). Els (1996:276) also reports similar findings that smoke from the burnt root is inhaled for colds and blocked noses. He mentions that the extract from the bark is drunk for the same purpose, adding that the powdered root can be used as an antidote against snake bites by pasting it on the wounds and by eating it (see also Liengme, 1981:510).	The plant is used by the Vhavenda for diarrhoea and gastrointestinal disorders (Hedberg & Staugard, 1989:167).	The Batswana burn a powdered dried bark and breathe into the nose for nose bleeding (Hedberg & Staugard, 1989:166 – 167). The Zulu burn the root and inhale the smoke for colds. They also mix the roots with the leaves of *Datura stramonium* and the resultant product is administered by traditional doctors to disputants in certain cases brought before them for settlement (Stevenson – Hamilton, 1934:39). Bark infusions are also used by them to treat dysentery (Hutchings, et al., 1996: 142).
Phragmites mauritianus	The hollow internode is blown to revive and call back someone bewitched from **midlukulo** (insanity).	-	-
Piliostigma thonningii	Infusions of the roots are used for the treatment of chicken pox. They are also taken against diabetes, depressed fontanelle and also used as aphrodisiac. Leaf infusions are used for flu and coughs. Decoctions of the roots are used to support pregnancy against a miscarriage. Els (1996:278-279) found that the extract of the bark is used as a purgative.	Roots are cut to size and soaked together with roots of other plants in a clay pot known as **thufhana**. The resulting infusion is used for making soft porridge for babies and for organizing an infant's stomach (Mabogo, 1990:70).	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Pouzolzia mixta	The slimy root is used as an abortificient. Infusions of the root treat **makhuma** (illness of men caused by connection with female not yet purified after abortion) and venereal diseases. Root decoctions are used for infertility, painful uterine and **ntlhelelo** (rejection of sperm in the ovum).	It is an ingredient of the mixture of medicines soaked in a clay pot and taken daily by men for general body health. A decoction of boiled root treats dysentery in children. Mixed with other ingredients it is used as an enema for **divhu** (illness of men caused by connection with female not yet purified after abortion). The plant is also used as an ingredient in the preparation for ailments caused by magic (Mabogo, 1990:135-136).	The Batswana mix powdered roots with water. The fluid is used for washing people for good luck. This is used with other plants. Dried powdered roots are mixed with egg or milk and eaten before going to sleep by men who are weak in order to be strengthened (Hedberg & Staugard, 1989:195). The Zulu use the roots in enemas for feverish conditions and as protective sprinkling charms against evil spirits (Hutchings, et al., 1996: 204)
Psidium guajava	Leaf decoctions are used to treat fever and coughs. If mixed *Hypoxis hemerocallidea*, *Hypoxis rigidula*, *Aloe marlothii* and tea leaves, the infusion of the leaves is a good control for high blood pressure. Warmed leaves are used as hot presses for boils.	-	The Zulu use the leaves for treating diarrhoea (Hutchings, et al., 1996: 217).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Pterocarpus angolensis	Root extracts are used for the treatment of bilharzia. Infusions of the bark are used for the treatment of a disease called **nciko** (ring worms) and menorrhagia. The sap is used to treat ring worms. Liengme (1981:511) mentions that the bark cures limping in animals if placed on the injured part of the beast.	A decoction of the bark is used to accelerate blood formation especially after heavy menstruation, miscarriage or childbirth. It is also taken orally for piles (Mabogo, 1990:116).	The Zulu use the plant as traditional medicine. In Botswana boiled root decoctions are taken by the Batswana and also applied to swollen and discharged eyes with a string of ostrich leather (Hutchings, et al., 1996: 141).
Rhus rehmanniana	Root decoctions are used for the treatment of diarrhoea. Powdered roots are added to a bathe for the removal of bad luck.	-	-
Ricinus communis	The leaves are used as hot compresses against oedema. The oil is used as a purgative and for the treatment of **xifambi** (carbuncle). Root and leaf poultices are applied to boils, wounds and sores. Liengme (1981:511) also reports that the oil extracted from the seeds is rubbed on the skin and also used as an ear-drop.	A decoction of the root is used as a remedy for toothache. Leaf infusion is a purgative. Seeds are crushed and used as a purgative. A decoction of boiled root is used as an ingredient in the treatment of **tshiliso** (poisonous substance). Oil extracted from fruits is used for earache (Mabogo, 1990:90).	An infusion of the leaves is used as remedy for stomach-ache. The powdered seeds are placed on the tongue of a calf which refuses to suck the result being purgation. A paste made from the root is applied to aching teeth (Watt & Breyer – Brandwijk, 1962:428).
Sanseviera hyacinthoides	Powdered roots treat **nda phya** (burning sensation), and swelled body. Leaves are used as hot presses for **xifulana** (gangrene). Infusions of the root and leaf can be taken orally for general cleansing of the blood. Sap from the leaf is used as eardrops.	Infusions of the root treat childhood ailments. The infusion of leaves is a remedy for diarrhoea. It also treats babies who become ill as a result of their mother conceiving when still breastfeeding (Mabogo, 1990:95).	Cold infusion of the root is used by the Zulu as a protection charm when any member of the family has been struck by lighting (Watt & Breyer – Brandwijk, 1932:22-23).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Schotia brachypetala	Bark extracts are used for the treatment of diarrhoea.	A decoction of the root is used for the treatment of heartburn, dysentery and diarrhoea (Mabogo, 1990:71)	A decoction of the bark is taken against heartburn and hang-over by the Zulu. The preparation is apparently emetic. The plant is also used for treating diarrhoea (Watt & Breyer – Brandwijk, 1962; 428).
Sclerocarya birrea	An extract of the bark is used to treat dysentery and diarrhoea. Bark decoctions are used as prophylactic against malaria. The inner bark is used in soothing insect bites. Liengme (1981:511) mentions that the bark and roots are used to make a cleansing medicine for the stomach.	An infusion of the bark is used for colds, headaches, malaria, dysentery and other related stomach problems. The powdered bark is used for treating chronic ulcers (Mabogo, 1990:53-54).	A decoction of the bark is used as a prophylactic against gangrenous rectitis by the Batswana, while the Zulu use the fruit for the killing of ticks (Watt & Breyer – Brandwijk, 1962:53). The fruit is therefore used as an insecticide. Bark decoctions are used as enemas for malaria and diarrhoea. They are also used as heart strengthening or as blood cleansing emetics before marriage (Hutching, et al., 1996: 177).
Scolopia zeyheri	Decoctions of the root are used for the treatment of **tindzhaka** (pollution of death).	-	-
Senna petersiana	Root infusions are gargled for treating toothache. Infusions of the roots and leaves are used in purification rites. Roots are used to win cases in courts and fruits are used for good luck.	-	-
Sesamum triphyllum	An infusion of the root is used for the treatment of **xilumi** (internal pain in woman). Decoctions of the roots are used against **ntlhelelo** (rejection of sperm in the ovum).	-	-
Siphonochilus aethiopicus	The rhizomes are chewed for the treatment of coughs and colds. Decoctions of the roots are used to treat **micwa** (paranoia). The rhizome is also used to avert a nasty event.	-	The Zulu use roots for treating coughs, colds and hysteria (Hutchings, et al., 1996: 64).
Solanum lichtensteinnii	The fruit sap is used to treat chest pains and toothache. Infusions of roots and leaves treat coughs, sore throats and venereal diseases. Fruit sap is squeezed into the nostrils for treatment of insanity.	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Solanum nigrum		The infusion of the root is used as remedy for malaria and dysentery.	The Zulu use the infusion of the root as an enema for infants with abdominal upsets.
Solanum panduriforme	Root decoctions are used to treat a goat suffering from 'mad goat' disease. Infusions of the roots treat insanity. Roots are chewed to vitiate an opponent. According to Liengme (1981:511) the fruit is crushed and placed on the umbilical wound of a new born baby until it heals.	Fruit contents are applied to wounds. An infusion from roasted and pounded root is a remedy for indigestion. Adults may chew the roasted root and swallow the juice for indigestion and other related stomach problems. Mixed with other medicines it is used for the treatment of ulcers and as an anti-emetic. Root decoctions are used for toothache. The sap of the fruit is burnt on moistened cloth and the smoke inhaled for toothache (Mabogo, 1990:131).	In Botswana, the powder of dried roots is inserted into incisions of both sides of lumber regions by the Batswana for chest pain associated with chest infection and difficulty in breathing (Hedberg & Staugard, 1989:216). The Zulu use the sap from unspecified parts for skin infections (Hutchings, et al., 1996: 278).
Sorghum bicolor	Powdered grain is used in the treatment of **mafularha** (sexual impurity).	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Spirostachys africana	A few drops of latex taken with gruel treat abdominal pains. Infusions of the roots are used against constipation and other related stomach pains. Powdered leaves and bark are used to attract customers. Smoke from the bark is inhaled by initiates to clear their chest for better divination. Els (1996: 279) reports that it is the powdered bark of the stem that is used with porridge as a purgative for both people and dogs. It is however, a very small quantity that has to be used. He mentions that the latex is smeared on the wounds and eye inflammations on cattle. Care should be taken against any overdose which could be fatal. Latex from branches thrown into a pool of water, stupefy the fish which will easily be collected by hand.	The bark is soaked to obtain an infusion that is used as an enema for the general purification of blood and kidneys.	Powdered bark decoctions are taken by the Zulu for stomach ulcers and acute gastritis. Boiled root and bark infusions are used by them for eye washes. The steam is believed to cure eye complaints. Slightly burnt wood is put in the nose to relieve headaches and dry bark is used in imbrications for rashes in babies. Sap is applied to boils and also used on cattle sores to kill maggots (Hutchings, et al., 1996: 173).
Strychnos madagascariensis	Depulped seeds are poisonous and purgative. Root decoctions are used for the treatment of **nda phya** (burning sensation). Els (1996:280) found that the infusion of the bark is used as an emetic to purify blood. The brewage of the root is given to a new widower against further calamities.	-	The Zulu crush the leaves up and mix it with water to form a dressing for sore eyes (Stevenson – Hamilton, 1934:40).
Strychnos spinosa	Sap from the leaves is used as eye drops. Infusions of the roots, leaves and green fruits are used for treating snake bite. Root infusions treat depressed fontanelle and **nda phya** (burning sensation). Raw pulps are used to induce vomiting for someone who has taken poison. According to Els (1996:279) the leaves are crushed, mixed with water and used for sore eyes.	Powdered fruits are burnt and soaked to prepare **swanzwo**, used to bathe a person after a long illness, to regain liveliness and a shiny complexion. The fruit is boiled and the infusion used to stop pains that may follow parturition (Mabogo, 1990:96).	The Zulu use the rind of the fruit as an emetic, and when a man's wife has died, a brew is made from the roots and given him to drink as an aide for his widowhood (Stevenson – Hamilton, 1934:40).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Stylochiton natalensis	Roots and leaves are used for chest pains and insanity.	-	The Zulu use roots and leaves for earache and chest complaints (Manning, 2003:23). They also boil leaves in urine and use this for earache, while roots and leaf sap are used to 'catch' herd boys who steal milk from sour-milk gourds (Hutchings, et al., 1996: 179).
Terminalia prunioides	The bark is chewed for stomach pains.	-	A decoction of the roots is taken every day for six days with one half cup by the Tswana for constipation or any abdominal discomfort (Hedberg & Staugard, 1989:224).
Terminalia sericea	Bark saplings are chewed for the treatment of stomach pains. The roots are used to treat colic; stomach disorders, diarrhoea, eye infections, **xifulana** (gangrene), venereal diseases, **mafularha** (sexual impurity), etc (see also Els, 1996:280 and Liengme, 11:512).	Powdered root is used in gruel to stop and prevent diarrhoea and dysentery. It also treats venereal diseases. A decoction of the root helps in the restoration of the placenta in animals (Mabogo, 1990:81).	In Botswana, a decoction of fresh plant is taken by the Batswana for the treatment of venereal diseases while an infusion of fresh roots is used for diarrhoea. A decoction of roots is used for the treatment of bloody diarrhoea in both children and adults (Hedberg & Staugard, 1989:225). Watt & Breyer – Brandwijk (1932:128) mention that the Tswana administer the decoctions of the root to cows suffering from protracted parturition or retained placenta, dysentery and hydrosol.

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Trichilia emetica	An infusion or decoction of the root is taken orally for the general cleansing of the body. Bark and root decoction is taken against fever and as a purgative. (See also Liengme, 1981:512) The Tsonga-Shangana use the oil for rheumatism while the hot infusions of the leaf is used as lotion for bruises and the leaf in the bedding as a soporific (Watt & Breyer – Brandwijk, 1932:94).	The roots are used as enemas for general cleansing, gonorrhoea, syphilis, **divhu** (illness of men caused by connection with female not yet purified after abortion) and stomach pains (Mabogo, 1990:100).	An infusion of the bark or the leaves are used as an enema by the Zulu to relieve a sore back, hot pains in the back, and rectal ulceration in children. A watery preparation of the bark is used as an enema for dysentery (Watt & Breyer – Brandwijik, 1962: 752).
Vangueria infausta	Infusions of the root are gargled for toothache and also used for treating **nda phya** (burning sensation). Glowing roots treat **xifambi** (carbuncle). Pegs from twigs are used to protect a home against witches. According to Els (1996:281), the extract from the roots and leaves is taken for the treatment of chest problems, toothache and malaria. It is also used as a purgative.	The powdered root bark is an ingredient of the mixture prepared to enhance fertility in women. Short sticks are sharpened on one side and nailed down all around the fence of a homestead. These are first treated with other magical powders to protect the homestead against witches (Mabogo, 1990:126). The Vhavenda also use a decoction of the root as an aphrodisiac (Hedberg & Staugard, 1989:231).	The Batswana take a decoction of roots twice a day with one half cup for a strong heart beat in adults and children (Hedberg & Staugard, 1989:231-232).
Vigna unguiculata	Decoctions of the roots are used to treat bilharzia. Decoctions of the seeds are taken orally for the treatment of misanthrope. Powdered root is eaten with porridge to treat epilepsy and chest pain. A root paste is used as an antidote to snake bite.	-	Emetics made from the plants are taken by the Zulu for fever and also used as love charms (Hutchings, et al., 1996: 146).

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Xime nia caffra	Infusions of the roots are used against **doropa** (STI), **nda phya** (burning sensation) and **xijiso** (poisonous substance). Root decoctions are used to support a weak pregnancy. Powdered root is taken with gruel or unfermented beer as an aphrodisiac. Els's (1996:281) informants mentioned that the extract of the roots and leaves are used against diarrhoea, eye inflammation, venereal diseases, and internal parasites.	A decoction of the root is taken for stomach troubles, especially dysentery (Mabogo, 1990:112). Hedberg & Staugard (1989:237-238) report the following uses by the Vhavenda: cough, venereal diseases, blood faeces, headache, menorrhagia, eye diseases and infertility.	Among the Batswana a decoction of fresh roots is taken against blood problems indicated by swollen body and small sores. A decoction of dried roots is taken after ingestion of poisoned food. A decoction of the roots of this plant, added to bark of *Sclerocarya caffra* is used to purify the blood after manifestation of symptoms of dizziness, sweating and heart palpitation. Decoctions of roots are also used for the treatment of leprosy, infertility in women, and women who feel sick and whose foetus does not move around. Leaves are boiled and steam made to come into eyes for eye problems indicated by redness and discharge (Hedberg & Staugard, 1989:237-238).
Zanthoxylum capense	Infusions of the root are gargled for toothache. Bark is chewed for toothache. Leaf and root infusions treat gastric and internal disorders as well as internal parasites. Root ash increases ferocity in dogs and improves hunting abilities. According to Els (1996:282), the infusion of the root is drunk in the treatment of chest complaints and colds. Liengme (1981: 512) also reports that the roots are cooked in the water for colds and leaves are crushed and put in the nose as a decongestion.	Root and stem bark is used for treating sore throats. The bark is pounded into powder and licked. It is also used for chest complaints, boils, pimples, and blood poisoning (Mabogo, 1990:126).	The Zulu use the decoction from the root for bronchitis (Stevenson – Hamilton, 1934:39).
Zea mays	Shelled maize cob is used for the treatment of mumps.	-	-

Plant Name	Tsonga-Shangana Uses	Venda Uses	Zulu and/or Tswana Uses
Ziziphus mucronata	An infusion of the leaf is used for the treatment of swelled limbs. Infusions of the root and bark are used to treat diarrhoea, dysentery and to purify blood. Decoctions of the root treat **xifulana** (gangrene) and venereal diseases. Els (1996:282) reports that chewed roots treat painful stomach. The infusion of the bark is drunk against chest problems while the powdered bark is smeared on wounds.	The leaves are chewed and the juice swallowed, while the resulting paste is smeared in the palms of both hands and clapped simultaneously on both sides of the abdomen. Roots are also boiled and the decoction drunk to strengthen the treatment. An infusion of the root bark is taken by women to enhance fertility (Mabogo, 1990:122).	Powdered leaves and bark is taken as an emetic in chest problems by the Zulu. They also use a hot infusion of the bark liberally for cough (Watt & Breyer – Brandwijk, 1962:884). Leaf poultices are applied to boils, carbuncles, and other septic swelling of the skin (Watt & Breyer – Brandwijk, 1932:113). Stevenson – Hamilton (1934:40) also mentions that the root is chewed and the juice swallowed to cure intestinal pains. Among the Batswana the roots are burned for inhalation or boiled in water and taken against **tibamo** (meaning not given). A decoction of fresh roots is also taken against general body pain and delayed or irregular menstruation (Hedberg & Staugard, 1989:240).

6.2 Analysis of similarities

The table above presents a comparative list of medicinal plants between the Tsonga-Shangana and three other African communities. These communities have been selected for comparative purposes because: (a) the neighbouring Venda of the Limpopo are a distinctly different cultural group settled in a closely related natural environment; (b) the Zulu are one of the cultural groups from which the Tsonga-Shangana originated; (c) the Tswana are an unrelated cultural group in a neighbouring country. These groups will be abbreviated as follows in the ensuing list: Tsonga-Shangana (Sh), Venda (Ven), Tswana (Tsw) and Zulu (Zul). It is very clear from the list that while divergent medical uses were

found in different communities, striking similarities were also recorded. The following species have common usages in various communities:

Acacia nilotica:	Coughs (Sh. & Zul.)
Adansonia digitata:	Fattening babies (Sh. & Ven.)
Annona senegalensis:	Insanity and dizziness (Sh. & Zul.)
Antidesma venosum:	Abdominal disorders (Sh. & Zul.)
Aloe marlothii:	Weaning babies (Sh. & Zul.)
Balanites maughamii:	Protect homestead (Sh., Ven. & Zul)
Berchemia discolor:	Poultices (Sh. & Zul.)
Bidens pilosa:	Dysentery (Sh. & Zul.)
Bolusanthus speciosus:	Purification of blood (Sh. & Ven.) and Purgative (Sh. & Zul.)
Boophane disticha:	Wound dressing (Sh., Ven., Zul. & Tsw.)
Breonadia salicina:	Stomach and heart ailments (Sh., Ven. & Zul.)
Cannabis sativa:	Asthma (Sh. & Zul.)
Cassia abbreviata:	Diarrhoea (Sh. & Zul.)
Catunaregam spinosa:	Emetic (Sh. & Zul)
Cissus quadrangularis:	Drench worm-infested animals (Sh. & Zul.)
Clerodendrum glabrum:	Repellent and antidote (Sh., Ven. & Zul.)
Combretum erythrophyllum:	Purgative (Sh. & Zul.)
Combretum hereroense:	Heart disease (Sh. & Ven.,)
	Venereal diseases (Sh. & Tsw.)
	Stomach disorders (Sh. & Zul.)
Croton megalobotrys:	Purgative (Sh. & Ven.)
Cucumis africanus:	Purgative (Sh. & Ven.) and enema (Sh., Ven. & Zul.)
Cussonia spicata:	Biliousness (Sh. & Zul.)
Dalbergia melanoxylon:	Cleaning wounds (Sh. & Zul.)
Datura stramonium:	Leaf used on wounds, boils, etc (Sh. & Zul.)
Dicerocaryum senecioides:	Expulsion of placenta (Sh. & Ven.)
Dichrostachys cinerea:	Depressed fontanelle and stomach problems (Sh., Ven. & Tsw.)

Diospyros mespiliformis: Stomach pains (Sh. & Ven.)
Powdered plant applied on wounds, and sores (Sh. & Tsw.)

Dombeya rotundifolia: Intestinal ulceration (Sh. & Zul.)

Ekebergia capensis: Enema and emetic (Sh., Ven. & Zul.)

Elaeodendron transvaalenses: Venereal diseases (Sh. & Ven.) and stomach pains and fevers (Sh. & Zul.)

Englerophytum magalismontanum: Stomach pains (Sh. & Ven.)
Headaches (Sh. & Zul.)

Euclea divinorum: Purgative (Sh., Ven. & Zul.)
Venereal diseases (Sh. & Zul.)
Earache (Sh. & Ven.)

Euclea natalensis: Purgative (Sh. & Zul.)

Euphorbia ingens: Used prophylactically against poisoning (Sh. & Ven.)

Ficus ingens: Bark used for cows to improve their milk productions (Sh. & Zul.)

Ficus sycomorus: Chest pains and diarrhoea (Sh. & Ven.)

Flueggea virosa: Roots treat venereal diseases (Sh. & Tsw.)

Gardenia volkensii: Protect homesteads against witches (Sh. & Ven.)

Gymnosporia buxifolia: Bark used as an emetic and enema for diarrhoea (Sh. & Zul.)

Gymnosporia senegalensis: Diarrhoea (Tsw. & Ven.)

Hypoxis hemerocallidea: Decoction of the corm is used for cancer (Sh. & Tsw.)

Jatropha curcas: Purgative (Sh., Tsw. & Zul.)

Lantana rugosa: Abdominal complaints (Sh. & Ven.) and abdominal pains (Sh., Ven. & Zul.)

Lippia javanica: Coughs, fever and colds (Sh. & Ven.)

Maerua angolensis: Purgative and childhood convulsions (Sh. & Ven.)

Morus alba: Hot presses (Sh. & Zul.)

Mundulea sericea: Bark used as a fish poison (Sh. & Zul.)

Mystroxylon aethiopicum: Keeps lovers together (Sh., & Ven.)

Ozoroa insingis: Dysentery (Sh. & Tsw.)

Ozoroa sphaerocarpa:	Dysentery and chest inflammation (Sh. & Zul.)
Peltophorum africanum:	Chest pains, sore throat, venereal disease, coughs (Sh, & Ven.) and abdominal disorders (Sh. & Zul.)
Philenoptera violacea:	Burnt root inhaled for colds (Sh. & Zul.)
Pterocarpus angolensis:	Heavy menstruation (Sh. &Ven.)
Ricinus communis:	Seeds used as purgative and oil as ear-drop (Sh. & Ven.)
Schotia brachypetala:	Diarrhoea (Sh., Ven. & Zul.)
Sclerocarya birrea:	Stomach troubles, dysentery and malaria (Sh. & Ven.) Malaria and diarrhoea (Sh. & Zul.)
Solanum panduriforme:	Heals wounds (Sh. & Ven.)
Siphonochilus aethiopicus:	Coughs and colds (Sh. & Zul.)
Spirostachys africana:	Stomach pains and other related stomach pains. (Sh. & Ven.) Cleanses eyes (Sh. & Ven.)
Strychnos spinosa:	Raw fruit emetic (Sh. & Ven.)
Stylochiton natalensis:	Roots and leaves used for chest complaints (Sh. & Zul.)
Terminalia sericea:	Stomach pains, diarrhoea, dysentery, placenta restoration and venereal diseases (Sh., Ven. & Tsw.)
Trichilia emetica:	General cleansing of the body and enema (Sh., Ven. & Zul.)
Vangueria infausta	Protection against witches (Sh,and Ven.)
Ximenia caffra:	Venereal diseases, eye inflammation, diarrhoea and infertility in women (Sh., Ven. & Tsw.)
Zanthoxylum capense:	Chest complaints (Sh. & Ven.)
Ziziphus mucronata:	Leaf poultices applied to swelled limbs. Root chewed for intestinal stomach pains (Sh., & Zul.)

The percentage correspondences of medicinal plant use between Tsonga-Shangana and other communities can be represented as follows:

Table 40: Corresponding uses of medicinal plant species

Communities	No. of species	% species
Tsonga-Shangana and Venda	38	26.6 %
Tsonga-Shangana and Tswana	11	7,7 %
Tsonga-Shangana and Zulu	44	30,8 %

According to the table above, the Zulu have the highest percentage of similarities with Tsonga-Shangana with Tswana showing the least. Of greatest interest are the striking similarities between Shangana, Venda and Zulu usages of particular species. Examples can be cited of *Schotia brachypetala* whose stem bark is used by all the groups for diarrhoea and *Terminalia sericea* used by the Tsonga-Shangana, Venda and Tswana for stomach pains, diarrhoea and venereal diseases. *Boophane disticha* on the other hand is used by all four communities for wound dressing. It must be pointed out, however, that even in cases where some of the applications are similar, further pharmacological investigation is necessary to test the claimed medicinal properties of the plants.

There are on the other hand instances where the uses of species are related but not similar. The Tsonga-Shangana for instance, use raw fruit pulps of *Strychnos spinosa* to induce vomiting whereas the Zulu use raw fruit rind of the same species for the same purpose. In the same vein the Tsonga-Shangana use the leaves of *Clerodendrum glabrum* as repellent for insects and small animals like mice while the Venda use them for repelling skunks and baboons sent by witches. Some species with medicinal significance among the Tsonga-Shangana appear to be of no medical value in other communities. A case in point is *Acacia nigrescens* which the Tsonga-Shangana use for treating kidney problems. Other communities use it for fencing and building without any medical attachment. On the contrary there are also species with medical uses in other communities but do not feature as such among the Tsonga-Shangana. *Acacia*

ataxacantha for instance, is used by the Vhavenda as an ingredient of **dzovheyo** (stengthening medicine), taken by men as an aphrodisiac and general body cleansing (cf. Mabogo, 1990:102). To the Tsonga-Shangana this species is medically of no value but essentially important for basketry.

CHAPTER 7

THE EFFECTS OF PLANT UTILIZATION AND MANAGEMENT ON VELD RESOURCES

7.1 Vegetation

The Lowveld region, in which the research area lies, has a relatively uniform climate throughout which resulted in rather uniform vegetation in which typical Lowveld trees, shrubs and grass species are found. Human invasion and occupation of this region during the past century and the continual expansion of population greatly disturbed the uniformity and density of the vegetation.

At the present day the vegetation of the Lowveld in general and of the study area in particular, consists of large tracts of secondary or second-growth forests. These are stands of trees resulting from secondary succession after cutting. Such forests grow back after virgin forests were logged or fields abandoned. Some of these secondary stands have, however, remained undisturbed for a considerable period and have become old-growth forest once again (cf. Miller, 1994:262). As put forward by Stevenson-Hamilton (1934:34), secondary forest is an outstanding example of survival of the fittest.

In his description of secondary forests in general, Stevenson-Hamilton (1934:34) mentions that they are neither inspiring nor attractive in appearance while consisting as they normally do of deciduous and rather undersized trees. In his opinion they seldom exceed a height of 20ft (6.096m) and that they possess no wealth of foliage even when in full leaf (cf. Stevenson-Hamilton, 1934:35). This description befits some territories of the Lowveld region like the former Mapulaneng area (cf. Els 1996:262). The area in question, however, is dotted with trees of much larger size either singly or in groups. These are often evergreen and have impressive appearances. Els (1996:262) mentions that the Mnisi traditional area has an abundance of indigenous trees. The abundances of these trees extend to other territories, viz. Jongilanga, Amashangana and Hoxani. The

entire area on the whole can be described as somewhat densely forested with trees, shrubs and grass, particularly the eastern part.

Virtually the whole of Dixie and Morgenzon, as well as larger parts of Thorndale, and Seville can be described as having vestiges of dense forestry. The same can be said about Gottenberg, Eglington, Clare, Welverdiend, Islington, Ludlow and Burlington with some of their parts densely forested. Acornhoek and Okkernootboom, however, are almost like their neighbouring former Mapulaneng territories described above. Parts of places like Bumba, and Edinburg are very thickly forested although they have begun to be deforested with the invasion of the Mozambican refugees and expansion of the population at large. Arthurstone, New Forest, Agincourt and Rolle are no longer densely forested although they still show vestiges of old-growth or primary forest particularly along and near the Sand and Mcivoko rivers. The Western part of Xanthia towards Drakensberg is densely forested while the north-western part of Cunningmoor A is almost impassable with forestations. Larger parts of Cunningmoor B, Crouqetlawn and Ireagh are also not so densely forested but still have huge virgin trees. Newington, Cork and Somerset also have some forested parts with large primary trees particularly along the Sabie River. Year after year, these hardy drought-resistant trees of the Bushbuckridge area are put through the ordeal by fire (Plate 9) like the 2001 major fire outbreak in the Kruger National Park. Despite scorched bark these trees still manage to burst into leaf, green and fresh, on the advent of the first rains. Young shoots and saplings are largely able to survive, despite their early and annual trials, which normally cause them to grow up warped and stunted (cf. Stevenson-Hamilton, 1934:34).

Towards the end of September or the beginning of October when the first rains are due, the whole bush begins to bud out in anticipation of the forthcoming regeneration. Soon after the first rain commonly known as **mpfula yo hlewula** the entire vegetation comes to life. The naked soil gets covered with a 'green blanket'. The whole area becomes pied. These are complemented with the green colour of the sprouting crops. The whole area presents a complete picture-square.

The Bushbuckridge area experiences some degree of vegetation loss year after year. The statement by headman L.M. Mlambo (cf. Case 1) attests to this assertion. Respondents unanimously affirmed the perception of environmental degradation. All 250 respondents have noticed a decline in the level of the present environment compared to the past ten years or more. Although animals and some natural calamities contribute towards environmental degradation, humans remain the main culprits. This is evident from the table below which represents the responses of the interviewees on environmental degradation. The responses are as follows:

Table 41: Perceived forces responsible for environmental degradation

Categories	People	Animals	Natural disasters
Traditional healers	50 (100%)	9 (18%)	3 (6%)
Women	50 (100%)	5 (10%)	1 (2%)
Men	50 (100%)	10 (20%)	2 (4%)
Girls	45 (90%)	8 (16%)	0 (0%)
Boys	50 (100%)	4 (8%)	2 (4%)

7.2 Cutting of trees for timber, utensils and implements.

Traditional and some modern garden implements like hoes, axes, and picks use wooden handles. Trees like *Acacia exuvialis*, *Dichrostachys cinerea* and *Ehretia amoena*, are used for tool handles (cf. Chapter 5). Since intensive agriculture was associated with draft animals, sledges were used as transportation vehicles. These were made from *Albizia harveyi*, *Albizia versicolor* and *Sclerocarya birrea* whose stems and branches usually develop into a V or Y shape.

As it is generally the case with all subsistence agriculturalists, the Tsonga-Shangana also cultivate as much as they can use in a year, until the next harvest time. This means that after harvest, the produce has to be stored. Storage-huts in the form of **dulu** and **xitlati**

are constructed. These are built from trees like *Acacia galpinii, Colophospermum mopane* and *Combretum imberbe*. The roofs are thatched with *Heteropogon contortus, Hyparrhenia hirta, Hyparrhenia dichroa* etc. The entire cropland or **masimu** is fenced with thorny branches of *Acacia exuvialis* and *Dichrostachys nyassana* to protect the crops against marauding animals.

7.3 Land cultivation

The study established that each family is entitled to its own arable land – **masimu** which is situated in the stand, near the stand, or far from the stand, but within walking distance from their fenced-in homestead. The situation is as shown in the table.

Table 42: Distance between arable land and the stand

Distance	Number of families
In the stand	105(42%) families
Near the stand	15(6%) families
Far from the stand	130(52%) families

Arable lands differ in sizes according to families. Polygynous families usually own bigger lands. Families without migrant labourers or professional workers, which depend mainly on subsistence farming, also, have bigger size lands. The table below shows the sizes of the **masimu** owned by different families.

Table 43: Plot size

Size	Number of families
0-2 ha	10(4%) families
2-5 ha	130(52%) families
5ha>	110(44%) families

The study shows that all families have arable lands, with 130 families owning lands ranging between 2 and 5 hectares, and 110 families owning lands of 5ha and more. Given these figures it is expected that a larger part of the area is being used for land cultivation. This has a notable impact on the natural environment.

Swidden agriculture also has another deteriorating effect on the natural environment if croplands are cultivated before they have lain fallow long enough to recover their forest growth. Since the clearing of fields is an annual practice, the forest will not grow back and grasslands will replace the tree cover. Currently this is the state of affairs prevailing in most parts of the study area.

It is generally accepted that intensive agriculture can support population increases by more intensified use of the same piece of land (cf. Nanda, 164-165). This does not however always apply. Some Tsonga-Shangana families increase the size of their fields almost every year. With the influx of the refugees more and more cropland is needed. Before the influx, Bushbuckridge residents had established their croplands on ridges and plains. Old-growth forests and old second-growth forests therefore were still in extant in the valleys and along the rivers. The Mozambicans, probably because of shortage of land, have invaded these areas and destroyed most of the last vestiges of this vegetation. Attracted by the fertility of these patches of the land, the *de facto* residents also invaded these areas. As far back as 2000, for example, the banks of the Khokhovela River near Eglington store were still so thickly forested that people rarely walked through them. The whole area has now been virtually deforested for cultivation.

Such pressures *ipso facto* cause a decline in biological diversity as habitats are transformed and the populations of some species dwindle to the point of extinction in some cases. At this particular forest for instance, one of the scarce species, *Zanthoxylum capense* has been eradicated. This is a riverine species which is already endangered. One traditional healer at Clare hyperbolically remarked:

> **Manungwana a nga ha ri kona tiko leri. Va hiseterile va le** Mozambique.

(The Small knob wood – *Z. capense* does not exist any longer in this country. The Mozambicans have burnt it all).

The slush-and-burn cultivation method employed by the Mozambicans and residents destroys most of the vegetation. Old-growth tree species like *Diospyros mespiliformis* and *Combretum imberbe* are usually left standing unharmed by the *de facto* residents in the crop field while the Mozambicans either remove them in toto or trim off their branches for timber or firewood as in Plates 15a and 15b. Other important riverine species falling victim of the Mozambicans is the valuable *Schotia brachypetala*, one of the least abundant species in the area.

Some plant species are endangered while others are threatened. The *Balanites maughamii,* for instance, is on the brink of extinction as mentioned by the traditional healers. Other species like *Englerophytum magalismontanum* is completely extinct in Bushbuckridge. Ironically, the former Nazarene Bible College, Munombheleni, at Arthurseat, is named after the species. This is an indication that it once existed. A few more other species were spoken of as no longer in extant, "**a xa ha ri kona tiko leri**". Some species like *Combretum imberbe* which is in demand because of its durable wood is over-exploited. It is utilized for the construction of cattle kraals and maize storage huts. Although very hard to work, sculptors and woodworkers prefer it for its durability. Currently this species is very scarce particularly the old-growth trees. Other species are endangered, threatened or extinct due to over-utilization as a source of medicine (e.g. *Balanites maughamii*) whereas others are subject to continual and uncontrolled veld fires (e.g. *Lannea edulis*).

7.4 Cutting of branches during fruit collection

During the marula season people normally wait for the trees to cast their fruit in numbers to the ground. Women from the villages go out quite early in the morning armed with baskets and receptacles of every description and gather the fruit. However, the Mozambicans at Welverdiend, for instance, have their peculiar method of collection.

They cut down the branch and pluck off the fruit. This caused uproar to the local residents who took the matter up with the headman Mlambo. Currently some of the marula trees are standing trimmed because of this practice. Berries of *Euclea spp.* and *Flueggea virosa* are usually collected by breaking the twig or branchlet off the tree.

7.5 Veld fires

As part of the Lowveld, Bushbuckridge was originally a bush area. Because of intermittent draughts which may last for three to four years successively, opportunities are created for the building up of deadwood, leaves and other flammable material on the ground. Between July and August the area is usually subjected to crown fires like the devastating fire in the Kruger National Park that killed 23 people in 2001 (Pers. comm. Jerry Magale, June 2004). Such fires burn whole trees and leap from treetop to treetop. Fires of this nature destroy all vegetation; kill wild life and lead to accelerated erosion (Plate 9). According to informants this situation was more common between the 1920s and 60s when the area was sparsely inhabited and densely forested.

The incidences of crown fires between the periods mentioned above may raise questions like: How can vegetation withstand such fires for so long? Perhaps the answer lies in the observation and conclusion of Stevenson-Hamilton:

> The wall of flame, with the roar of a furnace, rolls on, eight or ten feet high; trees are engulfed in a crackling curtain of smoke and fire, and behind the barrage, intent on the scorched insects, flutter countless birds. It seems to the onlooker that nothing of the flora could survive. Yet, when the earth is cool enough to walk upon, the sturdy little fire-proof trees may be seen still standing in the midst of the blackened ash-covered soil, just as if nothing much had occurred. Should the fire come late in the season, after the leaves are unfolded, the trees are naturally scorched bare, but despite their unhappy dejected look, the next fall of rain will see them again green as before. Many even of the young shoots and saplings manage to survive (1934: 54).

This is in contrast to bonfires of this kind in the Cape Peninsula, America and Australia where bushfires sweep away all before them, burning great extents of forest to the ground, and laying waste the country for kilometers. As concluded by Stevenson-Hamilton (1934:54) the Lowveld forests are both drought-and-fire-resistant. Each time the fire comes some degree of forest damage is nonetheless effected as not all tree species are fire-resistant. *Diospyros mespiliformis* and *Trichilia emetica*, for instance, have a very low fire resistance, yet they provide essential food and medicine to the people. The fruits of *Diospyros mespiliformis*, however, get scorched during veld fires before they ripen between August and October. For that particular year the production of the fruit becomes low. *Trichilia emetica* is vital for its fruit, stem bark and roots (cf. Section 6.1; Table 38). If scorched the tree yields low efficacious medicinal value as mentioned by the traditional healer informants.

During the periods when there is rain every summer, surface fires usually caused by humans occur every succeeding winter. Although these fires burn only the undergrowth and leaf litter on the forest floor, and only killing seedlings and small trees, damage to the flora in general is unavoidable (Plate 9). Veld fires are usually caused for the following reasons:

Burning to clear the veld for hunting

►Small animals like *Lepus saxatilis* = **mpfundla** (scrub hare), *Sylvicapra grimmia* = **mhunti** (common duiker) and *Raphicerus campestris* = **xipene** (steenbok) are hard to hunt and kill in areas where the grass has grown tall and thick. These hopping animals easily outrun dogs which find it difficult running through the thickets. The animals will always be driven to the direction of the burnt veld. The main culprits in this regard are residents who do not have livestock. Some Mozambicans particularly in the 90s engaged in commercial hunting (Section 2.5.3), while others hunted to supplement their diet.

Burning to collect firewood

►Veld burning is also practiced to facilitate firewood collection. Women find it difficult to penetrate some thickets in search of fuel for fear of snakes and scorpions. In a burnt

veld all firewood is clearly visible and accessible. The frequency of veld burning for firewood has greatly reduced since the electrification of the whole area by Eskom between the late 90s and early 2005. Residential areas for the refugees have, however, not been electrified yet. Due to poverty some *de facto* residents also may not always afford to pay for electricity and usually make use of firewood.

Grass revitalization

►The last reason is the revitalization of grass. Although lacking some scientific substantiation, the Tsonga-Shangana do have empirical knowledge that if old grass has been burned, new grass grows faster, healthier and abundantly. Miller explains this scientifically when he says that surface fires also release valuable mineral nutrients tied up in slowly decomposing litter and undergrowth, increase the activity of undergrowth nitrogen-fixing bacteria, stimulate the germination of certain plant seeds and help control pathogens and insects (1994:398).

Respondents regard fire burning as a good practice. The response of the 250 people to the question of whether fire burning is good or bad is as follows:

Burning is a good practice	Yes	232 (92.8%)	No	18 (7.2%)
Burning is a bad practice	Yes	18 (7.2%)	No	232 (92.8%)

The common substantiation given by the respondents is that veld burning stimulates vegetation growth.

Three options were given to determine the one that stimulates vegetation growth best. The results were as follows:

Complete protection	6 (2.4%)
Early annual burning	15 (6%)
Late annual burning	229 (91.6%)

Respondents regard complete protection as deterrent to vegetation growth since the existence of old growth suppresses the new growth. Early burning is believed to be detrimental to animals because they will be without food for a long time and the consequences may be disastrous. Late burning on the other hand is welcomed by the people because livestock shall still be fresh and strong.

7.6 Use of wood for building, construction and fire

In addition to information presented in Sections 2.1.2 and 5.1, an in-depth description of the utilization of plant species for building, construction and firewood purposes is presented. Such a utilization and dependence on the flora is indicative of the adaptation of the Tsonga-Shangana to their natural environmental for survival purposes.

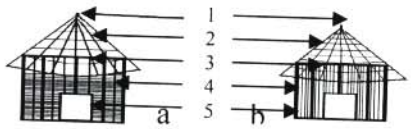
7.6.1 Hut building

Between the end of the 50s and early 60s when the people of Bushbuckridge were resettled in stands, they utilized hardwood building materials quite extensively. By then, a standard homestead consisted of between 3-5 huts. The depletion of the woods around places like Acornhoek, Cottondale and Dwarsloop, due to over-utilization, gave rise to the replacement of the traditional clustered huts in a homestead with one single big house. Densely forested places like Gottenburg, Seville and Welverdiend are certainly on the brink of deforestation and long straight poles suitable for hut building have become very scarce. Most of the currently existing huts at these places are built from the material sold by hardware shops.

As mentioned in 2.1.2, a typical Tsonga-Shangana hut, **yindlu**, consists of a wall and roof structures which require hardwood for durability. The roof structure of a big hut takes up to 30 poles of such wood, with more than 50 saplings required. The wall structure on the other hand is made up of 15 to 20 poles of hardwood, with more than 300 saplings of *Dichrostachys cinerea*, used as **fenisi** ('fence') in-between the poles.

The structures are constructed as follows:

Figure 16: Contemporary Tsonga-Shangana hut structures



1. Crown- usually made from *Diospyros mispiliformis* or *Spirostachys africana.*
2. Roof poles – commonly from *Terminalia sericea*
3. Laths, **timbalelo**, from the saplings of *Combretum hereroense* or *Terminalia sericea*
4. Wall poles – usually from Acacia species, *Terminalia sericea* or *Colophospermum mopane* where it is available

5a. Laths of the saplings of *Dichrostachys cinerea* subsp. *Nyassana* used to construct **fenisi**. The wall is sturdier than the wall in 5b.

5b. Wall made from the dropped poles of several species. The strength of the drop pole is not overly taken into account as they are to be covered with mud when plastered.

Traditional huts are however still in extant, built largely by the refugees. The amount of wood required for one hut has been mentioned. The volume of wood required for the completion of an average Tsonga hut is calculated in terms of the material used in Plate 22. The dimensions and calculations are as follows:

The formula for the volume of wood is as follows:

V = $\prod r^2h$ **i.e. (3.14 x r^2 x h), where**

$\prod$ = **3.14**

r^2 = **radius^2**

h = **perpendicular height (or length)**

V = volume

Wall poles = 11

V = $3.14 \times 6^2 \times 223$ cm

= 25 220.71 x 11 cm^3

= 277 427.76 cm^3

= 0.277 m^3

Roof poles = 20

V = $3.14 \times 3^2 \times 316$ cm

= 8 934.69 x 20 cm^3

= 178 693.79 cm^3

= 0.178 m^3

Crown = 1

V = $3.14 \times 12^2 \times 51$ cm

= 23 071.86 cm^3

= 0.023 m^3

Roof wattles

Top Line 1 = 0.82 cm

Line 2 = 118.05 cm

Line 3 = 183.24 cm

Line 4 = 301.36 cm

Line 5 = 494.08 cm

Line 6 = 602.15 cm

Line 7 = 788.25 cm

Line 8 = 922.31 cm

Line 9 = 1 043.05 cm

Line 10 = 1 232.14 cm

Line 11 = 1 393.09 cm

Line 12 = 1 520.05 cm

Line 13 = 1 660.05 cm

Total h = **10 258.64 cm**

V = $3.14 \times 1.5^2 \times 10\ 258.64$ cm

= 72 514.05 cm^3

= 0.072 m^3

Drop poles = 99 (calculated from the hut shown in Plate 22a)

V = $3.14 \times 3^2 \times 203$ cm

= 5 739.69 x 99 cm^3

= 568 229.29 cm^3

= 0.568 m^3

Total material in volume required for one basic traditional hut:

0.277 m^3 + 0.178 m^3 + 0.023 m^3 + 0.072 m^3 + 0.568. 29 m^3

= 1.118 m^3

If **1.118 m^3** of wood is required to accomplish one hut, then x amount of wood shall be required to complete 4 huts (an average number of huts constituting a homestead), where

x = 1.118m^3x 4 huts

= 4.472 m^3

7.6.2 Granaries: **Xitlati** and **Dulu**

The **xitlati** consists of a huge woven basket, made from young saplings. This basket is lifted high enough to allow a cooking fire to be made underneath it. Hard woods of *Combretum imberbe*, *Terminalia sericea*, *Acacia nigrescens* or *Acacia burkei* are used as pillars on which a rough platform is mounted to house the basket (Plates 20a and 20b).

This structure has a grass roof similar to that of the hut described above (cf. Du Toit 2001: 11). The smoke from the fire underneath keeps insects like weevils away.

A basic traditional maize crib as per the calculations of the material used in Plate 20a requires the following amount of wood:

Wall poles = 12 in total

V = $3.14 \times 10^2 \times 371$ cm

= 116 553.09 cm^3 x 12

= 1 398 637.05 cm^3

= 1.398 m^3

Pillar posts = 6

V = $3.14 \times 10^2 \times 245$ cm

= 76 969.02 x 6 cm^3

= 461 814.12 cm^3

= 0.461m^3

Base poles = 3

V = $3.14 \times 12^2 \times 356$cm

= 161 050.61 x 3 cm^3

= 483 151.8 cm^3

= 0.483 m^3

Floor poles = 125

V = $3.14 \times 3^2 \times 330$ cm

= 9 330.53 x 125 cm^3

= 1 166 316.27 cm^3

= 1.166 m^3

Vertical laths = 299

V = 3.14 x 1.52^2 x 130 cm

= 918.92 x 299 cm^3

= 274 755.84 cm^3

= 1.274 m^3

Other laths = 24

V = 3.14 x 1.52^2 x 330 cm

= 2 332.63 x 24 cm^3

= 55 983.18 cm^3

= 0.055 m^3

Stepladder poles = 2

V = 3.14 x 2^2 x 254 cm

= 3 191.86 x 2 cm^3

= 6 383.72 cm^3

= **0.006 m^3**

Stepladder horizontals= 5

V = 3.14 x 2^2 x 57 cm

= 716.28 x 5 cm^3

= 3 581.42 cm^3

= **0.003 m^3**

Roof poles = 20 (not in the picture)

V = 3.14 x 6^2 x 342 cm

= 38 679.29 x 20 cm^3

= 773 585.78 cm^3

= **0.773 m^3**

Wattles = 11 lines x 4 sides = 44 lines (not in the picture)

Line 1 (70 x 2) + (52 x 2) = 140 + 104 = 244 cm

Line 2 (83 x 2) + (65 x 2) = 166 + 130 = 296 cm

Line 3 (116 x 2) + (98 x 2) = 232 + 196 = 428 cm

Line 4 (166 x 2) + (150 x 2) = 332 + 300 = 632 cm

Line 5 (216 x 2) + (200 x 2) = 432 + 400 = 832 cm

Line 6 (246 x 2) + (230 x 2) = 492 + 460 = 952 cm

Line 7 (296 x 2) + (270 x 2) = 592 + 540 = 1 132 cm

Line 8 (326 x 2) + (300 x 2) = 652 + 600 = 1 252 cm

Line 9 (356 x 2) + (330 x 2) = 712 + 660 = 1 372 cm

Line 10 (388 x 2) + (362 x 2) = 776 + 724 = 1 500 cm

Line 11 (428 x 2) + (402 x 2) = 856 + 804 = 1 660 cm

Total length (h) = **10 300 cm**

Total length of wattles = 10 300

V = 3.14 x 1.5^2 x 10 300

= 72 806.41 cm^3

= **0.072 m^3**

Crown = 1

V = 3.14 x 8^2 x 53 cm

= 10 65.28 cm^3

= **0.001 m^3**

Total material used in volume:

1.398 m^3 + 0.461 m^3 + 0.483 m^3 + 1.166 m^3 + 1.274 m^3 + 0.055 m^3 + 0.006 m^3 + 0.003m^3 + 0.773m^3 + 0.072 m^3 + 0.001 m^3 = **5.692 m^3**

The **dulu** on the other hand is built with the same concept as the maize crib, **xitlati**, but at a lower level and is smaller. Household implements like hoe, long-handled drinking calabash made from *Lagenaria siceraria* and pestle are stored in the basket while clay

pots are usually stored underneath. The structure is also very suitable as nesting site for chickens.

Plate 21b represents the material used for building a granary. The calculations based on mean measurements are as follows:

Wall poles = 12

V = 3.14 x 7^2 x 280 cm

= 43 102.65 x 12 cm^3

= 517 231.81 cm^3

= **0.517 m^3**

Pillar (forked) poles = 8

V = 3.14 x 7^2 x 60 cm

= 9 267.07 x 8 cm^3

= 74 136.56 cm^3

= **0.074 m^3**

Base poles = 3

V = 3.14 x 5^2 x 308 cm

= 24 190.26 x 3 cm^3

= 72 570.79 cm^3

= **0.072 m^3**

Floor (base) poles = 73

V = 3.14 x 3^2 x 308 cm

= 8 708.49 x 73 cm^3

= 635 720.12 cm^3

= **0.635 m^3**

Extra poles = 3

V = 3.14 x 3^2 x 195 cm

= 5 513.50 x 3 cm^3

= 16 540.49 cm^3

= **0.016 m^3**

Vertical laths = 198

V = 3.14 x 2.25^2 x 127 cm

= 2 019.85 x 198 cm^3

= 399 929.85 cm^3

= **0.399 m^3**

Stepladder:

Vertical poles = 2

V = 3.14 x 5^2 x 80.5 cm

= 6 322.46 x 2 cm^3

= 12 644.92 cm^3

= **0.012 m^3**

Horizontals = 2

V = 3.14 x 2^2 x 32 cm

= 402.12 x 2 cm^3

= 804.25 cm^3

= **0.000 m^3**

Door

Vertical laths = 8

V = 3.14 x 1.5^2 x 10.5 cm

= 74.22 x 8 cm^3

= 593.76 cm^3

= 0.000 m^3

Horizontals = 4

V = 3.14 x 1.5^2 x 50.4 cm

= 356.26 x 4 cm^3

= 1 425.03 cm^3

= **0.001 m^3**

Roof poles = 17

V = 3.14 x 5^2 x 183 cm

= 14 372.79 x 17 cm^3

= 244 337.37 cm^3

= **0.244 m^3**

Roof wattles: 8 lines x 4 sides

Line 1 (50.8 x 2) + (30.8 x 2) = 101.6 + 61.6 = 163.2 cm

Line 2 (90.8 x 2) + (70.1 x 2) = 181.6 + 140.2 = 321.8 cm

Line 3 (140 x 2) + (100.2 x 2) = 280 + 200.4 = 480.4 cm

Line 4 (180.5 x 2) + (130.3 x 2) = 361 + 260.6 = 621.6 cm

Line 5 (280.8 x 2) + (150.6 x 2) = 561.6 + 301.2 = 862.8 cm

Line 6 (240 x 2) + (180 x 2) = 480 + 360 = 840 cm

Line 7 (280 x 2) + (190.8 x 2) = 560 + 381.6 = 941.6 cm

Line 8 (300.5 x 2) + (230.1 x 2) = 601 + 460.2 = 1 061.2 cm

Total length = 163.2 + 321.8 + 480.4 + 621.6 + 826.8 + 840
941.6 + 1061.2 cm

= **5292.6 cm**

V = 3.14 x 1.5^2 x 5 292.6 cm^2

= 37 411.18 cm^3

= **0.037 m^3**

Total material used in volume:

0527 m^3 + 0.074 m^3 + 0.072 m^3 + 0.635 m^3 + 0.016 m^3 +0.399 m^3 + 0.012 m^3 + 0.000 m^3 + 0.000 m^3 + 0.001 m^3 + 0.244 m^3 + 0.037 m^3 = **2.007 m^3**

7.6.3 Fire enclosure: **Xivava or Guma**

Fire enclosures of various designs exist. The wall could be made of a few poles of *Terminalia sericea*, *Combretum hereroense* or debarked *Acacia gerrardii*. These poles could number between 9 and 12. Some *Phragmites mauritianus* or the reeds of *Pennisetum glaucum* or *Sorghum bicolor* are placed in-between the poles. Another form of fire enclosure is built with poles placed in pairs and tied together from the top. Short pieces (about 1 m long) of *Dichrostachys cinerea* are piled or packed up in between the pairs. This type of enclosure certainly utilizes or requires an excessive amount of wood. Remnants of such enclosures are still in extant around places like Welverdiend, Gottenberg, Clare, Utah, Seville, Thorndale and Dixie, which are still fairly densely forested.

Fire enclosures could be circular or rectangular (or square). The calculations of wood material used to build the fire enclosure in Plate 23 sheds light on the quantity or amount of wood required to complete a structure of this kind. The dimensions and calculations are as follows:

Wall poles = 36

V = $3.14 \times 4^2 \times 245$ cm

= 12 315.04 × 36 cm^3

= 443 341.56 cm^3

= **0.443 m^3**

Laths = 1170

V = $3.14b \times 2^2 \times 130$ cm

= 1 633.63 × 1170 cm^3

= 1 911 344.97 cm^3

$= \mathbf{1.911\ m^3}$

Total volume of wood used

$= 0.443 m^3 + 1.911 m^3$

$= \mathbf{2.354\ m^3}$

7.6.4 Cattle enclosure: **Xibaya** or **Tshanga**

This is constructed from very hard wood like *Combretum imberbe*, *Acacia nigrescens*, *Acacia burkei*, *Albizia harveyi* and *Dalbergia melanoxylon*. Around highly deforested places like Acornhoek, Cottondale and Calcutta, for example, enclosures are made from barbed wire fence. Wood is nonetheless still used, particularly as drop poles. Gates of the enclosures are usually made from thorn bushes of *Acacia exuvialis* or *Ziziphus mucronata*. A more durable gate however, is a woven gate that hinges on tree bark rope. Gates can be woven from young saplings of *Acacia exuvialis* or *Pterocarpus rotundifolius*. In riverine areas like Rolle and Cunningmoor, gates made from *Phragmites mauritianus* were found during research. The reeds are tied with bark strips from trees such as *Acacia gerrardii* or *Piliostigma thonningii*.

The amount of wood used for the construction of the cattle enclosure in Plate 24 is as follows:

Upright poles $= 52$

$V = 3.14 \times 7^2 \times 250\ cm$

$= 38484.51 \times 52\ cm^3$

$= 2\ 001\ 194.52\ cm^3$

$= \mathbf{2.001\ m^3}$

Cross poles $= 96$

$V = 3.14 \times 5.2^2 \times 260\ cm$

$= 22\ 086.65 \times 96\ cm^3$

$= 2\ 120\ 318.69\ cm^3$

$= \mathbf{2.120\ m^3}$

Entrance poles $= 9$

$V = 3.14 \times 2.6^2 \times 210\ cm$

$= 4\ 459.80 \times 9\ cm^3$

$= 40\ 138.24\ cm^3$

$= \mathbf{0.040\ m^3}$

Total Volume of wood used:

$= 2.001 m^3 + 2.120 m^3 + 0.040 m^3$

$= \mathbf{4.161\ m^3}$

7.6.5 Goat-enclosure: **Xibala xa timbuti**

A goat enclosure is usually built adjacent to the cattle enclosure. The structure and pattern of a goat enclosure differ markedly from that of the cattle enclosure. A rectangular furrow of between 0.6 m and 0.9 m deep is dug near to the cattle enclosure. Depending on the number of goats, the dimension is usually 3 m x 3 m or circular with a radius of about 3m. Poles are implanted contiguously in a perpendicular line in the furrow (Figure 17). The spacing between the poles is very narrow to prevent goatlings form squeezing through. The nature of the construction inevitably calls for a big volume of wood.

At places like Gottenberg, Seville, Thorndale and Utah, large poles are used whereas at other places smaller poles are used where large trees are no longer abundant. In all instances however, poles of *Combretum* and *Acacia* species are used. For large poles, *Acacia nigrescens*, *Albizia harveyi* and *Combretum imberbe* are predominantly used while *Combretum hereroense* and *Terminalia sericea* feature the most as smaller poles.

Calves are driven into the goat enclosure to separate them from their mothers for the night. This method called **ku whakela**, serves to protect them from injuries by older cattle, particularly the bulls if they fight in the kraal. This also serves to prevent them from suckling at night so that their mothers could be milked by cattle herders the next day.

Figure 17: Diagrammatic representation of a goat enclosure



The dimensions of the goat enclosure are as follows:

Wall poles = 34
Height = 2.66 m (including depth)
Radius = 17 cm

$V = 3.14 \times 17^2 \times 266 \text{ cm}$
$= 241\ 506.79 \times 34 \text{ cm}^3$
$= \mathbf{0.241\ m^3}$

Entrance poles = 7

$V = 3.14 \times 4.3^2 \times 216 \text{ cm}$
$= 12\ 547.02 \times 7 \text{ cm}^3$
$= 87\ 829.13 \text{ cm}^3$
$= \mathbf{0.087\ m^3}$

Cross poles = 4

$V = 3.14 \times 2.3^2 \times 86 \text{ cm}$

$= 1\ 429.24 \times 4\ cm^3$

$= 5716.96\ cm^3$

$\mathbf{= 0.005\ m^3}$

Total volume of wood required for the construction of a goat enclosure:

$= 0.241\ m^3$

$+ 0.087\ m^3$

$+ 0.005\ m^3$

$\mathbf{= 0.333\ m^3}$

7.6.6 Fence: **Drada** (<Afr. **draad**) and **Rihlampfu/Rithangu**

Because of the settlement in stands and modernization the use of a barbed wire fence has entirely replaced the traditional **rihlampfu**, at least at the homesteads. At places like Welverdiend, Gottenberg, Seville, Utah, Islington, etc. where wood is still abundant, this is still used in conjunction with barbed wire (Plate 17). As all stands in the Bushbuckridge area are of the same dimensions, the number of posts required per stand for the fence is almost the same. The volume of poles/posts used and to be used for the fence in Plate 17 is as follows:

Total posts $= 48$

V $= 3.14 \times 13^2 \times 268\ cm$

$= 142\ 289.01 \times 48\ cm^3$

$= 6\ 829\ 872.69\ cm^3$

$\mathbf{= 6.829\ m^3}$

Drop poles $= 235$ (not in the picture but shown to researcher)

V $= 3.14 \times 2^2 \times 193\ cm$

$= 2\ 425.31 \times 235\ cm^3$

$= 569\ 947.74\ cm^3$

$\mathbf{= 0.569\ m^3}$

Corner pillars = 8

V = 3.14 x 2.5^2 x 185 cm

= 3 632.47 x 8 cm^3

= 29 059.73 cm^3

= 0.029 m^3

Total material in volume = 6.829 m^3

+ 0.569m^3

+ 0.025m^3

=7.427m^3

The **rithangu** is used mostly to protect the fields. In many instances however, the **rithangu** and barbed wire fence are used together in the field to ensure stability.

An elementary Tsonga-Shangana homestead consisting of 4 huts; a crib; granary; fire-enclosure; cattle-enclosure, goat enclosure and fence require the following total amount of wood:

1.118 m^3

+ 5.692 m^3

+ 2.007 m^3

+ 2.354 m^3

+ 4.161 m^3

+ 0.333 m^3

+ 7.427 m^3

23.092 m^3

People usually have no imagination of the volume of wood required to construct one homestead. The figures above show that an enormous amount of wood is required for the construction of a homestead. Two questions were asked concerning the use of plants and the responses were as follows:

- In these modern times is it still worthwhile using plant material in the building and construction of huts, granaries, kraals and fences?

Yes	105 (42%)
No	145 (58%)

- Is there enough of the plant species to cater for these needs?

Yes	90 (36%)
No	160 (64%)

Poverty was singled out as the main reason for the continual use of plant material. Some of the respondents who responded 'yes' to the first question said that if people had enough money there would be no need to use plant material. Despite the perception that the existing vegetation is enough to cater for the building of homestead structures, all (250) respondents expressed their feeling that plant species and other natural resources should be conserved.

7.6.7 Firewood gathering

Miller (1994:275) mentions that about 70 % of the people in less developed countries (LDC) rely on biomass as their primary fuel for heating and cooking and that each year the energy provided by biomass is about equal to that from the oil supplied by OPEC nations. To someone not acquainted with rural life this may sound dubious. In the early years of settlement in Bushbuckridge, the entire population used firewood. Informants mentioned that different biomes were clearly recognizable. But today they only exist sporadically in some areas while in other areas they are absolutely destroyed. Despite the fact that virtually all of the study area is currently electrified, residents still use firewood extensively.

A random sample found that nine out of every ten homesteads have stacks of firewood around places like Seville, Gottenberg, Welverdiend, Utah, Clare, Justicia and Somerset (Plates 2 and 16). Residents do not only collect dead wood, but cut down live branches as evidenced in Plates 15a; 15b; 15c; 15d and 16.

Firewood in these places is extensively used for cooking and heating particularly in winter. The presence of **swivava** or **maguma** (fire places) in virtually all homesteads inevitably encourages residents to use firewood. Sometimes the use of firewood is related to cultural beliefs. Traditional healers for instance, never boil medicine on an electric appliance, because of the belief that it loses its efficacy. The gathering of plant material for fuel is but one of the factors playing an increasing role in the present environmental degradation in the area.

Firewood was traditionally gathered from trees around the houses and farms and from dead trees and branches. In the olden times firewood did not always come from the forest, and deforestation rarely resulted from this practice. Careful selection of firewood was made. The following species were preferred for firewood: *Acacia ataxacantha*, *Combretum hereroense*, *Combretum imberbe*, *Dichrostachys spp* and *Diospyros mespiliformis*. These species were quite abundant and only their dead material was collected. Long and thin poles, known as **swiwove/swiove** with a hooked end, were commonly used to pull some dry branches off the canopies of tall trees. The collected wood was then piled into headloads and bound together with ropes or strips of animal hides. Because of the scarcity of dead wood the **swiwove** are rarely used currently. Firewood is now cut from live trees and transported in wheelbarrows as in Plate 8. The process of gathering wood is referred to by three terms: **ku rhotela tihunyi**, **ku theza tihunyi** or **ku kuha tihunyi**. Firewood collection was traditionally an activity assigned to women and girls in terms of division of labour by gender. They usually left home shortly after breakfast and returned around midday. Gathering was usually a group activity involving two or more women belonging to the same or neighbouring families.

During the initiation times, logs are gathered and dead trees uprooted and used for firewood at the circumcision schools. Once made, the fire should keep burning throughout the initiation period, resulting in a large amount of firewood utilized during these times.

Because of the high population growth in the area and influx of the Mozambicans, firewood near the homesteads became depleted. Serious invasion of forests and the gathering of distant dead trees and branches became a necessity as shown in Plates 15c and 15d. Places like Xanthia, Edinburg and Rolle, for example, had as some of their biomes, forests consisting of the beautiful *Bauhinia galpinii*. In some parts of these areas this biome has been deforested in toto.

The increasing pressure on natural resources due to population increase and expanding needs have detrimental effects on both the flora and the natural environment at large. This research for instance, identified species like *Luffa cylindrica*, *Sesamum indicum* and *Balanites maughamii* as endangered while species like **Mabirinja**, **Mapyanda** and *Eleusine coracana* are extinct.

Since the 1980s depletion of trees and deforestation has increased drastically. Fuel wood collection became indiscriminate. Branches of live trees are cut off and carried home where they are left to dry. Piling of such firewood is the order of the day. Many homesteads in the area have piles of firewood (Plates 2 and 16). This method of collection culminated in the gathering of firewood for commercial use. Trucks and pick-ups from far afield collect firewood from places like Welverdiend, Gottenberg, Clare, Thorndale, Dixie, or buy them from the local residents who collect them with the intension of selling. A fee of R30.00 per one tonner or R120.00 for a large truck load is charged. The Department of Agriculture and Forestry in collaboration with Traditional Authorities proscribe the cutting down of live trees. A fine of R1000.00 is charged for this offence. Because a permit of R30.00 is issued to anyone who want poles for building, people buy permits with the pretext of cutting poles. After the acquisition of

such a permit, they cut branches for firewood instead. When this malpractice came to the knowledge of the authorities, the issuing of permits were temporarily suspended.

Traditional laws and taboos have always restricted the use of some plants as source of firewood among the Tsonga-Shangana. These laws prohibited the use of important medicinal plants and those considered to be of nutritious value as well as trees that are a sacred of building material. The use of the following tree species is prohibited:

Nembenembe – *Senna petersiana*

This species is magically used in the doctoring of homesteads known as **ku phunga muti**, i.e. to sprinkle medicine right round the homestead to prevent witches from entering it. The leafy branchlets of the plant are used for the purpose.

Mbhafa (Mlahla-vanhu) – *Ziziphus mucronata*

The second name of this species viz, **Mlahla-vanhu** reflects its significance. **Lahla**: to bury and **vanhu**: people. After the burial of an individual, the grave is covered with some thorny branches of the species as a protection against ravaging, particularly by bulls that paw termite mounds in a show of strength. Goats also enjoy playing on soil heaped places like graves and termite mounds.

Mbholovisana – *Mundelea sericea*

The name of this species in Tsonga means `that which causes quarrels`. It is believed that if the smoke from the ember of this plant is inhaled, the affected people will become involved in quarrels. Some families even avoid any of its parts to be brought into the homestead.

Nhlonhlo – *Euphorbia ingens*

The smoke is believed to cause cancer. Ironically, the latex is added to the gruel to be taken for the treatment of cancer. This could be compared to the recent scientific finding that the highly poisonous venom of the black mamba could be a remedy for cancer (Kruger Park Times, 2004:14).

Nhlangula-ntima - *Euclea natalensis*

The collection of firewood from this species is permissible only to families without livestock. People with livestock usually avoid firewood from this species, as it is believed that it causes abortion to animals.

Other species are spared for their dietary and nutritious significance. *Sclerocarya birrea* is a leading example in this regard. Stevenson-Hamilton (1934:45) mentions that marula beer is so popular that during the marula period there is such an unceasing round of entertainment and of general festivity that it is often impossible to get any work done at all and that it brings conviviality. Kernels from the marula stones are used in the preparation of the traditional satay sauce (**xirhitsa**); as a condiment in a variety of dishes or are eaten raw particularly if a bit of salt has been added. Even in the 1980s when people were felling trees for firewood commercialization, the species was avoided. It was, however, discovered that marula trees were destroyed particularly by the refugees who initially cut down the branches to obtain the fruits as mentioned above. Other examples in this category are *Adansonia digitata*, *Carissa edulis* and *Ximenia caffra*.

The chemical composition of some species rendered them unfit to be used as firewood. Soft wood trees like *Ficus* spp and *Annona senegalensis* were traditionally not considered for firewood. They were known to produce an abundance of smoke with very little fire. Due to the scarcity of firewood people are left with no choice but to utilize these species for firewood nowadays.

7.7 The collection method of plant material for magic and medicine

Traditional healers are the greatest collectors and consumers of medicinal plants drawing support from a higher percentage of the population. At a traditional healer's conference held in Benoni in 2004, it was said that up to 80 percent of the rural population consult traditional healers as their first health care providers (Kruger Park Times, 2004:2). This argument ties in with Mabunda's findings that 89 % of student respondents of the University of the North preferred the treatment of a traditional healer (1999: 38).

A distinction should be made on the collection methods between traditional healers on the one hand and ordinary herb gatherers on the other. The use of the flora for medicinal purposes by traditional healers is bound up with norms and taboos, resulting in very little environmental impact. Helen Mmethi, head of The People and Parks Department of Kruger National Park, commenting on the possibility of allowing traditional healers to harvest medicinal plants in Kruger as from September 2004, mentions that when indigenous people harvest medicinal plants they make sure trees and plants do not die (Kruger Part Times, op. cit. loc. cit.). This comes in the wake of the introduction of the new Protected Areas Act, which changed the status of the KNP from the previous Schedule I when nothing could be removed from within the Park, to one of sustainable utilization.

The collection methods of medicinal plants by traditional healers are explained in the following citation:

> There are many traditions and taboos associated with the collection of plants. These can be interpreted as a means of preventing the over-harvesting of plant material. *Alepidea amatymbica*, for example, is generally only collected in winter, thereby ensuring that the plant is reserved for the season when coughs, colds, influenza and bronchitis are most prevalent. This tradition also ensures that plants are left in the field to set seed in the summer months. In Gazankulu, a Shangaan taboo dictates that if the remaining root system of *Elephantorrhiza elephantina* is not covered after a portion has been removed, the patients treated with will not get better. Bark that is used for treating kidney diseases are sometimes only harvested from the eastern and western sides of the tree, traditionally symbolizing the kidneys, thereby preventing ring-barking (Van Wyk, et al. 1997: 14).

In support of what has been said above, this research found that traditional healers do not collect taproots. They harvest the lateral roots whose removal normally does not kill the plant. The treatment of some illness may specifically require that only those roots grown across footpaths be used. The bark of *Sclerocrya birrea* from a footpath-crossing root that usually trips passers-by, for example, is used as a prophylactic against childhood illnesses. Only a small amount of the protruding part is hacked off. If the root has been

cut off after digging, the soil has to be pawed back to ensure the re-growth of the truncated root.

Different perceptions according to categories were expressed regarding whether harvesting of medicines by traditional healers causes environmental degradation or not. The responses are as follows:

Table 44: Does harvesting of medicinal plants by traditional healers cause environmental degradation?

Category	Yes	No
Traditional healers	0 (0%)	50 (100%)
Women	30 (60%)	20 (40%)
Men	25 (50%)	25 (50%)
Girls	33 (66%)	17 (34%)
Boys	25 (50%)	25 (50%)
Total	113 (45.2%)	137 (54.8%)

It is clear from the above table that the collection of plant material by traditional healers has minimal impact on the plants.

In addition to the wise and sustainable use of the natural resource, traditional healers have grown some medicinal plants in their homesteads, particularly those species that are either very scarce or unavailable in the surroundings. At Welverdiend for instance, no less than five traditional healers have grown *Adansonia digitata* (Plates 11a and 11b). In certain parts of the study area like Acornhoek, Burlington and Ireagh, for instance, the currently most highly sought *Hypoxis hemerocallidea* has been planted by more than 50 % of traditional healers. The rare and valuable medicinal plants are grown to reduce pressure on the wild population.

Common herb gatherers on the other hand with less rigorous training than traditional healers cause much destruction during harvesting of medicinal plants. Because of

economic motivation they collect abundant *materia medica* for sale at street markets and stores in urban centres. For this reason they leave some trees almost or completely ring-barked. Without enough or no vascular bundles the tree is apt to die. Shrubs like *Senna petersiana* which grow on sandy soils are normally uprooted and carried home to be cut to size for market sales. Because collectors are always in a hurry they hardly have time enough to cover back the soil removed when digging out the roots. This is not done by local residents only. Cases were cited of outsiders coming to places like Thorndale and Dixie with cars to harvest medicines. They usually ignore the traditional norm of **ku losa**, i.e. reporting one's presence to the local authorities (either the chief or headman) by presenting them with a gift or any smallest possible amount of money.

Although traditional healers harvest medicinal plants with circumscription this is not always possible with scarce species that have to be harvested outside the community areas, particularly if such a tree is vulnerable. Passers-by and people from far afield, traditional healers included, travel to The Oaks to harvest the huge *Adansonia digitata* standing by the roadside north of the Olifants River. The National Road Agency has put up a fence right around the tree for protection against harvesting. Time and again the fence is broken to access the tree. The whole trunk is full of visible scars caused by debarkation (Plate 10a). Other species at Bushbuckridge area are also equally affected (Plate 10b).

7.8 Drought and overgrazing

The rainfall in the area is highly inconsistent. Heavy downpours are usually succeeded by considerable spells of dry weather. A very dry year will usually succeed a very wet year. Severe droughts therefore are not uncommon in Bushbuckridge. Such droughts are usually given names, for example, **Ndlala ya tintoma** (1903) – "The Hunger of Jackal berries" i.e. a drought period during which people survived by collecting and consuming jackal-berries. **Ndlala ya marhambu** (1927) – "The Hunger of Bones" i.e. a drought period during which livestock and game died in large numbers and people collected their

bones. According to informants, other droughts in the area occurred in the following years 1947; 1952; 1961 – 2 and 1981-84 (Pers. comm. Shilubane, 2004).

The effects of drought to the natural environment are extremely devastative. Miller (1994:340) says that droughts cause more damage and suffering worldwide than any other natural hazard. Prior to the occupation by black people of the Bushbuckridge farms as a sequel to the entire area's declaration by the Beaumont and Stubbs Commissions of 1916 and 1917 respectively, as a released area (cf. Ramutsindela & Simon, 1999:479) the tangled root systems of the area's natural grasses anchored the fertile topsoil in place. As agriculturalists the occupants ploughed the soil, tearing up these roots, replacing them with the less extensive root systems of the agricultural crops planted annually. After each harvest, the land is left bare for several months, exposed to whirlwind, called **xihuhuri**, which ravages the area annually around August/September. The month of August, called **Mhawuri** is named after this whirlwind. The loose and bare fertile top soil is blown away by the **xihuhuri**. Informants cited instances of tree branches broken off by whirlwinds. The bare fertile top soil is also under threat of extensive erosion by the first rains, particularly the heavy downpours breaking the drought.

Before the installation of water pipes in the area women and children walked long distances each day during water-shortage periods, thus creating a lot of footpaths, **tindlela**. These footpaths are the source of soil erosion during rainy seasons. Being resident of the area and also as observed or noted during fieldwork, the author saw a substantial number of gullies created from footpaths as a result of soil erosion caused by downpours and domestic stock, particularly cattle.

The people of Bushbuckridge area are both sedentary agriculturalists and pastoralists. A large number of families own livestock. This includes cattle, goats, donkeys and sheep. The table below shows the number of families that own livestock in the area during research.

Table 45: Livestock owned by the Tsonga-Shangana

Livestock	No. of families
Cattle	195 (78%)
Goat	185 (74%)
Donkey	80 (32%)
sheep	35 (14%)

The total number of cattle, goats and sheep in the area during the years 1997 to 1999 was as follows:

Table 46: Total number of cattle, goats, sheep and donkeys in Mhala: 1997-1999.

Source: Records obtained from the Mhala Agricultural offices

Year	Cattle	Goats	Sheep	Donkeys
1997	40 355	24 607	41	336
1998	43 064	22 223	41	388
1999	54 956	28 622	63	21

During prosperous seasons livestock always flourish. From the table above the total number increased at a rate of 6,3% between 1997 and 1998, while the growth rate for the following year was 21,6% mainly due to good rains. The tribal farms show a varying degree of cattle distribution. The average cattle distribution per farm is presently 1409 – Agincourt being the highest with 2349 and Dixie the lowest with only 155 head of cattle. The increase rate also varies substantially from farm to farm. The highest rate occurred at Gottenberg (36,5%) while an incredible decline of 50,9% was recorded on Welverdiend. This big decline can be attributed to the marketing of cattle.

The effects of livestock on the natural resources are known. When cattle continuously use the same route to a dipping tank or grazing place a wide path called **bhudula** finally develops and the soil becomes finely grounded. The soil is easily eroded by the wind and water resulting in the formation of gullies. For this reason respondents to Question 4

under 'animal species' regard livestock as contributing greatly to environmental degradation.

Since there is no private ownership of land, in the whole area it is unheard of, all natural resources are used communally. The uncontrolled use of these resources has devastating consequences. The communal rangelands in the area are usually overgrazed. This concept is well defined by Miller, 1994:404:

> Overgrazing occurs when too many animals graze too long and exceed the carrying capacity of a grassland area.

It is surprising that respondents do not regard livestock to be over-populated. This research found that only 14 % (i.e. 35 out of 250 respondents) regarded livestock to be in excess. The perception is that a large number of livestock has dropped as compared to the past few decades. The reality is that cattle, the popular domestic livestock throughout the area, are in excess. The former Minister of Agriculture and Forestry, the Honourable Mr J B Mnisi of the defunct Gazankulu Government, revealed this fact in his 1983 Drought Relief Programme speech. Mnisi said:

> I want to emphasize that overgrazing is caused by the plentifulness of livestock. Livestock in the entire homeland is in excess by over 200 % (Rikhotso, 1981:31).

Livestock, cattle in particular, is reared for social and ceremonial purposes more than anything else. The cattle market established in Clare is rarely used unless under exceptional circustances. A period of more than two years may pass without anybody sending his cattle to the market. Cattle are slaughtered mainly for funerals and marriage ceremonies. Slaughtering of a beast during funerals is a long established practice whereby the skin was used to wrap the corpse before the introduction of coffins and caskets.

The percentage figure above shows that there is no control of the stocking rate in the area. The continuous grazing system with its consequences of overgrazing is widely used in the area. Only four farms practise deferred-rotation grazing which allows perennial grasses to recover from the effects of grazing (cf. 2.5.2.1).

It is common knowledge that heavy overgrazing compact the soil, which diminishes its capacity to hold water and to regenerate vegetation. Furthermore, overgrazing converts continuous grass cover into patches of grass, thereby exposing the soil to erosion. Overgrazing linked to the dryness of the area therefore, may lead to desertification.

7.9 Management of resources

The issue of individual land ownership among the Black South Africans in general has been unknown since the year dot. Respondents were asked who the veld around their village belonged to. Two answers were given: Community and **Hosi.**

Table 47: Who does the land around you belong to?

Category	Community	**Hosi**
Traditional healers	48 (96%)	2 (4%)
Women	48 (96%)	2 (4%)
Men	47 (94%)	3 (6%)
Boys	50 (100%)	0 (0%)
Girls	50 (100%)	0 (0%)
Total	**243 (97.2%)**	**7 (2.8%)**

The overwhelming majority felt that land belongs to members of the community. Everybody had access to land resources and could utilise them whenever the need arose. This conception encourages residents to use and over utilise resources without any fear of punishment and restrictions.

Traditional societies have communal rights over natural resources in that every tribal group has jurisdiction over a clearly demarcated area with all its resources. Access to these resources is critically important to them as they rely on them for survival. For this reason, natural resources have to be managed.

Natural resource management assumes two forms: the less active management form and the most active management form. The less active form of management involves selective harvesting of plants, utilization of wild fruits as food, grazing management, and so on. Most active forms of management involve the restrictions on the utilization of natural resources like the felling of trees imposed by the Nature Conservation and other related authorities like veld rangers, which, if violated, may be followed by a fine. The former form of resource management is referred to in this study as an informal system of control and the latter as a formal system of control.

7.9.1 Informal systems of control

In its broadest sense, the simple act of collecting wild fruit is a form of management, though more often than not is an unintentional woodland management system. In sections 2.5.4 and 7.6.5, mention has been made of *Sclerocarya birrea* shedding their fruit in great abundance to the ground around March, and residents collecting them for marula beer. The marula stones, **timfula**, are broken for their kernels, **timongo**, consumed by birds, beasts and animals like baboons. Thus the productive cycle has been disrupted from what it otherwise has been. The unbroken marula stones are heaped together on the periphery of the homestead. If these processes were not in place the large quantity of fruit on the ground would be washed away by the autumn floods and deposited at various points where some of them would easily germinate. This would increase the species which is already abundant; hence the description of the area as *Acacia nigrescens-Sclerocarya* savannah (section 1.15.5.2).

Other species like *Strychnos madagascariensis* cannot easily be used by humans because of their morphological structures. The small shrubby tree is usually multi-stemmed and densely branched. The wood of this species is virtually fit for nothing; neither can it be used for building or carving. The dry twigs brittle with ease and cannot be used for the construction of a traditional fence, **rithangu**. The dense and twiggy branches make it impossible for humans and baboons to climb into the tree. Quite often, trees like *Sclerocarya birrea*, *Diospyros mespiliformis*, *Philenoptera violacea* and *Peltophorum africanum* with long stems and upright or wide-spreading crowns are easily uprooted by

gale-force wind but not *Strychnos madagascariensis*. Informants confirmed this. Also, the luscious food, **nkwakwa** or **mfuma**, processed from the fruit of the species greatly contributes to its preservation. **Mfuma** was an essential food during famine (Plate 4). It is not easily digestible. A small amount of **mfuma** was required to spend some hours without getting hungry. The only requirement was the drinking of a lot of water as the food is hydrophilic. The species grows on sandy areas like Cunningmoor, Ludlow and Edinburg. In other areas like Welverdiend, Gottenburg and Seville, with loamy soil, the species is very scarce and it is regarded to be a taboo to fell the tree.

Related to this category are those species that escape use by humans and animals because of their biochemical properties. Such species may remain intact for a very long period of time without a single disruption. These include thorny plants, plants with milky latex which are considered poisonous and those that produce too much smoke and unpleasant smell when burnt. Examples of such plants are: *Carissa* spp, *Ficus* spp, *Clerodendrum glabrum, Spirostachys africana* and *Euphorbia* spp. Most of these species may only be collected and utilized when dead.

Other species are preserved because of their association with the supernatural and mortuary rites. In many homesteads species of *Sclerocarya birrea*, *Diospyros mespiliformis* and to a lesser extent, *Strychnos madagascariensis* are used as ancestral shrines. For this reason, even those standing in the veld are tabooed. *Ziziphus mucronata* is renowned for its utilization in human burials and may not be used for any other purpose. It is believed that if one brings any part of *Ziziphus mucronata* to the homestead, he indirectly brings death to the family (**u tisa rifu emutini**) i.e. he will cause a death in the family.

Important medicinal and magical plants are also protected. *Euclea natalensis*, famous for its treatment of gonorrhoea and purgative effect for instance, may not be uprooted or cut. Traditional healers, the greatest users of medicinal plants, claim that they do not kill plants when harvesting them for medicinal purposes. When essential bulbous plants like *Hypoxis hemerocallidea* are harvested and there is no way to sustain it other than killing it completely, the propensity is to propagate the plant in the ethno-botanical garden.

Many traditional healers in the study area are growing *Hypoxis hemerocallidea* in their gardens. *Gardenia volkensii*, may not be cut or collected for any purpose other than homestead protection against witchcraft or as a stirring stick of the **bhudlu** medicine taken by the possessed patient to lure the spirits so that they can manifest themselves promptly (Shilubane 1990:76-77).

Cattle owners may hold informal discussions about survival strategies of their livestock in anticipation of natural disasters like droughts. In the early 80s for instance, the people of Welverdiend agreed to refrain from veld burning in anticipation of drought. Perpetrators violating the decision were dealt with accordingly. One day a smoke occurred in the veld. Residents curious to curb the fire before inflicting any substantial damage rushed to the scene. In the process the culprit was caught and brought to an informal hearing at the dipping tank. The motive for his disastrous act was nothing else but the creation of a convenient hunting ground for rabbits and other smaller animals. It is easier for dogs to chase small animals in an open space than a dense forest. The community, at least for that season, placed a ban on hunting. According to informants if drought is suspected, hunting and burning of grass for that season are greatly minimized if not completely refrained from.

7.9.2 Formal systems of control

Generally land management and control among Blacks in South Africa is a complex phenomenon. The complexity should be seen in the light of the black people having been prohibited from owning land by the 1913 Land Act. The land was generally registered as the property of the government or the South African Development Trust. For this reason Blacks could still not own land even during the homeland era. Homeland governments, however, enacted laws to enforce management and control of land resources. The Lebowa Nature Conservation Act No. 10 of 1973 and the Gazankulu Nature Conservation Act No. 5 of 1975 serve as examples. The growing concern over the natural environment culminated in the promulgation of the Environment Conservation Act 73 of 1989 which unfortunately had no substantive provisions on the environment. The passage of the National Environmental Management Act 107 of 1998 hailed as "the

flagship statute of the Department of Environmental Affairs and Tourism" (Glazewski, 2000:166) provided an underlying framework for the general environmental law reform programme and clearly addressed, inter alia, resource conservation and exploitation, our main concern in this study. The National Environmental Management Amendment Act 8 of 2004 which provides for environmental authorizations, the registration of associations of environmental assessment practitioners, etc, as outlined in the Government Gazette No. 26570 finally emerged.

The Limpopo Province has not yet commenced drafting new environmental legislation as the legislations of the former homelands are still in force. The principal mechanism for regulating resource use in the four traditional authority areas is licensing which is done through the Traditional Council on behalf of the Traditional Authority. Permits are issued for gathering of poles; posts; timber; firewood and other building materials. Cutting of grass also does not require any permit except when this is done in protected areas. Permits cannot be given for the cutting of protected species like *Pterocarpus angolensis* and *Trichilia emetica*. Only wood workers qualify to be granted a permit a cut *Pterocarpus angolensis*. The latter species was widely grown by the Department of Agriculture and Forestry of the Gazankulu Government during the homeland period. The species was grown in public places like schools, clinics and roadsides. Permits could also not be given for the removal of big trees existing at strategic places. Large trees elsewhere could equally not be removed unless a need to do so is inevitable or a convincing reason is given.

Permit charges differ according to traditional authorities. In the Mnisi and Amashangana authorities a permit for firewood gathering is issued free of charge whereas in the Hoxani and Jongilanga authorities a permit of similar purpose is given for R5. A common rate of R25 for a permit for poles, posts and timber is provided by all the authorities. Also common is a validity period of 14 days for these permits. It has been established in all the authorities that quite often permit holders continue to use permits beyond their expiry period. Traditional healers, whether local or foreign, do not need any permit to harvest medicinal plants. Residents, however, complain that casual visitors usually do not observe the control measures of protecting the plants. They also collect plant material

indiscriminately. Respondents feel that permits are not effective enough to curb environmental degradation. While only 32,8% (82) feel that the issuing of permits is effective enough, 67,2% (168) feel differently. It is clear, therefore, that the issuing of permits is not an effective method. This method has its own short-falls. Permit holders use permits beyond their expiring period as mentioned above. Also, it has been established that one permit can be used by several people who cannot be identified by members of the policing unit unless they know the permit holder in person.

Because licenses are issued by traditional authority offices the bearer can utilize it anywhere in the traditional authority area of its issue. Foreigners are, however, expected to report their presence to the local **ndhuna** and produce the license. The onus is on the **ndhuna** to allow the bearer to continue with the harvesting or extraction of the relevant resources. In the Amashangana authority licenses are issued by the **tindhuna** as well. It has been established that in instances of this nature the village **ndhuna** where the resource is to be obtained is likely to turn down the license.

Ideally the following structures bear the responsibility of 'policing' the natural resources:

- The Nature Conservation Unit
- The Tribal Police
- The Village Headman
- The Civic Unit

Respondents felt that the following two units should also participate in policing activities:

- The CDF (Community Development Forum) Unit and
- The Community at large

With the exception of the Nature Conservation and Tribal Police Units, the other units usually shun their responsibility and shift it to the former units. The **ndhuna** and civic units have their own perspective of the issue of natural resource policing. They view this

exercise as a form of oppression to the residents. To keep their popularity and guard against falling out of favour with the community they choose to keep a low profile on this issue. Fear of intimidation and witchcraft were given as other reasons for their reluctance. It is only in extreme cases or situations that they can intervene giving a verbal warning.

In general, their comprehension of nature and sense of environmental preservation leaves much to be desired. This is best summarized by Els (1996: 358) as follows:

> **Tindhuna**... het aangedui dat hulle nie mense kan verhoed om wilde diere in die stamgebied te jag as dit 'n deel van hulle voedsel moet uitmaak nie. Hulle kan mense ook nie verhoed om vuurmaakhout of pale te versamel nie. ...Volgens **tindhuna** was daar genoeg vuurmaakhout en pale in die stamgebied beskikbaar om in al die inwoners se behoeftes te voorsien....

This research established that the **tindhuna** of other traditional authorities in the study area have similar attitudes.

It is the feeling of the respondents that people and structures bearing the responsibility to curb or control environmental degradation are not doing enough to this end. Out of the 250 respondents only 83 (33, 2%) feel that enough is being done while 167 (66, 8%) are dissatisfied. The responses are as follows according to categories:

Table 48: Are the authorities doing enough to curb environmental degradation?

Category	Yes	No
Traditional healers	27 (54%)	23 (46%)
Males	23 (46%)	27 (54%)
Females	21 (42%)	29 (58%)
Boys	08 (16%)	42 (84%)
Girls	04 (08%)	46 (92%)
Total	**83 (33,2%)**	**167 (66,8%)**

Effectively, policing is carried out by the tribal police and nature conservation unit members who are mostly not local residents. Contrary to a report by Gandar, (1997:27) that there are two "Tribal Authority Police" officers present in each village this research found that only four officers per traditional authority area exist. People caught felling trees for commercial firewood or cutting timber and poles without the relevant permit are arrested and fined or imprisoned. The fine usually goes up to a thousand rand (R1000) whereas the imprisonment does not exceed three months. These measures are not carried out commensurate with the destruction rate of the natural resources for the reasons mentioned above. Mozambicans, however, who are currently the greatest consumers of natural resources, are fully exempted from all these restrictive laws by the traditional leaders.

The following suggestions were mentioned by the respondents as the most effective means to preserve the natural environment:

- Afforestation
- Educating the people about the importance and beauty of the natural environment
- Enacting laws that will completely forbid the felling of trees
- Reduction of stock numbers
- Prohibition of veld fires.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

The interactive relationship between the Tsonga-Shangana communities and their natural habitat in the Bushbuckridge area of the Bohlabela district has given rise to a distinct and unique form of cultural ecology. A significant part of the relationship on which this research project was focused, is the ethnobotany of the area (1.1). The multidisciplinary nature of the research necessitated a review of the area's biodiversity with an emphasis on the flora (1.15), as well as reviewing the culture of the human component in the ecological relationship (2.1-2.6). A complex form of exploitation of botanical resources emerged.

8.1.1 The natural environment

The natural habitat of the research area has specific features, possibilities and limitations that must be properly reviewed before assessing the ethnobotanical relationship.

8.1.1.1 Nature and potential of natural resources

The research area is part of the Lowveld below the Eastern Escarpment, and varies between 316 and 702 metres above sea-level. There are numerous rivers, streams and dams (1.15.5.1). The rainfall is erratic and uneven (1.15.2) but adequate to sustain lush vegetation, particularly in the eastern regions, as well as dry land farming. Because of the nature of the rainfall, most streams and rivers are seasonally dry with only a few being permanent (1.15.5.1). While all the dams in the area serve as stock water dams, and to a certain extent used for agricultural purposes, only one dam, the N'wa-Mkhelemba Dam (1.15.5.1) is used for domestic or drinking purposes by people.

8.1.1.2 Vegetation

The vegetation of the Bushbuckridge area is a typical broad leaf bushveld which can be described as *Acacia nigrescens-Sclerocarya* savanna, with *Combretum* species preponderant. Plant communities vary considerably between the western and central toplands and the eastern bottomland (1.15.5.2). Extensive variations of vegetation occur in the different tribal areas because of the varying soil types encountered there (1.15.5.3).

The region therefore is divided into two pedoecological units, the G3 and G5. The G3 unit is suitable for semi-extensive livestock farming with a moderately low production potential. The G5 unit has a moderate potential for crop production in association with semi- intensive livestock production (1.15.5.3; Figure 3).

8.1.1.3 Pressure on resources

Extensive deforestation has occurred in the western, Sotho inhabited parts of Bushbuckridge because of the extensive felling of trees for firewood and construction purposes. However, in the eastern, Tsonga-Shangana inhabited study area the impact on this resource was less marked because of conservation laws enforced by the former Gazankulu Government pertaining to the collection of firewood and the cutting of trees for construction purposes (1.15.5.2).

The Limpopo Province has not yet commenced drafting new comprehensive environmental legislations (7.9.2). Although it recognizes legislations of the former homelands, it does not, however, enforce these legislations effectively. The structures responsible for the 'policing' of the natural resources (7.9.2) lack sufficient backup by the Government. The relaxation of these laws inevitably encourages people to destroy natural vegetation with very little or no fear of reprisal (Plates 2; 8; 9; 15a-15e; 16; 17; 20a & 20b).

8.1.2 Demographical factors

The origin, composition and settlement pattern of the Tsonga-Shangana suggest a specific form of plant utilisation which reflects their cultural roots and also accounts for the intensity of the impact on their natural resources (1.16; 1.17).

8.1.2.1 Origin and ethnic composition

The dichotomy suggested by the ethnic name Tsonga-Shangana is indicative of two main cultural sources of origin, viz. the Zulu component introduced by Soshangana and the Tsonga component from Mozambique (1.16.1; 1.16.2). From the fusion of these two groups, a distinctly new ethnic group emerged. Agriculture was the main subsistence mode of the former Tsonga communities, supplemented by pastoralism, hunting and the gathering of veld food (1.16.2). The Zulu have a mixed economy with stronger emphasis on pastoralism. The great similarity between the former habitat of the Tsonga-Shangana and the present habitat of the Tsonga-Shangana suggests a larger cultural impact from the Tsonga-Shangana.

8.1.2.2 Settlement and population growth

The Tsonga-Shangana are settled in adjacent parts of Mozambique, South Africa and Zimbabwe (1.16.1). In terms of the 1970 census, the Tsonga-Shangana totalled 2,636,939 (Table 2) and 7,419,984 by 2005 (1.16.1). The study area which is 122 264 ha (Table 4) consisted of 546 711 of the Tsonga-Shangana subgroup by 2004 (Table 2) which gives a living capacity of 0.22 ha per person. A comparison between the 1951 population of 5.6 ha per capita and the 2004 population of 0.22 ha per person (1.10.1) obviously suggests the diminishing of space not only for dwelling but for cultivation and grazing as well.

8.1.2.3 Immigrants

The large influx of 175 767 immigrants from Mozambique (1.17.3) as in 2001, found in every tribal area of the research area, inevitably increased pressure on the natural vegetation, as they have never been restricted by conservation laws in their country of origin. Although restrictive laws are enforced in the study area, they do not, however, apply to the refugees, who have been formally exempted by all four traditional leaders (1.17.3; 7.9.2). This gives them the latitude to exploit natural resources at will. The few remaining small animals in the entire study area are fast getting depleted by the Mozambican refugees who kill and sell them to sustain their living (2.5.3). Although other foreigners from Pakistan, Somalia, etc (1.17.3) are very few, they inevitably increase the population number in the area and affect the population density which in turn reduces the carrying capacity of the area.

8.1.2.4 Traders and casual visitors

Because licences for poles, posts and timber are issued from the traditional authories'offices, traders from outside also buy these permits and present them to the local **indhuna** (7.9.2) who cannot challenge the decision of the traditional leader but has to be content with it and allow the traders to accomplish their work. Another problem is caused by the fact that the collection of plant material for medicinal uses by traditional healers, whether local or foreign, does not necessitate any permit (7.9.2). All these practices inevitably lead to environmental degradation. The situation is exacerbated by the indiscriminate collection of plant material by these casual visitors (7.9.2), who have little regard for plant life.

8.1.2.5 Future scenario

With population growth being a universal phenomenon (1.10.1) the study area is no exception. The background information presented by the Welverdiend headman, L.M Mlambo (1.10.1) attests to this. The situation is aggravated by the huge influx of the

Mozambican refugees in the 1980s (1.17.3). As the population increases, space diminishes. More and more land is required for settlement and agricultural purposes. To meet these demands, deforestation is unavoidable. The diminishing of space and deforestation *ipso facto* affects grazing land. The pressure on natural resources can be effectively relieved if residents could refrain from cutting and selling firewood (7.6.7; Plates 8; 15 & 16). Despite the electrification of the entire study area, residents, traditional healers in particular, still prefer the use of firewood which in some instances is related to its cultural significance (e.g. the use of firewood for boiling medicine and at the initiation schools, as outlined in 7.6.7). The availability of building and fencing material at hardware stores (2.1.2) reduces the pressure on traditional plant material. The availability of the nearby hardware shops (2.1.2) should encourage residents to buy these materials conveniently. However, many people still make intensive use of plant material for the construction of fences (Plate 17); cattle enclosures (Plates 6 & 23); fire enclosures (Plates 24a & 24b); granaries (Plates 20a & 20b;) and building of huts (Plate 22a). As pointed out in 7.6.1, plant material of 1.118m^3 is required to complete one traditional household complex. The rate and extent to which plant material is utilized for the purposes mentioned above shall soon turn the Tsonga-Shangana territory into one similar to those of the Sotho (Els 1997:106). The disappearance of the **ndzeyani** birds (2.5.4) is largely attributed to the human invasion and consequent destruction of their nesting trees – *Acacia caffra* and *A. nigrescens*.

8.1.3 Systems of adaptation

A cultural group's adaptation to its natural environment involves the utilisation and management of natural resources in accordance with established cultural values and needs. Ethnobotany is an important part of this relationship.

8.1.3.1 Cosmological orientation

The cosmology of the Tsonga-Shangana encompasses their worldview, of which their perceptions about humans and animals, life and death, nature and the universe, natural

and supernatural powers, disease and healing, all form part (2.3.1; 2.3.2.1-2.3.2.3). Of great significance to this study is their view about supernatural, magical powers that permeate the entire creation (2.3.2.3). Many of the plants are also believed to be endowed with magical properties. These magical powers can be ritually manipulated by knowledgeable people such as diviners, medicine-men, witches and sorcerers – either in a benevolent way to heal and protect people and their property, or in a malevolent way to harm or kill them (2.4.1.1; 2.4.1.2). Most of the magical potions (herbal mixtures or "medicines") used by them are of plant origin. The magical powers of plants, plant parts or herbal mixtures are ritually transposed to people to heal, protect, strengthen or bewitch them (2.4.2.1; 2.4.2.2). Plants with these qualities have been identified. These are, among others, *Myrhothamnus flabellifolius* (**Vukabafile**), *Scabiosa columbaria* (**Bhekamina**), *Acridorpus natalitius* (**Mpetso**) (2.4.2.2), *Adenia gummifera* (**Phindumshaye**) (2.4.1.1) and *Cenchrus ciliaris* (**Rinama**) (Chapter 3 under *Poaceae*).

8.1.3.2 Society and the environment

Traditional societies have communal rights over natural resources and every tribal group has jurisdiction over a clearly demarcated area with all its resources (7.8). Accesses to these resources are critically important to the Tsonga-Shangana as they largely rely on them for survival. The chief-in-council as the trustee of all the tribal land allocates rights over the use of land to extended families (2.1.1.2). Families adopted a dispersed settlement pattern to ensure enough arable land in close proximity to their homesteads (2.1.1.2), and also to minimise competition for communal grazing areas, timber, veld food, game, etc.

8.1.3.3 Conservation policies

The communal utilisation of resources necessitates strict control, as well as conservation policies, by local and provincial authorities in order to avert the over-exploitation and degradation of resources. Various structures and authorities took up the responsibility of controlling of natural resources. Tribal authorities hired tribal police officers (7.9.2) who

constantly searched for perpetrators in places of their jurisdiction. Although residents were allowed to clear new land for cultivation, the felling of trees was strictly forbidden. This practice was an extension of the Gazankulu Nature Conservation Act No.5 of 1975 (7.9.2) which, in conjunction with the Lebowa Nature Conservation Act No.10 of 1973, has been adopted by the Limpopo Provincial Government (7.9.2). Perhaps it is for this reason that the government seems rather lax on environment protection issues. Unlike before, people are now actively engaged in cutting trees indiscriminately. The collection and stacking of both dry and wet branches for firewood as seen and explained in Plates 2; 8; 15 and 16 is indicative of the laxity of the government to protect natural resources. Some residents, particularly in the north east of the study area where trees are still in abundance, have engaged in cutting firewood from living trees for commercial purposes (7.6.7) without any fear of reprisal. The constant demand for new cultivation land is always prompted by the population increase. If measures of environmental control, particularly by the government, are not strictly enforced, the study area shall soon be like the former Mapulaneng area (1.15.5.2).

8.1.3.4 Economic adaptation

The economic adaptation of the researched community to their habitat is both extensive and vital for their continued survival as rural communities. The following are the main aspects of their adaptation:

8.1.3.4.1 Agriculture

It has been mentioned that each family in the study area is entitled to its own arable land with varying sizes of 1-5 ha (2.5.1.1). This is understandable given that the Tsonga are traditionally agriculturalists. The continual provision of arable land to the increasing number of families inevitably gives rise to deforestation. The Mozambican practice of exploiting valleys and river banks as croplands causes the destruction of the remaining old-growth forests and coppice (7.3; Plate 9). The upshot of this practice is the

conversion of some parts of the area to open plains and the causation of soil erosion which usually gives rise to gullies (Plates 18a & 18b).

The main crops cultivated by the Tsonga-Shangana include *Zea mays*, *Arachis hypogea*, *Vigna unguiculata*, *V. subterranean*, *Cucurbita pepo*, *Ipomoea batatas* and *Lagenaria siceraria* (2.5.1.1). Crop rotation is virtually unknown to the Tsonga. If a farmer produces a good harvest of a particular crop, a perception is developed that the same crop shall flourish even the next ploughing season (2.5.1.1). The failure of crops to yield good harvest in a fairly good season is usually blamed on other factors like witchcraft rather than their lack of scientific agricultural knowledge like crop rotational systems or fertilization of soil as indicated in 2.5.1.1. A need therefore is required, particularly from agricultural extension officers to encourage residents to use good farming methods for the betterment of their crops.

8.1.3.4.2 Pastoralism

For the livestock to be in excess by over 200% (7.8) is indicative of the fact that it is mainly reared for social and ceremonial reasons, particularly sacrifices and funerals (7.8). Livestock therefore is not seen as an economic asset. It is only on a minimal scale that people sell them for cash like during famine or when people want to pay fees for the education of their children or buy a coffin for a deceased family member (cf. 7.8). All these are, however, occasional incidents. Furthermore, livestock is reared for quantity and not quality. As pointed out in 7.8, the continuous grazing system with its consequences of overgrazing is widely used. The only four farms in the entire area known to have a deferred – rotation grazing system (cf. 7.8); (2.5.2.1) are not enough. Overgrazing does not only convert continuous grass cover into patches of grass, but exposes the soil to erosion and eventually also leads to desertification. During grazing, non-palatable grass species are trodden over by animals, and this will have the same effect as overgrazing. Although grass provides the main source of food to livestock, trees form an important secondary source of food in times of drought. In Chapters 3 and 5 some tree species like those of *Acacia*, *Combretum*, *Commiphora*, *Dichrostachys*,

Gymnosporia, etc. have been cited as of vital importance in the provision of food to livestock and wild animals. Over-abundance of livestock therefore is destructive to natural resources as a whole.

8.1.3.4.3 Hunting

In section 2.5.3, Tsonga-Shangana men have been described as famous and knowledgeable hunters, who exploited these resources extensively. Animals were hunted mainly for their meat, and to a lesser extent, their hides, but never for commercial reasons. Some Mozambican refugees, however, hunt animals and sell them to sustain their living (2.5.3). Hunting was neither controlled nor regulated as evidenced in their hunting methods where large game was brutally killed *en masse* (2.5.3). This method greatly contributed to the fast depletion of game. The digging of deep furrows to entrap animals also posed another serious problem – the permanent destruction and removal of the affected plant resources. This ruthless method also applies to the trapping and collection of birds through the **xirimbana** method whereby a group of birds are trapped and killed at a time (2.5.3.1). Other hunting methods like veldfires as mentioned in section 7.5, although not equally ruthless, also have detrimental effects. In the process, insects, small animals, seeds and the newly germinating plants may be destroyed in toto.

The depletion of game allured hunters to poach animals on neighbouring private farms owned by white people and even in the Manyeleti and Kruger National Parks (2.5.3).

8.1.3.4.4 Gathering of firewood

For a long period, the residential areas of Bushbuckridge were without electricity. It was not until the early 90s that these areas were electrified. Residents, however, hardly make use of these significant and convenient services (7.6.7). It is only in selected uses like lighting that electricity is used. For reasons mentioned under section (7.6.7), firewood is still greatly preferred. The alternative sources of energy, electricity in particular, provides a minimal relief to the use of firewood. Gas, to a very small extent, is also used.

Firewood therefore remains the main source of energy in Bushbuckridge, with many families living below the poverty line and cannot afford to pay for the supply of electricity. Wood therefore is still widely collected (7.6.7; Plates 2; 6; 8 & 16). The following tree species are widely used for firewood, as mentioned in Chapters 3 and 5: *Acacia*, *Combretum*, *Dalbergia melanoxylon*, *Dichrostachys*, *Euclea*, *Euphorbia*, *Terminalia*, etc.

People who collect and pile up firewood in their homesteads (Plates 2; 8 & 16) mostly end up selling it to outsiders. Trucks and pick-ups from far away places (7.6.7) coming to buy firewood prompted more and more local residents to collect wood for a cash income. The need for cash gave rise to the cutting of live branches and trees (7.6.7; Plates 15a; 15b; 15c; 15d & 16). Fruit-bearing trees like *Diospyros mespiliformis* are also utilised (Plate 15c). In some instances the whole tree is felled with no pang of remorse (Plate 15e). This practice is quite detrimental. As shown in Plate 15a, some tree species can not overcome the effect of branch cutting and dry up completely.

8.1.3.4.5 Gathering of veld food

Gathering, an activity largely for women, is practised free from restrictions (2.5.4) and remains an important activity. In the main, the activity includes the collection of edible plant material (fruits, roots, leaves, and vegetables), insects, worms and birds (2.5.4). Undoubtedly, this forms an important dietary supplement in the life of the Tsonga-Shangana.

While fruits are essential for the provision of minerals and vitamins to humans, the collection methods of some fruits are detrimental. The cutting down of live *Sclerocarya birrea* branches by Mozambican refugee women and breaking off of *Euclea subsp.* and *Flueggea virosa* branchlets is cause for concern as it often leads to the destruction of the plant in toto.

During the collection of locusts **-ku bula tinjiya,** plant material is used (2.5.4). Branchlets of *Euclea spp.*, *Peltophorum africanum* or *Combretum hereroense* are commonly used to kill locusts. These insects are wiped out and branchlets removed from trees. The ruthless method of collecting locusts has led to the extinction of some locust species (2.5.4). The same problem is posited with the collection of birds (2.5.4). Eggs that have not yet hatched fall apart when nests are torned open. Also, a large number of nestlings are wiped out at a time. It is quite natural that the killing of species, if not properly controlled, may lead to its extinction, notwithstanding its plentifulness. A case in point is the extinction of the passenger pigeon (2.5.1).

8.1.3.4.6 Technology

Like other societies, the Tsonga-Shangana also have structures and household utensils which they construct and carve from a wide range of species. Tree species like *Combretum imberbe*, *Albizia harveyi* and *Terminalia sericea* are commonly used in the construction of cattle and goat enclosures (Plates 6; 23; 7.6.4 & 7.6.5), fire enclosure (7.6.3; Plates 24a & 24b) and granaries (7.6.2; Plates 5; 20a; 20b; 20c & 21b). The case of a wood-carver at Clare, who uses large and old trees like *Combretum imberbe* for the manufacturing of household utensils like mortars, pestles and wooden spoons, is not unique. In Chapters 3 and 5, mention has been made also of other plant species like *Sclerocarya birrea*, *Ficus spp*, *Berchemia spp* and *Spirostachys africana* which are widely used for the carving of other utensils like wooden spoons, dishes and forks. Once again there are no proper measures of control in the use of these species. Although a licence could be bought for a specific period to allow the bearer to cut a specified number of trees, quite often these restrictions are ignored. Not only shall the permit holder use it beyond its expiry period, but also exceeds the number of trees specified in the permit (1.15.5.2). These activities inevitably contribute to environmental degradation. Threatened species like *Combretum imberbe* are fast approaching the endangered zone and most of the old growth *Combretum* species are already depleted in some parts of the study area (Plate 15b).

The *de facto* residents have, in the main, moved away from a traditional life-style and adapted to westernisation. The traditional fence, **rihlampfu**, constructed from tree branches, for instance, has been replaced by barbed wire fencing. Posts of Acacia species, however, are still largely in use (Plate 17). Most of their utensils are also western. Mozambican refugees on the other hand are still largely traditionalists, with virtually all their dwellings and other structures showing a complete adaptation to the natural environment as in Plates 5, 6, 8 and 11. Since they are scattered all over the study area, particularly the east, the impact on the natural vegetation in these areas has a serious telling effect.

8.1.4 Religion, magic and witchcraft

Cultural concepts with regard to religion, magic and witchcraft are of such a nature that plants and plant parts play a significant role in this regard.

8.1.4.1 Concepts of disease and healing

Although magic and witchcraft are deeply rooted phenomena in the Tsonga-Shangana, the perception is that the causing agents of many diseases and forms of misfortunes are largely in the sphere of the supernatural (2.4.2.1). Most common ailments such as whooping cough, smallpox, measles, colds, venereal diseases, etc, mentioned under 2.4.2.1 are all considered to be natural. For certain reasons, ancestral spirits may also send illness to their descendants. Diseases and illness caused by the agents mentioned above (nature and spirits) are easy to treat and may always call for the services of a traditional healer (cf. the treatment of a tormented baby under 2.4.2.1). The countering of witchcraft-inflicted diseases, on the other hand, calls for trained diviners and healers (2.4.1.1; 2.4.1.2) who know the secrets of harnessing magical forces in nature to heal diseases, break the powers of witchcraft, protect people and their property against witchcraft, purify ritually impure people, and to ritually strengthen the afflicted.

8.1.4.2 Medicinal needs

It is clear from Section 2.4.2.2 that the Tsonga-Shangana recognise two categories of medicines, i.e. medicines with organic healing properties and medicines that have a supernatural, magical working. The distinction between the two categories, however, is rather vague. In the case of the former category, medicines can be administered by any person. Many people know, for instance, that *Siphonochilus aethiopicus* (**Xirhungulo**) (Chapter 3, under *Zingiberaceae*) treats coughs and colds and any person can administer this. Some medicines like *Myrhothamnus flabellifolius* (**Vukabafile**) (2.4.2.2) have supernatural, magical properties and should be administered by a qualified diviner only. As mentioned by Fischer (cf. 2.3.1), although Tsonga medicines are derived from both the plant and animal material, most of the medicines are of plant origin. Out of the 200 randomly selected plant species, a total of 135 species (Table 36; 6.1; Appendix A) have medicinal value. This constitutes 67, 5 % of the total number of species collected.

8.1.4.3 Witchcraft and harmful magic

The number of people believing in the existence of witchcraft (94%) is very high among the Tsonga-Shangana. Their fear of witchcraft threatens their daily existence (2.4.1.2). The Tsonga-Shangana always walk with caution on footpaths and do not walk over suspicious looking objects or substances laid across the path, for fear of victimisation (2.4.1.2). While natural objects like stone, sand, etc. and fearful animals like skunks, baboons and hyena believed to be endowed with magical properties (2.3.2.3) are used in witchcraft, plant materials feature the strongest. In their natural state, these animals and objects cannot magically harm people until a plant substance has been applied by a knowledgeable person to harness these powers and be able to manipulate these animals or objects.

8.1.4.4 Modern concepts

In addition to traditional diseases, the Tsonga-Shangana are currently faced with modern diseases and their challenges which they have to contend with. These modern diseases include cancer, diabetes and HIV/AIDS (2.4.2.1), some of which are known to be medically incurable. Research among the Tsonga, however, shows that some people believe that **muthi** can cure almost all diseases (2.4.2.3) including cancer and HIV/AIDS. The Tsonga-Shangana who, however, believe that AIDS is curable are very few (12%) as shown in Table 20. Health authorities confirmed incidences where some patients who tested positively to HIV/AIDS tested negative in the second test (2.4.2.1). They, however added that when such patients are requested to come back for the third test and double checking, they simply disappear. A vacuum therefore is created and it remains to be investigated to get to the reality.

8.1.5 Utilisation of the flora

The Tsonga-Shangana's extensive reliance on plants to fulfil a wide range of needs renders these resources highly functional in their culture. Two hundred species were reviewed in Chapter 3. In Chapter 4 a comparison of knowledge of plant species and their uses by different categories of people show some variation in usage. The plants' pH-values were investigated (Chapter 3) to determine:

A). If the plant's pH level had an effect on its medical potency
B). If there were any correspondences between pH levels and diseases.

An investigation is required to determine why most of the species that are medium acidic are more preponderant that those falling in the more acidic and less acidic ranges (Table 28).

8.1.5.1 Knowledge about plants

It is indicated in Chapter 4 that the average knowledge of plants and their uses is quite high, thus rendering proof of the study group's firm adaptation to their natural environment (4.1). Evidently traditional healers have an edge over other categories and can rightfully be described as "indigenous botanists".

Traditional healers' mean knowledge (180.3) of plants is significantly different from the rest of the groups because of their daily association with plants. Males and females have almost equal chances of exposure to the natural environment in the fulfilment of their activities as outlined in sub-section 4.2.1. It is not surprising therefore that statistically there are no significant differences between them (168.2 for females and 163.0 for males). Because of the reasons advanced (4.2.1), the differences in mean knowledge between boys (95.7) and girls (87.6) is significant ($P<0.05$).

8.1.5.2 Medicinal uses

One hundred and forty three of the 200 plant species collected are used medicinally and magically (Table 30). This constitutes 71.5% of the total number of species collected. This research found that residents of the researched area use traditional medicine more extensively than bio-medicine. These findings are in line with those of Mander and Stanley on the rural South African black population (2.4.2.3). In all instances the percentage of people showing preference to traditional medicine is 80% and above.

The differences in the mean medicinal uses between the various categories are significant (4.2.2). As expected, traditional healers (89.7) are significantly higher than all other groups because their profession requires them to deal with medicine on daily a basis. The fact that females consult with traditional healers for their babies and themselves more frequently than men places them (females) in the second spot (48.4) to traditional healers with men in the third position (32.6). Statistically the differences between boys (18.8) and girls (17.5) are not significant ($P>0.05$) because both groups spend most of their time at

school and that they seldom become ill as compared to males and females. They therefore do not regularly consult traditional healers like the male and female groups.

8.1.5.3 Other uses

It is evident that no subsistence economy would be possible without the vast number of plant uses, particularly in the fields of economic life, technology, religion and health-care (Chapter 5). Uses other than magical and medicinal include food and beverages, flavourings, fuel, animal fodder, hunting materials, household utensils, rope and twining, entertainment, hunting tools, tanning, dyes, soap, shampoo, snuff, match sticks, divination instruments, insecticides and the provision of shade (5.1).

Surprisingly the difference in the mean uses of plants other than medicinal between traditional healers (75.6) and females (73.8) is statistically not significant ($P>0.05$) possibly because in many instances women (whether traditional healers or ordinary women) perform similar activities. It should also be borne in mind that male traditional healers perform activities usually done by women (4.2.3). The mean differences between boys (48.6) and girls (48.2) are not significant ($P>0.05$) because they have equal opportunity of exposure to their natural environment (4.2.2).

8.1.6 Ethnotaxonomy

The Tsonga-Shangana have their own way of describing, classifying and naming plants (5.2). The following are the salient features of this practice:

8.1.6.1 Indigenous classification

Generic Xitsonga names are used to classify certain groups of plants. The various categories of plants are trees (**mirhi**), shrubs (**swihlahla**), grass (**byanyi**), reeds (**tinhlanga**), vegetables (**muroho**), fruit (**mihandzu**), aloes (**timhanga**), weeds (**nhova**),

and bulbs (**rhanga**) (5.2.4). Tsonga noun classes, pronouns or the concordial elements are often used in nomenclature and classification of the flora (5.2.4).

8.1.6.2 Nomenclature

In the naming of some plants, cognisance is often taken of certain circumstances such as habitat, colour, season, similarities with other objects and actions taken during its use. **Nkuwa maribye** (*Ficus ingens*) which literally means 'fig stones', refers to a montane fig tree. The name therefore suggests that the plant grows in the mountains or hillocks. Colour of the plant also plays a significant role, e.g. **Nhlangula-ntima** (i.e.) black guarri for *Euclea natalensis*. Compared to its sister species, *Euclea divinorum*, *E. natalensis* is black in colour. An example of names based on season is **Bikanguva** (*Dombeya rotundifolia*), literally meaning reporter of the new season. This plant blossoms early in spring to signify the dawn of the new season. **Ximombo-nkayi** ('face of marula') is given to *Lannea Sweinfurthii*, which from a distance resembles the marula (*Sclerocarya birrea*). **Chochela-mandleni** (*Schotia brachypetala*) is based on action and use, whereby the flowers of the plant are shaken on the palm of the hand for the nectar (Chapter 3; 5.2.4).

8.1.7 Comparative study of medicinal uses

Over a long period of time, through trial and error, the Tsonga- Shangana developed an informal data-base of ethnopharmacological plant uses. One way of testing these uses is to compare them with other cultural groups in order to determine the results of independent experimentation by other people.

8.1.7.1 Results of the comparison

The 135 species that were identified as having medicinal uses in the research area were listed and compared with available data among the Venda, Zulu and Tswana (6.1). In some cases there is an absence of comparative data which indicate unique uses,

incomplete information on uses in the comparative groups, or the absence of the particular species in other habitats. Different uses suggest areas for further experimentation, while similarities are indications of successful therapies (6.2). It was found that 38 of the species have common ethnopharmacological uses among the Venda, 11 among the Tswana and 44 among the Zulu.

8.1.7.2 Shortlist for further testing

The following species have similar uses among at least three of the four groups, and therefore warrant special attention for laboratory testing of their healing properties:

Balanites maughamii	:	Protect homestead (Sh.,Ven., & Zul.)
Boophane disticha	:	Wound dressing (Sh., Ven., Tsw. & Zul.)
Breonadia salicina	:	Stomach and heart ailments (Sh., Ven., & Zul.)
Cleodendrum glabrum	:	Insect repellent and antidote (Sh., Ven., & Zul.)
Cucumis africanus	:	Purgative and enema (Sh., Ven., & Zul.)
Dichrostachys cinerea	:	Depressed fontanelle and stomach problems (Sh., Ven. & Tsw.)
Ekebergia capensis	:	Enema and emetic (Sh., Ven., & Zul.)
Jatropha carcus	:	Purgative (Sh., Tsw., & Zul.)
Lantana rugosa	:	Abdominal complaints and pains (Sh., Ven., & Zul.)
Sclerocarya birrea	:	Stomach troubles and malaria (Sh., Ven., & Zul.)
Terminalia sericea	:	Stomach pains, diarrhoea, dysentery and venereal diseases (Sh., Ven., & Tsw.)
Trichilia emetica	:	General body cleansing and enema (Sh., Ven., & Tsw.)
Ximenia caffra	:	Venereal diseases, eye inflammation and diarrhoea (Sh., Ven., & Tsw.)

Through further testing, indigenous medical knowledge can be corroborated by scientific research and promoted for commercial marketing and further usage.

8.1.8 Effects of plant utilisation

There are various detrimental effects of the indiscriminate utilisation of plants (1.10; 7.1). The following proved to be the most serious ones:

8.1.8.1 Clearing of land for settlement

Within a period of 54 years, the population of the study area had increased by 96.11% (525 490) as per Table 1 and Figure 1. The *de facto* population growth rate conjointly with the influx from Mozambique suddenly became exponential since the 1980s. It is common knowledge that land size is static and impervious to demographic dynamics. Population increase therefore always results in the decrease in carrying capacity. The carrying capacity per capita in 1950 was 5. 76 ha compared to the 0. 22 ha in 2004 (Table 2). The carrying capacity therefore, has, in a period of 54 years, decreased by 96.1%, i.e. 5,54 ha (1.10.1). As a result of the rapid population growth and the influx of people from outside (1.10.1), the need for more land for settlement with its consequential deforestation became inevitable. The upshot is the physio-graphic transformation of the area as described by the headman Mlambo (1.10.1).

8.1.8.2 Clearing of land for agricultural purposes

Land among the Tsonga-Shangana is cleared not only for settlement, but for agricultural purposes as well. In rural areas where subsistence farming is a prime factor, deforestation for agricultural purposes is an inevitable corollary of rapid population growth and influx of people from outside. Land is constantly cleared for traditional dry land farming (2.5.1.1), community gardening (2.5.1.2), modern dry land farming (2.5.1.3) and irrigation farming (2.5.1.4).

The fact that intensive agriculture can support population increases by more intensified use of the same piece of land (7.3) is not known to the Tsonga-Shangana who, instead, think that this is achievable only by increasing the size of the field.

The new and foreign method of cultivation on valleys and river banks introduced by the Mozambican refugees (7.3; Plates 18a & 18b) has a disastrous effect of destroying old-growth forests and second-growth forests which are the last vestiges of the vegetation. The destruction of vegetation on the other hand causes soil erosion and displacement of silt. The consequences of soil erosion, inter alia, the formation of gullies as illustrated in Plates 18a and 18b, are quite evident.

8.1.8.3 Cutting of trees for building and construction

Extensive use is made of timber for wooden frames of traditional mud huts, as well as the beams and wicker-work of the roofs (1.10.3). An average roof structure takes between 20 and 30 poles with more than 50 saplings whilst the wall structure normally requires between 15 and 20 poles (7.6.1; Fig. 8; Plate 22). To stabilize the entire wall, a massive 300 saplings of *Dichrostachys cinerea* are required (7.6.1; Fig. 8). To put it differently, volumes of plant materials are required to complete one structure. An average traditional hut structure for instance, requires about 1.118 m^3 of plant material to be accomplished (7.6.1). An average of 4 huts per homestead therefore requires 4.472 m^3. The **xitlati** and **dulu** on the other hand require 5.692 m^3 and 2.007 m^3 plant material respectively to be completed (7.6.2), while the fire enclosure will take up to 2.354 m^3 (7.6.3). The cattle enclosure and goat enclosure require 4.161 m^3 (7.6.4) and 0.333 m^3 (7.6.5) respectively. The fence requires a total material of 7.427 m^3 (7.6.6). A typical Tsonga-Shangana homestead therefore requires a massive total plant material of 23.092 m^3. The reliance on plant material is indicative of the people's adaptation to their natural environment.

Although the availability of timber and other building materials from hardware shops and wholesalers at Acornhoek, Greenvalley, Thulamahashe and Dwarsloop as well as some private shops (7.6.1) should logically serve as a relief to the continuous cutting of plant species, people still make extensive use of material from the bush, which is cheaper and readily available (Plates 5; 6; 17; 20 & 21).

Essential household utensils like mortars and pestles are carved from a variety of plant species (2.1.3). Other daily used utensils like wooden spoons, stirring sticks and bushels also come from plant material (2.1.3).

8.1.8.4 Effects of gathering practices

Gathering is an important activity in the life of the Tsonga-Shangana. A variety of fruits, insects, worms and small animals are collected by females, children and herdboys (2.5.4). The fruits of *Carissa edulis*, *Strychnos madagascariensis*, *Strychnos spinosa*, etc, are collected with virtually no damage to the plant because of the dangerous spikes serving as protection to the branches or because the dropped fruit is collected from the ground (2.5.4). Other collection methods, however, expose the plant to destruction. *Flueggea virosa* and *Euclea sp.* are the victims of this practice (2.5.4). The most detrimental method is the Mozambican practice of cutting off branches when collecting marula fruits (7.4).

Firewood in rural areas is still used extensively. The 70% estimation of people in rural areas as relying on biomass as their primary fuel for heating and cooking (7.6.7) is no exaggeration. Even where electricity is available, people in rural areas usually live in dire poverty and cannot afford to pay for the service. Cultural beliefs encourage the use of firewood where electricity is available. Traditional healers boil their medicine with firewood in the belief that this retains the efficacy of the medicine which is believed to weaken when boiled on an electric appliance (7.6.7). Electricity, therefore, is used to supplement firewood and not the other way round.

Collection of firewood for commercial use (7.6.7) has disastrous consequences. Resultantly, branches of live trees are cut off and piled at homesteads and finally sold to prospective buyers (7.6.7). Firewood collected and piled up in many households (Plates 2; 8 & 16) is cause for concern. The method of cutting off live branches from trees may sometimes cause the complete destruction of the plant as in Plate 15a. Incontrovertibly

the gathering of plant material for fuel is one of the factors playing an increasing role in the present environmental degradation in Bushbuckridge.

The estimated 75% and 80% of the world population relying on plant material for medicine is indubitably very high (2.4.2). A large amount of plant material for medicinal consumption becomes an inevitable corollary requirement. The observance of traditions and taboos by traditional healers associated with the collection of plants to prevent over-harvesting material (2.4.2) does not guarantee absolute protection of the plant against exploitation. Professional gatherers with less rigorous training than traditional healers and who usually come from outside, cause more destruction during harvesting of medicinal plants (7.7) than traditional healers. The scarcity of essential species and their strategic placement render them vulnerable to destruction (Plates 10a & 10b; 7.7). Harvesters remove the bark indiscriminately which may, at times, lead to ring-bark formation which usually leads to the demise of the plant.

8.1.8.5 Fires

Burnings or fires occur for a number of reasons; to clear the veld for hunting, to facilitate firewood collection and revitalization of the grass (7.5). Fires may be beneficial or detrimental depending on whether the burning is controlled or not. Controlled burning kills certain livestock parasites, stimulates the growth of palatable green shoots and also improves the quality of fire-resistant species like *Pappea capensis*. On the negative side, fires that are not controlled destroy the woodlands (1.10.5). Sometimes uncontrolled fires may destroy not only the vegetation, but human and animal life as well (7.5). Although the Lowveld forests are described as both drought-and-fire resistant, some degree of forest damage is nonetheless effected (7.5). Other species like *Diospyros mespiliformis* and *Trichilia emetica* have very low resistance against fire (7.5).

Crown fire, which is more destructive (Plate 9) also, has other consequences. The bare soil is exposed to the strong winds of early spring and heavy downpours that may occur

before the soil is covered with grass. The increase in erosion causes the soil to loose valuable plant nutrients and also lead to the formation of gullies.

8.1.8.6 Drought and overgrazing

To some extent, the effects of drought and overgrazing have resemblance to those of veld-fires. The highly inconsistent rainfall usually gives rise to considerable spells of dry weather. Droughts therefore, are quite common in the area, some of which have been given names for memorial purposes (7.8). Overgrazing, which is caused by factors such as plentifulness of livestock and uncontrolled uses of rangelands (7.8) is also very common. The 200% excess of livestock (7.8) shows clearly that the area is under severe threat of overgrazing.

Drought and overgrazing greatly contribute to soil erosion. The valuable topsoil is exposed to erosion and blown away by the August/September whirlwinds. Desertification and the formation of gullies ensue. Heavy downpours coming in the late spring or early summer usually uproot vegetation on the dongas or ravines.

8.1.8.7 Deforestation

Deforestation is largely a human factor, caused by the destruction of the natural environment. The thick forests of Edinburgh, Ludlow and Islington, which consisted mainly of *Carissa edulis*, *Strychnos madagascariensis* and *Strychnos spinosa* (2.5.4) have been invaded and destroyed for cultivation and settlement. The decline in the rate of fruit collection is to a greater extent, assigned to deforestation. Almost everywhere, bushes of *Euclea divinorum*, *Euclea natalensis* and *Flueggea virosa* have been cleared (2.5.4).

Places like Xanthia, Edinburg and Rolle had forests consisting of the beautiful *Bauhinia galpinii* (1.15.5.2). In some of these places, however, this species has been deforested in preparation for cultivation and settlement.

The practice of riverside cultivation by the Mozambicans which was ultimately adopted by the local residents impacts heavily on the old-growth forests and old second-growth forests, leaving the rivers and valleys deforested (7.3). A considerable amount of deforestation has been caused. The assertion by Mlambo that "the area was fearful because of the dense forests" (implying that it is now no longer fearful) and that "you can literally see the Bushbuckridge (town) from Welverdiend" (1.10.1), attests to the deforestation of the entire area.

8.1.8.8 Endangered and extinct species

Some species like *Terminalia sericea* are highly regarded for their durability and straightness of the wood. For this reason they are often in demand and over-utilised. The species either becomes endangered or extinct in the area. An example was cited of *Terminalia sericea*, which until the 1960s, before settlement in stands was abundant. The over-utilisation of the species renders them endangered (1.15.5.2).

Other species no longer exist in certain areas. In the Mnisi area for instance, *Balanites maughamii*, which is crucial and highly sought for its medicinal uses, is very scarce after being ruthlessly harvested (Chapter 3, Balanitaceae). Other species like *Zanthoxylum capense*, which are riverine, are indiscriminately destroyed during riverside clearing (7.3). Traditional headers strive to get this plant for medicine as implied in 7.3 when one traditional header comments that the species "is no more in this country". Other species identified as endangered include *Luffa cylindrica*, *Sesamum indicum* and *Lannea edulis* while species like **Mabirinja**, **Mapyanda** and *Eleusine corona* are locally extinct (7.6.7).

8.1.9 Systems of resource management

There are two systems of resource management:

8.1.9.1 Informal systems

The description of the vegetation of the Bushbuckridge area as *Acacia nigrescens – Sclerocarya* savanna (1.15.5.2) is indicative of the predominance of these species. It is common knowledge that the production rate of wild species is generally low and that they are vulnerable to human attack. Species like *Sclerocarya birrea* which is of little significance in terms of its use as posts and firewood is less used by humans with greater opportunities of proliferation. The collection and consumption of the fruits therefore are good measures to retard its productive rate.

The morphological structure of the plant may protect it against human invasion and natural disasters. The spike-like, dense branches of *Strychnos madagascariensis* renders it impenetrable by both humans and animals like baboons (7.9.1) which ensures that the plant is always intact. Its multiple stems and natural shortness also ensures that the plant is not easily uprooted by calamities like the gail force winds (7.9.1). Although the species is widespread throughout the area, its density diminishes towards the east (Chapter 3). There is therefore need to protect the species. Other species are protected by their biochemical properties. Plants with milky latex like *Spirostachys africana* are not only poisonous but they also produce excessive smoke and unpleasant smell if burnt (7.9.1). People therefore use such species as the last resort. Other species such as *Carissa*, have thorns which make their forests impenetrable.

Important medicinal plants as well as plants that are associated with death or ancestors are harvested with caution or regarded as untouchable. Such plants include *Hypoxis hemerocallidea*, harvested with care for its reputation in AIDS treatment, *Strychnos madagascariensis*, which is used as an ancestral shrine and *Ziziphus mucronata* which is avoided for its association with death (7.9.1).

8.1.9.2 Formal systems

Various measures were in place to curb land and environmental abuse. Government laws were enacted to enforce management and control of land resources (7.9.2). Species like *Pterocarpus angolensis*, which is widely used for medicinal and furniture purposes, are

protected by law while an important species like *Trichilia emetica* was widely grown by the Department of Agriculture and Forestry of the former Gazankulu Government (7.9.2).

Traditional authorities were empowered to issue licences to control the over-exploitation of species. Unfortunately these permits are abused to the detriment of plant species and the environment. Permit holders not only exceed the number of poles requested for but also use the permit beyond its expiry date (7.9.2).

There is inconsistency in the issuing of licences. In traditional areas like Mnisi, where the **tindhuna** are not authorized to issue licences, they regard themselves as not directly responsible for the protection of the natural environment. The **tindhuna** in general, together with civic members, see the issuing of licences as a form of oppression to the residents (7.9.2). Although Nature Conservation and Tribal Police Units remain loyal and active, without the support of the local **ndhuna** and civic units, they are rendered almost helpless. Residents continue to exploit the environment with little or no fear of reprisal. Examples of environmental abuse are shown in Plates 2; 6; 8; 10a; 10b; & 15a – 15e & 16.

8.1.10 Testing the hypotheses

The hypotheses that guided this study are the tentative assumptions that were explored by the collected data and interpretations of the research results (1.4). The research exercise was expected to have served the purpose of confirming, rejecting or modifying the hypotheses and theories in terms of which it was formulated. The following are the hypotheses and their reformulation in the light of the research findings:

Hypothesis 1: The culture of the Tsonga-Shangana community has its own value system and needs that will account for its economic and other needs. Conclusion: A review of the Tsonga-Shangana's origin and ethnic fusion (1.16.1, 1.16.2), as well as the salient features of their culture (2.1-2.5) indicates a unique set of cosmological ideas and cultural values which determine their social, economic and religious needs. These findings

confirm the anthropological principle of cultural relativity (1.3.3) i.e. that every culture should be evaluated and described only in terms of its own value system and culturally determined needs.

Hypothesis 2: The people adapt to their natural environment and exploit species of the flora selectively in terms of their needs. Conclusion: Confirmation was found for the theory of environmental possibilism (cf. Miller 1979: 196-7) which is based on the assumption that environmental factors limit the adaptive possibilities to a given culture but does not determine which choices should be made (1.3.1). The selection of possibilities is done in terms of the culture's own needs, values and perceptions. In a comparative study with the neighbouring Venda on medicinal plant uses, utilisation practices in 73.4% of the cases were different (6.2). Every ecosystem, in which cultural groups feature, is unique and should be investigated in terms of its own dynamics (1.3.2).

Hypothesis 3: Their knowledge of the flora forms the basis of an ethnobotanical system of classifying plants, being part of a more comprehensive ethnobiology. Conclusion: The biodiversity of the study area is classified in the terms or the perceptions and cultural values of the people who form part of the ecosystem (1.1). An indigenous classification system of plants was found (5.2.1-5.2.4), which, together with the plant uses (Chapter 3), constitute the unique ethnobotany of the Tsonga-Shangana in the Bushbuckridge area.

Hypothesis 4: The factors such as population increase, the increase in economic needs, as well as the expansion of trade, give rise to serious over-exploitation of the flora. Conclusion: A rising population density due to natural increase, as well as the influx of immigrants from Mozambique and elsewhere, place increased pressure on natural resources (1.10.1; 1.17.3). Over-exploitation and resultant environmental degradation become inevitable (2.5; 7.1-7.8). However, the extent and impact of over-exploitation in the study area is less pronounced than in certain neighbouring areas (7.1). Rising population figures and economic needs therefore, do not necessarily lead to the over-exploitation of resources, provided that appropriate resource management practices are followed and alternative means of fulfilling needs are pursued (7.9).

Hypothesis 5: As consequences of communal practices of exploitation, renewable resources are not afforded the opportunity to recover from the impact on them. Conclusion: The daily collection and over-exploitation of dead wood for fire (7.6.7; Plate 8) gave rise to the destruction of living trees to supplement firewood (Plates 15a – 15d). Although traditional healers collect medicinal plant products with the greatest sensitivity, professional herb gatherers who collect large amounts of *material medica* for economic gain, cause much destruction during harvesting (7.7). The cutting off of branches during the collection of marula fruits by the Mozambicans (7.4) is equally destructive. The invasion of old-growth forests for cultivation on river banks and valleys (7.3; Plates 18a; 18b & 19) causes extensive environmental degradation and deforestation.

Hypothesis 6: The traditional system of resource management may be completely inadequate to address the present problems resulting from maladaptation. Conclusion: The inability of tribal authorities to maintain the **ku losa** practise whereby foreigners were supposed to report their presence to the local **hosi** and obtain permission to collect limited medicinal plant material as well as the laxity of the **tindhuna** to punish perpetrators and their attitude that wood is plentiful (7.9.2) render them ineffective to curb over-exploitation.

Hypothesis 7: Regional and national strategies to manage, preserve and protect natural resources are also inadequate and should be reconsidered. Conclusion: Nature Conservation acts are often ignored, permits to collect wood usually abused, and fines and other measures imposed (7.9.2) are not commensurable with the destruction rate of the natural resources.

8.1.11 Contribution to indigenous knowledge

The study confirmed the relevance of indigenous knowledge systems, which include ethnobotany, as major cultural knowledge systems that enabled people to survive economically throughout many centuries (1.3.3). Indigenous knowledge (IK) explains the way in which people understand themselves in relationship to their natural

environment, and how they organise that knowledge to enhance their lives (cf. Warren et al. 1995: xv).

Through the association between soil type natural vegetation the Tsonga-Shangana are capable of identifying the type of crops to be cultivated in their more suitable soil. The **Xisefa** soil favoured by *Terminalia sericea* for instance is known as more suitable for the cultivation of *Vigna subterranea*. The **Xidaka** (clayey soil) which is usually favoured by *Acacia nigrescens* is regarded as more suitable for the cultivation of *Zea mays*. **Hondzosi** (red soil) is commonly recommended for the growth of *Arachis hypogea* and *Vigna unguiculata*. **Ntlhava** (sandy soil) which is predominantly favoured by *Acacia exuvialis* is generally believed to be barren and not quite suitable for agricultural purposes (1.15.5.3).

Knowledge is a universal resource but it is diverse and varied. It is culture specific, generated within communities, and also dynamic as it is based upon innovation, adaptation and experimentation. Odora Hoppers (2002: 9) rightfully says that IK is a cultural heritage and resource that should be protected, promoted, developed and conserved. It should be put to the service of present and succeeding generations.

The present study is an effort to contribute towards the documentation of important aspects of the Tsonga-Shangana's indigenous knowledge. In this way their IK is recognised as an intellectual property right, it is protected against further erosion, the conservation of the valuable natural resources could through follow-up actions be promoted, and their potential for extension and even commercialising is emphasised.

8.1.12 Ethnobotany and development

The conservation, extension and commercialisation of plant resources are important aspects of development that warrant more attention (1.11). The findings of this study concur with the view of Alcorn (1995a: 11) who says that ethnobotanical knowledge can be used to improve the livelihoods of people, especially in marginal areas. Scarce and

endangered species can be re-established to make larger contributions in providing for technological, dietary and medicinal needs. This resource can also be expanded for commercial use outside the tribal areas.

8.2 Recommendations

The aim of the study is not to determine the extent of environmental degradation in the research area per se, but to highlight the usefulness of plants to both people and animals. The utilization of these natural resources by humans and animals in their quest for satisfying their basic and derived needs inevitably give rise to environmental degradation.

To minimize the impact on the environment, the following recommendations are proposed:

8.2.1 Environmental education

Deforestation in the Bushbuckridge area is generally attributed to demographic pressure and related effects. These include increases in: demand for land cultivation; livestock population; and use of the remaining forest to meet growing needs for fodder, firewood and timber (Aumeeruddy – Thomas et al., 2004: 1). Added to this is the demand for settlement where even big trees like *Diospyros mespiliformis* have to be removed for settlement purposes. As a matter of fact, the need exists to instill conservation attitudes in the local people to ensure that woodland resources are available for the future (Makhado: 2007:83). Part of the need is environmental education. As stated by the American ecologist, Girrett Hardin, quoted by Viljoen, a citizen of the modern world must be educated to be literate (able to read and write), and to be 'numerate'(able to understand and use numbers), and to be 'ecolate' – able to understand and use sustainably the complex environmental systems of which he/she is a part (1996:8). The latter aspect is our main focus. It must be understood that environmental education not only includes learning for the sake of pure learning but also encompasses very practical purposes of

learning how to manage and improve the relationships between human society and the environment in an integrated and sustainable way.

As mentioned by Makhado (2007:90) that the Community Development Section, under the Department of Economic Development, Environment and Tourism in the Greater Giyani Municipality, provides community leaders with training and environmental knowledge to transfer information back to their respective villagers or constituencies, this practice also exists in the Bushbuckridge Municipality. Unfortunately, not all villages are represented. As such environmental education fails to reach all villages.

The importance of environmental education cannot be over-emphasized. It came to the realization of the author during field-work that the people in the study area are usually not aware that their habitat is a relatively limited asset and they cannot afford to continue unbridled utilization of their resources at a rate bordering on wasteful exploitation. They need to be educated about the seriousness of the problems of over-population and environmental abuse. The success of this initiative can be achieved through workshops, public speeches and environmental awareness programmes, organized by environmentalists who are, unfortunately very few and not sufficient to cover the entire area.

8.2.2 Joint management system

As stated by Cunningham and Shanley, (2001:1) the term 'natural resource management' is misleading, for it entails more about people than natural resources. In this regard, Malhotra et al., in People and Plants Working Paper (1999:25) quoted an anonymous author (1972) that "effective forest protection is possible only through the co-operation of the local people and by meeting the needs of the local population without loosing sight of the ultimate aims of scientific forest management in the country. The idea of 'Joint Management of 'Forest' (JMF) was mooted as revealed by the recommendations made to the Government of West Bengal". Part of the local forest protection committees with

suitable recognition and conferring powers of honorary forester on members and such other concession as may be made available (Malhotra 1999:25).

The project described above was launched in India. Similar projects were launched in Uganda and Nepal (Malhotra, 1999:25-27). In all instances the Joint Management Systems proved to be a success. Projects of this nature could also be launched in the Bushbuckridge area.

It has been stated that the project launched in a cluster of 11 villages in India for instance, gained an overwhelming success which inspired neighbouring areas and increased support from the Forest Department and NGOs (People and Plants Working Paper, 1999:25). Anthropologically, the principle of diffusion is that the spreading of cultural elements, ideas, etc. does not require any agent. The gradual spread (diffusion) of the Joint Management programme to neighbouring areas takes place without the involvement of a third party. This process resolves the problem of the inadequacy of staff or project leaders.

8.2.3 Permit system

The use of permits to harness woodland resources exists in all four Traditional Authorities as indicated in the previous chapter. The results of the use of permits in the Traditional Authorities show a general failure. The implementation of the permit system was found not to be effective enough for ensuring sustainable woodland use due to various factors (Makhado: 2007:83). These included inadequate numbers of rangers to enforce the system, a large population in relation to resource availability, a high rate of poverty (op cit, loc cit), the laxity of the **tindhuna** and other structures to ensure the effective use of permits and the use of permits beyond their expiry date (Section 7.9.2). Another reason for violating the permit system as mentioned by Makhado (2007:83) is that the demand for firewood outstrips the production of dry wood by far.

The issuing of free of charge permits in the Mnisi and Amashangana authorities and R5 in the Hoxani and Jongilanga authorities as well as the R25 permit for poles, posts and timber across traditional authorities is too little. Makhado mentions that a study by Cocks in the Eastern Cape indicates that if the price of permits is low, it encourages over-utilization of resources (2007:83-84). To improve the effectiveness of the current permit system, the following strategies are suggested:

- Although poverty is the order of the day, electricity in rural areas is much cheaper than in urban areas. All villages in the entire region of Bushbuckridge have been supplied with electricity. Timber and other building material are also available in the local hardware shops. For these reasons, permit prices to harvest wood should be increased.

- The sympathetic attitude of the **tindhuna** and other structures should be changed to encourage them to effectively impose punitive measures to residents who violate the permit system.

- Appointment of villagers to monitor and report any infringement of the permit system within their jurisdiction (Makhado, 2007:84). This exercise can also be undertaken by an election of a Joint Forest Management (JFM) Committee.

- Village environmental committees like the JFM, traditional councils and conservation agencies should regularly view and revise the permit system (Makhado, 2007:84).

- Traditional healers should also obtain a permit to harvest medicinal plants. It is incredible that traditional healers charge exorbitant fees for medicine which they obtained without any fee.

- Money generated from permits should not benefit the traditional leaders only (as is the case currently) but should be utilized for the development of projects like

educational programmes, community projects and the creation of eco-tourism projects that will benefit the community as a whole and not just an individual.

8.2.4 Population and Agricultural management.

The high level of dependency on natural resources such as medicinal plants for health care, firewood, and fodder resources for livestock rearing give rise to deforestation. Mander et al. 2005) cites the slow employment growth rate, the influx of foreigners seeking (and of course those permanently settled in places like Bushbuckridge) the limited resources of the government to service primary health care and the strong cultural attachment by many community members to traditional medicine results in a rapidly increasing use of indigenous plant products. It is difficult to implement birth-control to the unlearned, particularly in rural areas. The wide-spread concept of 'protected sex', for the prevention of HIV/AIDS should indirectly promote birth – control. Instead the poverty and child support grant encourages young girls to have more babies. Child grant is envisaged by the unemployed young women as a means to obtain money for sustenance. Unemployed parents receive a monthly grant of R200.00 for every child below the age of 14 years. No limit for the number of children receiving grant per parent has been placed. Only foster – parents could receive grants of up to 6 children, which is still a big number (D.R Shilubane - pers. communication, 04 June 2007). This type of situation inevitably encourages people, particularly unmarried young women, to bear as many children as possible at brief intervals.

In rural areas, cattle or livestock rearing gives prestige. The social standing of a person is determined by the number of livestock he/she is having. Livestock rearing, particularly cattle, is for status rather than economic gain. The desire for status inspires people to keep excessive livestock. Cattle owners should be convinced that cattle should be reared for economic benefit. For this reason it is not the quantity that matters but quality. Owners therefore should be taught how to manage fewer cattle for quality. Understanding of the problems of over-population and overstocking and the effects they have on the natural resources is imperative. This could be achieved by organizing workshops and also

through the media. These means have proved to be effective. In the recent past, many people regarded AIDS as either non-existing or as a disease for white people. This mindset has changed through workshops and media talks.

8.2.5 Sustainable use and understanding of indigenous plant cultivation

As stated by Mander, (et. al 2005) the demand for traditional medicines and other plant products continues to grow in South Africa. The increased demand for plant products results in a greater harvesting intensity being placed on the remaining plant resources. This situation is illustrated by the localized extinction of popular medicinal and craftwork plants in Bushbuckridge. Numerous species are no longer found on communal lands. Harvesting pressure for **Mpetso** or **Mbhetsa-nhlaya** (*Acridorpus natalitius*) and **khala** is so intense that these species have become extinct in the communal areas of Bushbuckridge. **Mbhetsa-nhlaya**, commonly used to vitiate opponents in court is currently only found in the adjacent white farms like Guernsey and Sundringham. Workers from these farms usually collect these plant species in *sub rosa* for the fellow community members who need them. Only a relatively few traditional healers have small ethno-botanical gardens. More traditional healers should be encouraged to have ethno-botanical gardens where they can cultivate indigenous plant species, particularly those no longer found in the communal lands. They should also be freed from the belief that cultivated plants are less efficacious than natural plants in the veld.

8.2.6 Protection against veld fires

It is very common to have fires sweeping through most of the indigenous forests of the study area during dry seasons. The main problem with these fires is that it is not known what impact the fire has on some of these plant species. It is, however, known that fire enhances the growth of certain species while inhibiting the growth of others (Matsebula, 1993:27.)

The enhancement of these species depends largely on the time of burning. This was demonstrated in the 1933 and 1934 establishment of the Ndola Burning Plots in Zambia (Malaya, 1993:149). The aim was to study growth and girth increment under different burning treatments. Some plots were under complete protection, others on annual early burning (May – June) and the rest on annual late burning (October). It was established that in complete fire protection, the canopy is maintained at the expense of the understorey and ground flora and that growth rate is enhanced. Annual early burning preserves the original woodland with a slight increase in stocking of canopy and understorey trees. Regeneration of the canopy species increases slightly while the grass flora does not change. Annual late burning, however, reduces the stocking of the canopy trees, decreases rate of growth, favours the growth of some of the understorey and undergrowth species as long as they survive, causes grass change from the weaker woodland grasses to the coarser grasses and above all, it encourages sheet erosion. In 1973, 40 years after the establishment of the plots, changes in treatment of these plots were imposed. Some of the plots in late burning were converted to early burning or complete protection. The plots previously under late burning started recovering under early burning or complete protection (Malaya, 1993:149).

The people of the study area do have some idea that veld fires do stimulate the growth of vegetation. What they do not know is the auspicious time of burning. Sound responses were given by the respondents why annual late burning was regarded by them as the best treatment as shown under Section 7.5. Scientifically, however, this is the worst treatment. This mindset can be corrected by organizing workshops or posting signs prohibiting early burning i.e. burning in early winter. Such signs could be posted at strategic places like roads, schools, markets and shops where people can see them every day. Knowledge about the disadvantages of late burning for instance may encourage people to try and extinguish fires occurring late in September or October rather than watching it with appreciation.

Concluding statement:

The study should not be misconstrued as designed to determine the amplitude of environmental degradation in the selected areas of Bushbuckridge. The critical issue was to explore the Tsonga-Shangana's adaptation to their natural environment. Adaptation in this context largely implies utilisation of plant species by the Tsonga-Shangana for their sustenance. In the process, however, environmental degeneration becomes inevitable. The study therefore highlights this portentous actuality. The challenge facing the Tsonga-Shangana is whether they are capable to control the environmental degradation as it unfolds; or do they want to wait until the last tree has been cut and the last available land/space has been cultivated that only then will they begin to realize that it is not the pecuniary means alone that is essential but that the most fundamental requirement for their survival is their natural environment. How capable are the Tsonga-Shangana to protect this basic necessity? This is food for thought!

Glossary of miscellaneous terms used in the study (Glossary B)

*Note: An asterisk * indicates that the word is defined elsewhere on the list.*

comani (macomani) : a hemispherical or round shallow frame drum with one pegged membrane played during the Nguni spirit possession (see Plate 7).

dulu (madulu) : a grain store consisting of a small woven basket, made from young saplings, usually of *Combretum hereroense*. The structure has a grass roof of *Themeda triandra* or *Heteropogon contortus*.

guma/ *xivava/ * xitanga (maguma/ swivava/ switanga : cooking structure, made from poles placed in pairs. Saplings of *Dichrostachys cinerea subsp. nyassana* are packed in between the pairs. Structure is either round or square. Walls may be plastered with mud, in which case the roof is thatched with *Themeda triandra* or *Hyparrhenia hirta*. Wall may also consist of reeds of *Pennisetum glaucum* or *Phragmites mauritianus*.

ganga/ muganga (maganga/ miganga) : long ridge; plateau; districts; area ruled by a * **ndhuna** (Cuenod, 1982: 40).

heza khee! : to be in accord with divinatory bones or Nguni spirits (see also * **savuma**). The phrase is shouted when the Ndau spritsare divining to show agreement with what they are saying.

hosi (tihosi) : traditional leader, formerly called chief or tribal leader.

kangi/ joko (makangi/ majoko) : a wooden bar used for joining two animals together, especially cattle, in order to pull heavy loads (see Plate 1b). The wood is usually of *Combretum hereroense*.

kokwana (vakokwana) : grandparents or ancestors. Ancestors are also referred to as **va le hansi**, i.e. those of underworld.

mahewu/ madleke (no plural form) : light unfermented beer made from cold porridge mixed with water. Grounded *Sorghum bicolor*

may be added. The mixture is drunk the following day by a working team.

malayini
(No singular form) : settlements in rural areas with streets, where many people stay or live together. They are also known as stands.

mbhakanani : *Aloe zebrine*

mbhakanani game : a game played by herdboys from the broken pieces of *Aloe zebrine* leaf pad. The pieces are picked one by one with the thorn of *Flacourtia indica*.

mhamba (timhamba) : an offering of animal or food in ritual, sacrifice, amulet, or charm (Cuenod, 1982: 104).

mhandze (timhandze) : pole

mhlanga (mhlanga) : hollowed internode of *Phragmites mauritianus*

miri (miri) : body

mfuma or nkwakwa
(No plural forms) : grounded dry fruit pulp of *Strychnos madagascariensis*.

mongo (timongo) : kernel of *Sclerocarya birrea*.

moya (mimoya) : soul, wind, air, epidemic.

mpepo (timpepo) : whistle made from *Phragmites mauritianus*.

mukhusu (mikhusu) : dehydrated vegetables of *Vigna unguiculata*, *Momordica balsamina* or *Cleome gynandra* made by boiling and drying, preserved for winter use.

murhi (mirhi) : tree, plant or medicine.

ndhuna (tindhuna) : headman.

ndhumba (tindhumba) : hut for spirits of **Vandzawu (Ndau)**.

ndawuwe! : an interjection to greet the **Ndau** spirit or to be in

accord with them.

ndzeyana (no plural) : flock of birds nesting together in some *Acacia* species, especially *Acacia nigrescens*.

ngati (ngati) : blood, disease or sickness.

nghunghu (tinghunghu) : conical or kettle drum with one pegged membrane played for Ndau spirits. Between 2 and 5 drums are played at a time.

nhunguvana (tinhunguvana): very small calabash, shaped like an 8, used to store powdered medicine.

nkombe (minkombe) : a laddle or wooden spoon, usually carved from *Combretum hereroense*, *Gymnosporia subsp. Pterocarpus angolensis* or *Elaeondendron transvanlense*.

nqhombo (tinqhombo) : large wooden bowl.

ntlhamu (mintlhamu) : snare trap with bent sapling and noose. The saplings of *Grewia subsp.* and *Mystroxylon aethiopicum* are highly preferred.

ntumbuluko (no plural) : the creation, cosmos, nature, origin, old custom (Cuenod, 1982:146).

nyamusoro (vanyamusoro) : diviner who smells out witches.

nyoka (tinyoka) : snake; womb

phandze (swiphandze) : tri-furcated pole implanted in the ***ndhumba** hut.

rifeto (timfeto) : stick for stirring porridge. It is usually made from branchlets of *Gardenia volkensii* or *Breonadia salicina*.

rihlelo (tinhlelo) : large winnowing basket, usually made from *Acacia ataxacantha*.

rihunyi (tihunyi) : firewood.

rimbalelo (timbalelo) : trusses usually made from the long saplings of

Acacia hereroense and *Grewia subsp.*

rithangu/ rihlampfu : traditional fence/ barricade of branches not dug into ground.

sangu (masangu) : traditional mat for sitting or sleeping on. Term also refers to an entrance or gate.

savuma! : interjective expression showing to be in accord with either the divinatory bone revelation or Nguni spirits

thwasa : a coming out afresh after a temporary absence or disappearance; applicable particularly to the moon. Also implies to a diviner novice who, on having completed her period of instruction with an experienced diviner, reappears in public revealing divinatory abilities and is officially acknowledged as full-fledged diviner. The entire process is also called **ntwaso** (see **ntwaso** medicine).

tihove (tihove) : stiff traditional porridge cooked from the mixture of crushed maize seed, African ground nut with grounded peanuts used as a condiment.

timitsu (rimitsu) : roots; medicine.

tova : pinch; sending illness to a child by ancestors.

tshanga (matshanga)/ xibala (swibala): cattle enclosure constructed from hard wood of *Combretum imberbe*, *Albizia harveyi*, etc.

tshopi (tshopi) : porridge of pumpkin and maize flour.

valoyi (noyi) : witches (baloi).

vukanyi (vukanyi) : marula beer.

xibala (swibala) : see **tshanga.**

xica (swica) : round basket, with bottom of interwoven flat pieces of *Acacia ataxacantha* or *Bambusa virgatus*.

***xigugu (swigugu)** : thick paste of roasted maize and groundnuts

stamped together and mixed with honey or sugar.

xigume (swigume) : ground roasted maize and groundnuts in powdered form. If it is in a paste form it is called ***xigugu**.

xihlungwa (swihlungwa) : crown, peak, of hut roof.

xihwehwe (swihwehwe) : hollowed out *Strychnos madagascariensis* or *S. spinosa*. A slightly bigger hole is made in the hollowed fruit shell with two smaller ones just below the main one.

xikutsu (swikutu) : small calabash used to contain *Ricinus communis* oil. A shelled *Zea mays* cob is used as a plug.

xipayoni (xipayoni) : african distilled liquour named after the bitter taste of *Pappea cappense*.

xirhitsa (xirhitsa) : satay sauce made from grounded peanuts. Sauce used as replacement for potherb or meat.

xendlivomu (xendlivomu) : green maize boiled on the cob and dried for later use.

xikwembu (swikembu) : God; gods; ancestors.

xindzhuti (xindzhuti) : spirit; dignity.

xiphandze (swiphandze) : forked stick or small stick in the shape of a Y with a thin band of rubber fastened over the ends.

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Plate 1 a:
A freshly collected *Sclerocarya birrea* fruit heaped in a pile. The sharp-pointed bones called **swirhumbulo**, used to pierce the marula fruit are placed on the pile.



Plate 1 b:
The tired looking women have just come back from the veld with a heap of *Sclerocarya birrea* fruit in a sack. Behind the women on the right is a heap of marula fruit covered with grass to precipitate ripening while the heap by her legs are ready to be pierced. Pair of modern yokes, **kangi** and plough is leaned against the *Sclerocarya birrea* which is used as a family ancestral shrine.



Plate 2:
Women piercing and extracting marula pips near a pile of firewood.

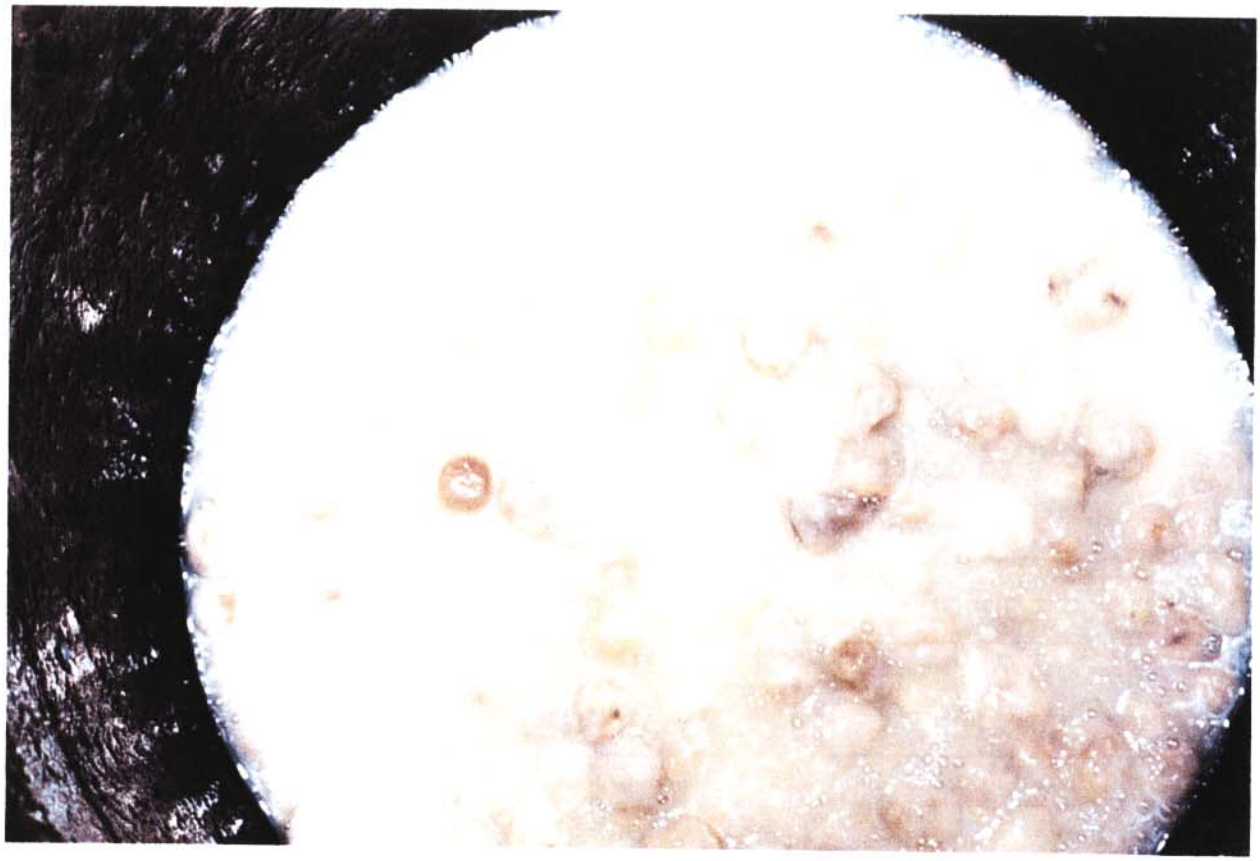


Plate 3:
Marula beer still in process with juice not yet separated from the pips.

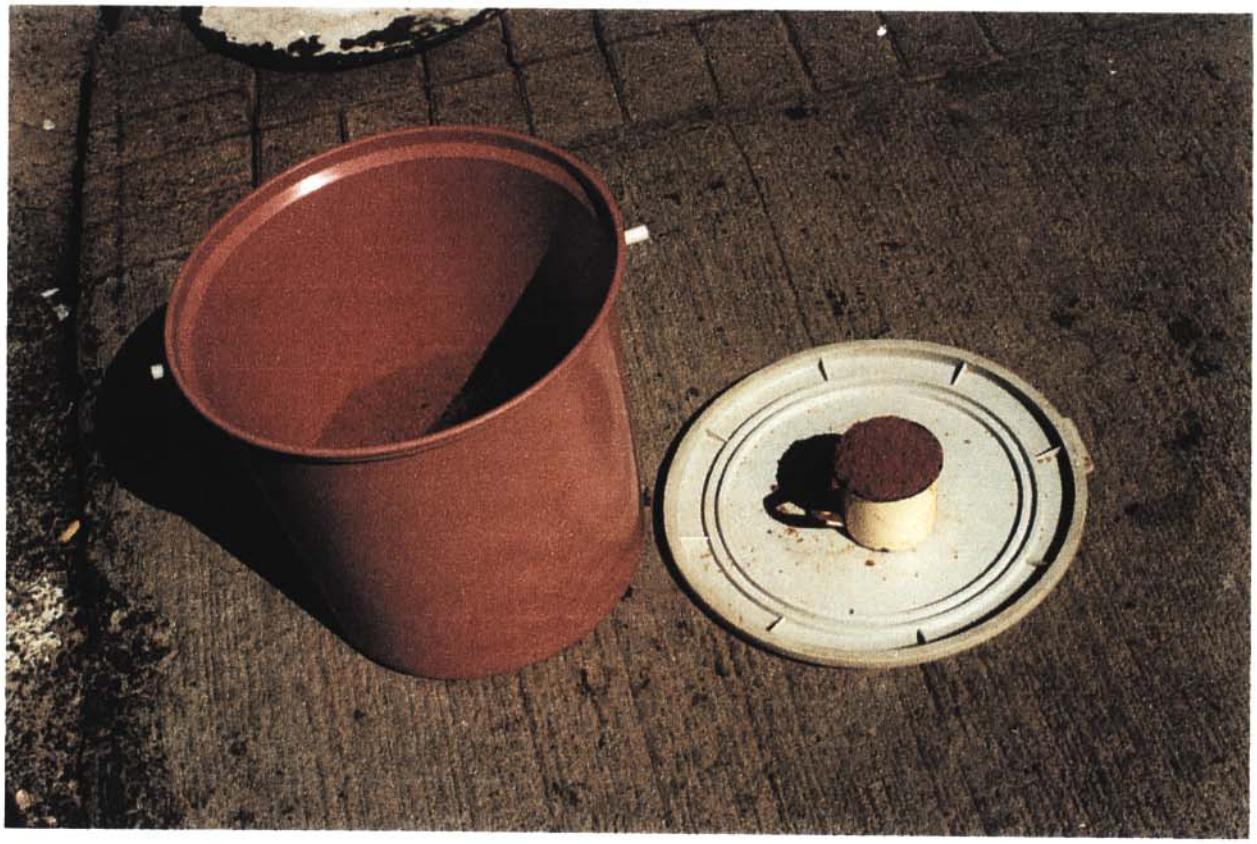


Plate 4:
A bucket containing **mfuma (nkwakwa)**, product of *Strychnos madagascariensis* fruit.



Plate 5:
A typical maize granary (**xitlati**) thatched with *Themeda triandra*. The elevated base is obscured by the roof. The granary is also used as a shed for household utensils.



Plate 6:
A typical cattle kraal constructed from *Combretum imberbe* and *Albizia harveyi.*



Plate 7:
The **macomane** drums placed against the wall inside the **ndhumba** hut showing both the upper and lower parts.



Plate 8:
A Mozambican refugee pushing a wheelbarrow filled with firewood of different plant species.



Plate 9:
Trees and grass devastated by crown fire.



Plate 10 a:
Adansonia digitat stem showing fresh and old harvest marks caused by **muti** seekers.

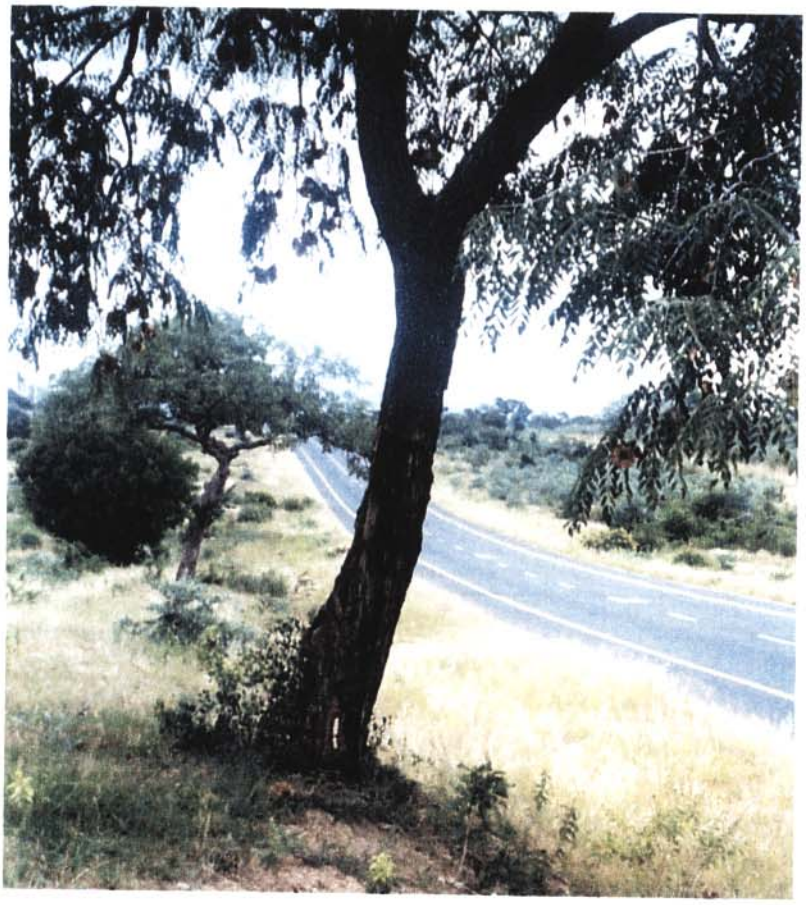


Plate 10 b:
Pterocarpus angolensis with harvest marks where travelers and passers-by Have removed the bark.



Plate 11 a:
N'anga Piet Mahanuke looks at his ethno-Botanical garden.



Plate 11 b:
N'wa-Robie Masuku dressed in the modern day traditional healer's attire stands next to an *Adansonia digitat* that she has planted at her Homestead.

Plate 12:
N'wa-Robie slicing medicinal roots with a hack-knife.

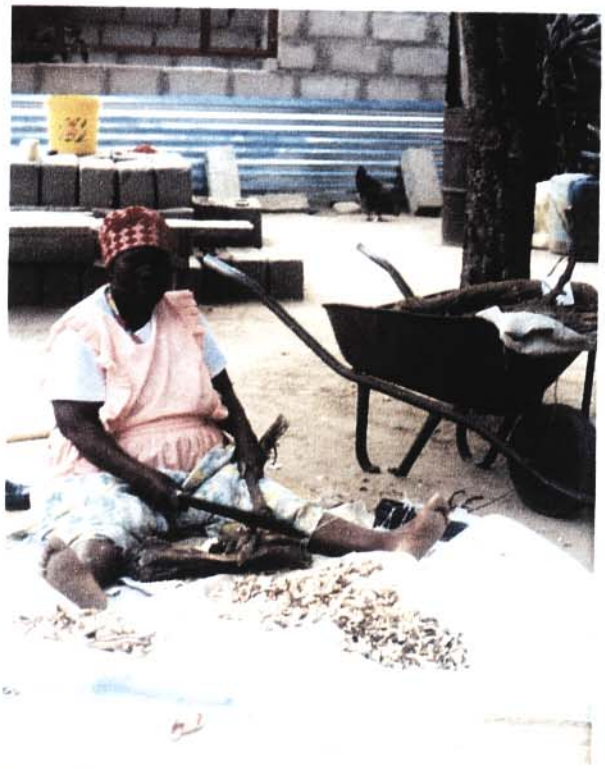




Plate 13:
The author, his son Nhlanhla and Mahanuke sitting inside the **ndhumba** hut.
Shoes are not allowed inside.



Plate 14:
The dispensary of medicine in the **ndhumba** hut.



Plate 15 a:
Some trees like this *Acacia* species can not overcome the effects of cutting branches for firewood and dry up outrightly.



Plate 15 b:
Other tree species like this *Terminalia sericea* can overcome the effects of branch cutting and regrow.



Plate 15 c: *Diospyros mespiliformis*

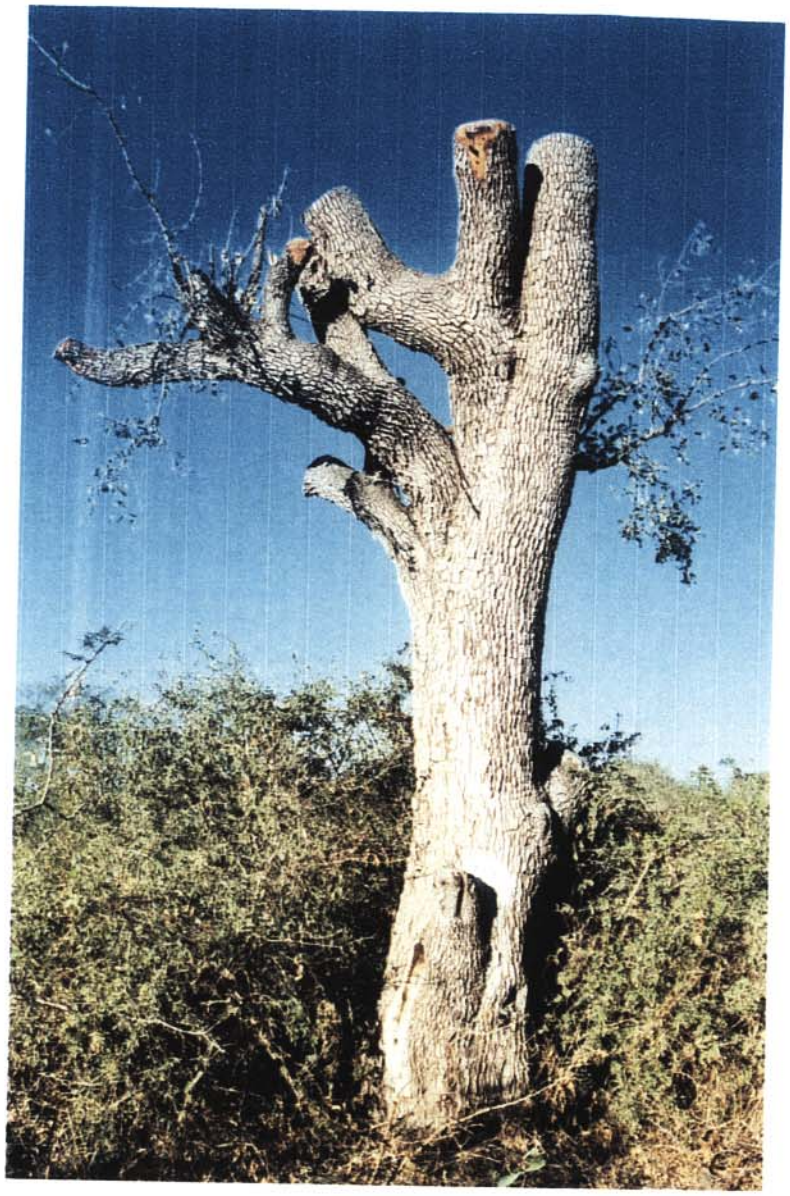


Plate 15 d: *Combretum imberbe*

The branches of these two important species have been cut off by firewood gatherers without any pang of remorse.

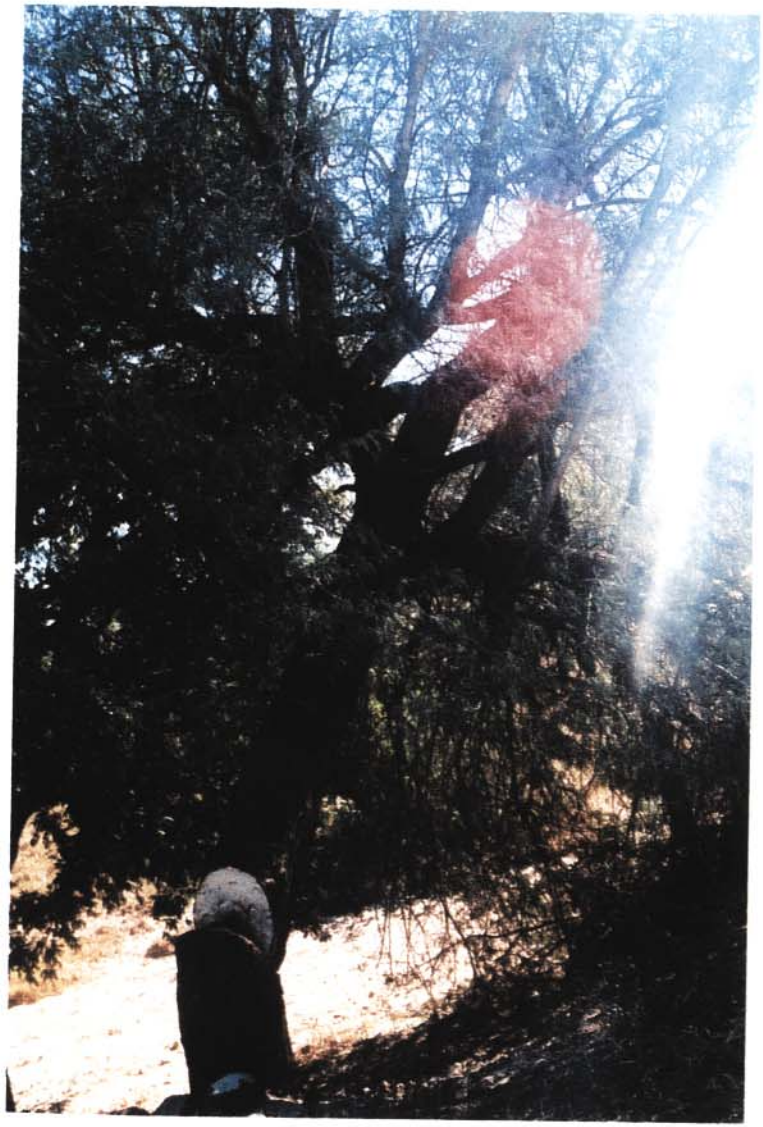


Plate 15 e:
Residents can fell down trees without any fear of reprisal. On Sunday afternoon, 02/07/06 the researcher found three men at Gottenburg cutting down this Acacia tree with a chain saw. The men have not been

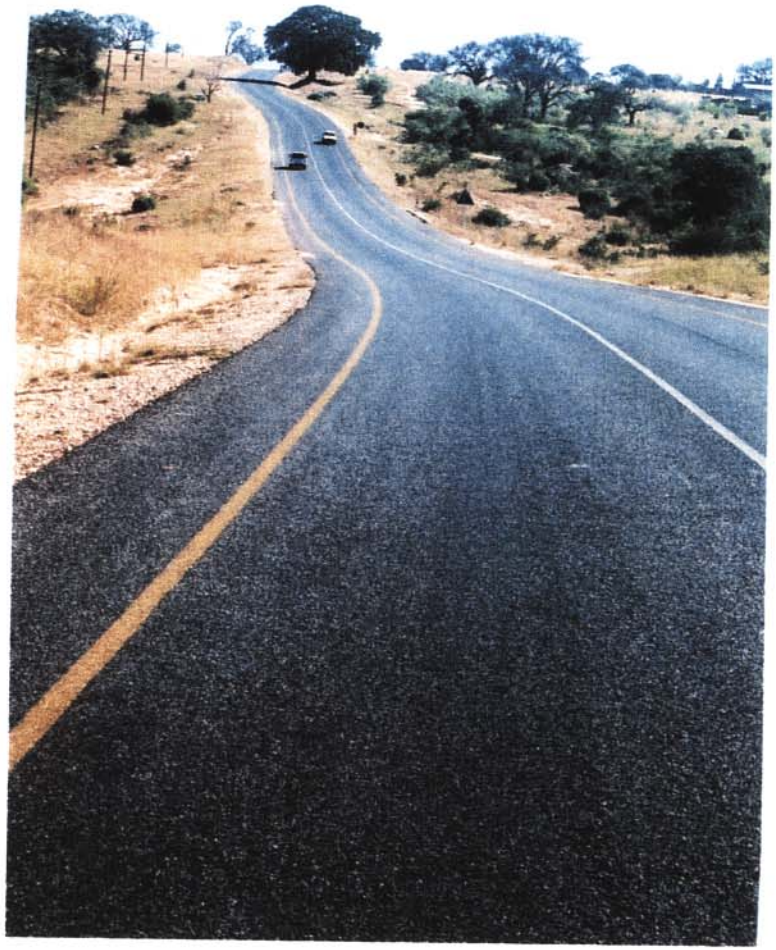


Plate 15 f:
Land surveyors have attempted to preserve this *Ficus Stuhlmannii* by making a detour.



Plate 16 Branches of trees are often cut and stacked at homesteads.

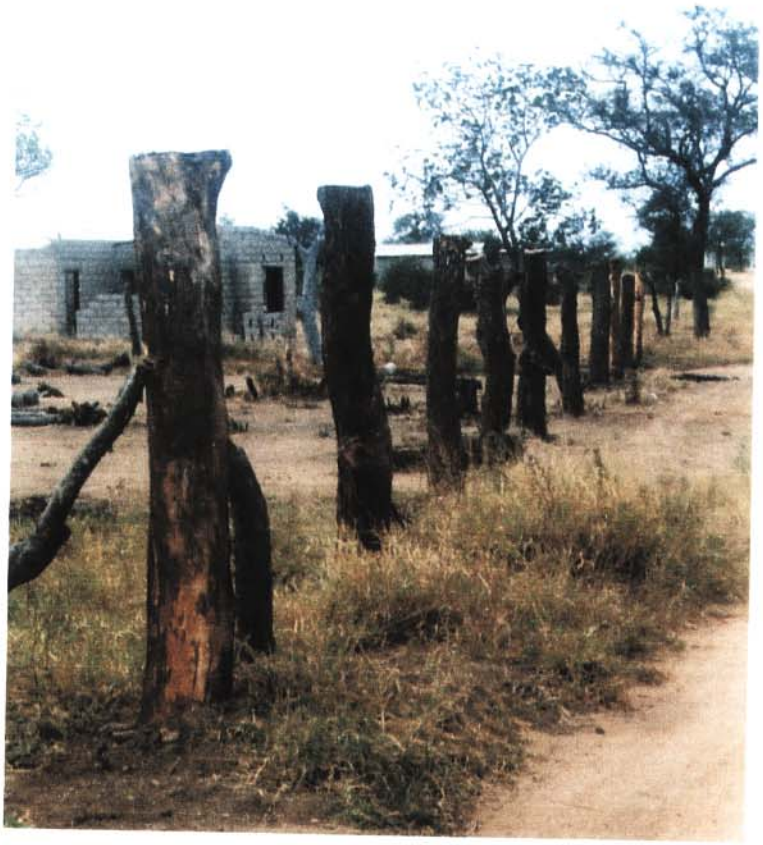


Plate 17

Many homesteads at places like Thorndale, Gottenburg and Utah are fenced with posts of *Acacia Nigrescens.*



Plate 18 a: River bank cultivation often causes the formation of dongas as in the two pictures



Plate 18 b:



Plate 19
River bank cultivation inevitably causes complete destruction of the relict old-growth forests.

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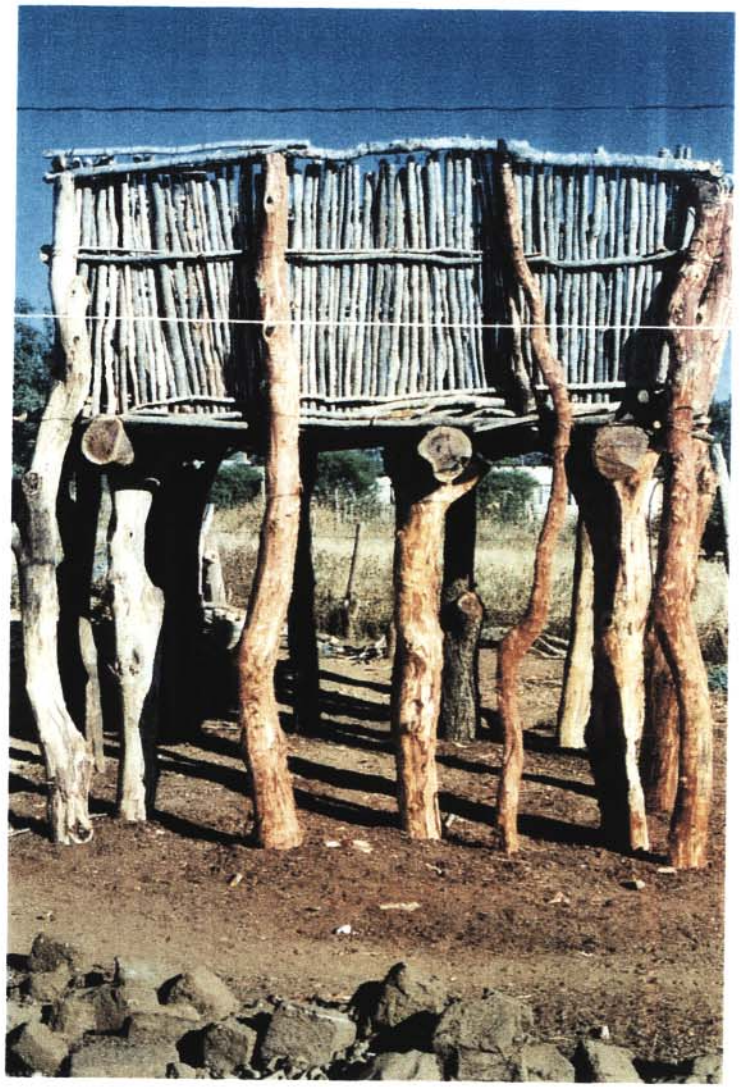


Plate 20 a:
The construction of large granaries (**switlati**) requires big and durable poles of *Acacia* and *Combretum* species. The maize basket above is fenced with dropped poles of *Combretum hereroense* and *Terminalia* species.

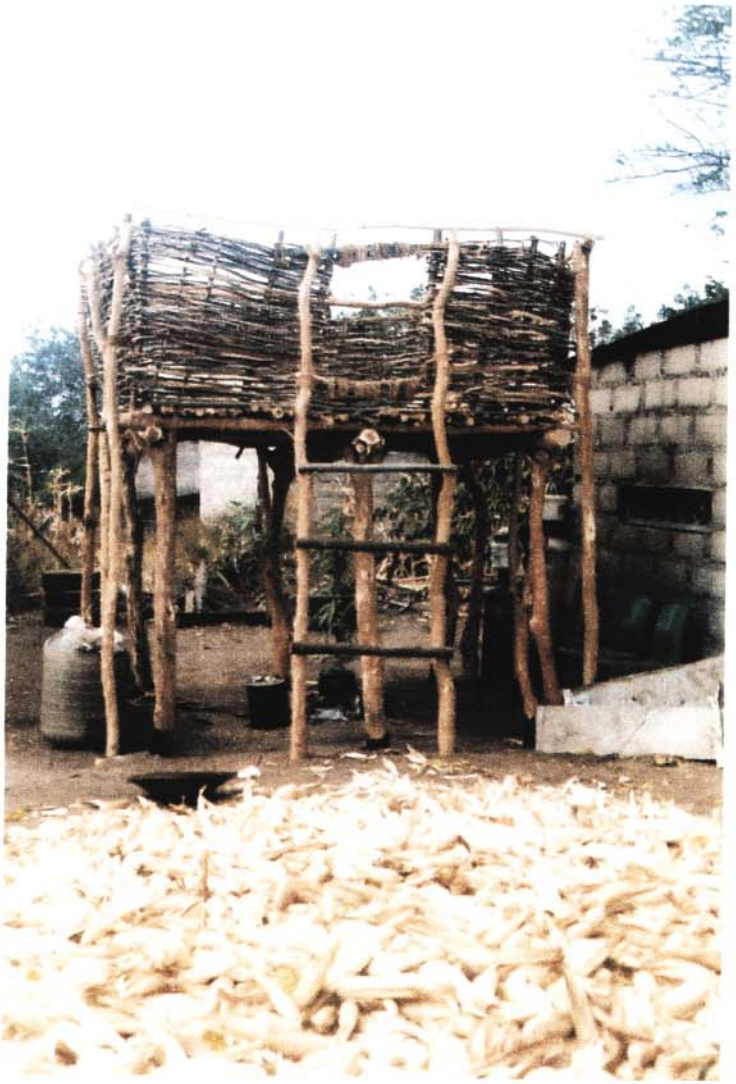


Plate 20 b:
At places where big trees are scarce, medium size *Acacia* and *Combretum* species are used for the construction of **Switlati**.



Plate 20 c: A large quantity of wood is required to construct the floor base of **xitlati.**

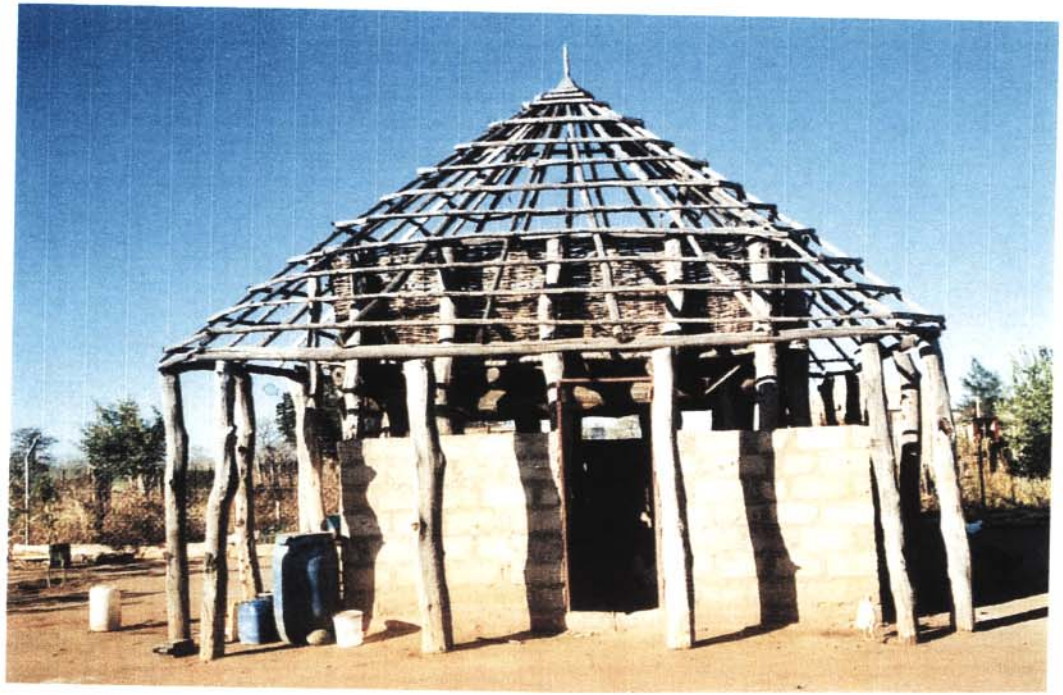


Plate 21 a:
A completed framework of a **xitlati** structure. Because of the Western influence and Culture change a steel door frame and cement bricks have been used.



Plate 21 b:
A structural framework of the common granary, **dulu** has been completed.

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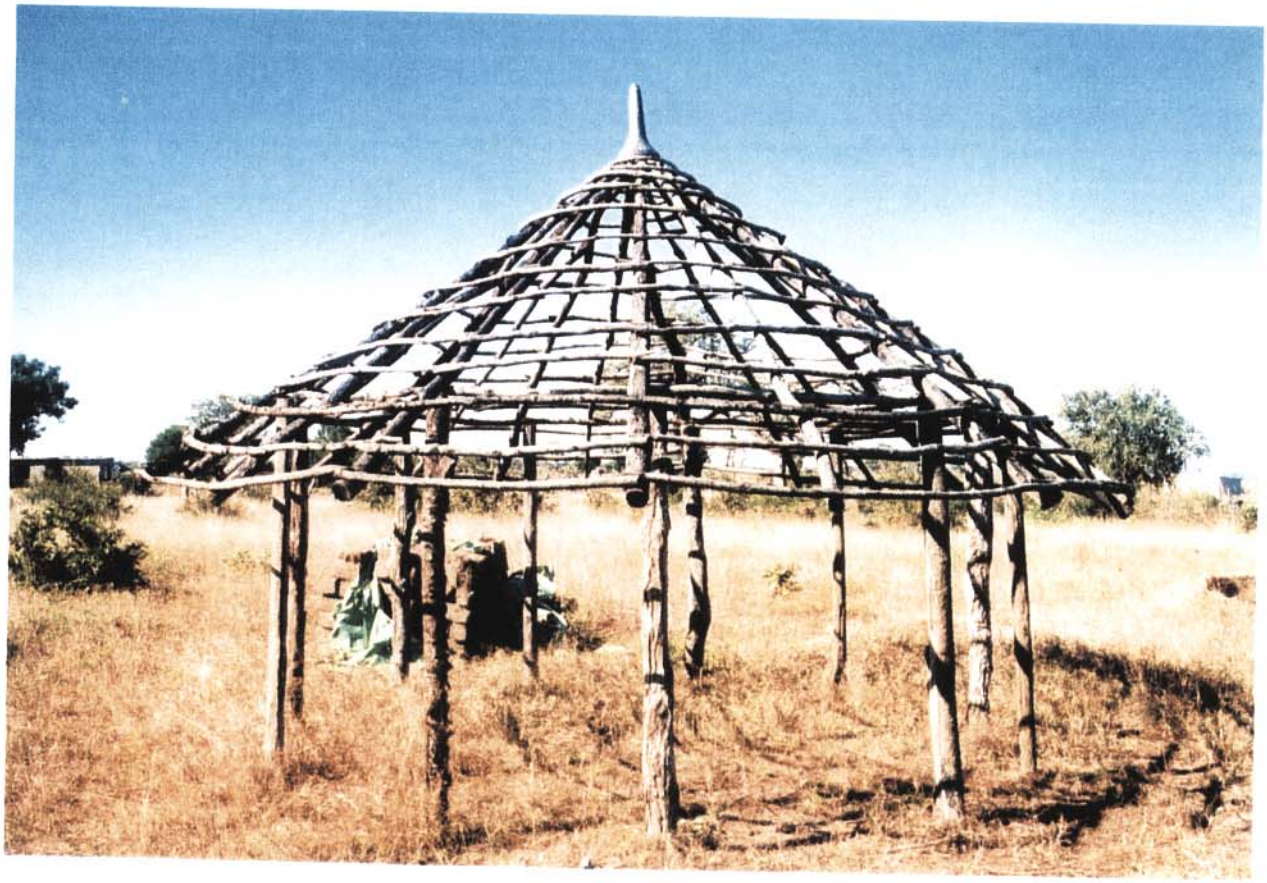


Plate 22 A structural framework of a basic traditional hut is in progress.



Plate 23
The construction of a typical cattle enclosure requires big and hard wood for durability



Plate 24 a:
The front view of a typical fire enclosure.



Plate 24 b:
The fire enclosure as seen from the back.

APPENDIX A

List of the 200 collected plant species classified according to families with their pH values and uses by people and animals

Plant species	pH	Food	Medicine	Fodder
AGAVACEAE				
Agave sisalana	5.18			
AIZOACEAE				
Zaleya pentandra	5.34	√		
AMARANTHACEAE				
Amaranthus hybridus	5.93	√		
Amaranthus spinosus	6.72	√		
Amaranthus thunbergii	6.46	√		
AMARYLLINDACEAE				
Boophane disticha	5.88		√	
ANACARDIACEAE				
Lannea discolor	4.96	√	√	√
Lannea edulis	5.00	√	√	√
Lannea schweinfurthii	5.04	√	√	√
Ozoroa insignis	4.58		√	
Ozoroa sphaerocarpa	4.29		√	
Rhus rehmanniana	5.12	√	√	√
Sclerocarya birrea	4.90	√	√	√
ANNONACEAE				
Annona senegalensis	5.79	√	√	√
APOCYNACEAE				
Carissa bispinosa	5.65	√	√	√
Carissa edulis	5.33	√	√	
ARACEAE				
Colocasia esculenta	5.93	√		
Phoenix reclinata	5.52	√		
Stylochiton natalensis	5.87		√	
ARALIACEAE				
Cussonia spicata	5.46		√	√
ASCLEPIADACEAE				
Asclepias fallax	5.98	√		
ASPARAGACEAE				
Asparagus cooperi	6.07		√	
ASPHODELACEAE				
Aloe marlothii	4.98		√	√
Aloe zebrina	4.87		√	
ASTERACEAE				

Bidens pilosa	5.48	√	√	
Epaltes gariepinia	5.49		√	
BALANITACEAE				
Balanites maughamii	6.11		√	√
Balanites pedicillaris	6.09			
BIGNONIACEAE				
Kigelia africana	5.98		√	
BOMBACACEAE				
Adansonia digitata	5.98	√	√	√
BORAGINACEAE				
Ehretia amoena	5.72	√	√	√
Ehretia rigida	5.75	√	√	√
BURSERACEAE				
Commiphora glandulosa	5.56			√
Commiphora mollis	5.92			√
Commiphora pyracanthoides	5.95	√		√
Commiphora schimperi	5.89			√
CACTACEAE				
Opuntia ficus-indica	6.00	√	√	
CAESALPINIACEAE				
Afzelia quanzesis	5.83		√	√
Cassia abbreviata	5.85		√	
Colophospermum mopane	5.81		√	√
Peltophorum africanum	5.78		√	√
Piliostigma thonningii	5.88	√	√	√
Schotia brachypetala	5.87	√	√	√
Senna peterisiana	5.69	√	√	√
CANNABINACEAE				
Cannabis sativa	5.51		√	
CAPPARACEAE				
Cleome gynandra	6.31	√	√	√
Maerua angolensis	5.47		√	√
CARICACEAE				
Carica papaya	5.29	√	√	√
CELASTRACEAE				
Elaeodendron transvaalense	5.61	√	√	√
Gymnosporia buxifolia	5.92		√	√
Gymnosporia senegalensis	5.84		√	
Mystroxylon aethiopicum	5.35	√		√
CHRYSOBALANACEAE				
Parinari curatellifolia	5.10	√	√	√
COMBRETACEAE				
Combretum apiculatum	4.38			√
Combretum collinum	4.38		√	√
Combretum erythrophyllum	4.59		√	√

Combretum hereroense	4.55		√	√
Combretum imberbe	4.58		√	√
Combretum zeyheri	4.55		√	
Terminalia prunioides	4.64		√	√
Terminalia sericea	4.62		√	√
CONVOLVULACEAE				
Eriosema species	5.92	√		
Ipomoea batatas	5.89	√		
CUCURBITACEAE				
Citrillus lanatus	6.54	√	√	
Cucumis africanus	6.69		√	
Cucumis metuliferus	6.43			√
Cucurbita pepo	6.87	√	√	
Lagenaria sicereria	6.51	√		
Momordica balsamina	6.24	√	√	
Mormodica cardiospermoides	6.20	√	√	
CYPERACEAE				
Cyperus immensus	5.97			
Cyperus textiles	6.74			
Schoenoplectus brachyceras	6.06			
DRACAENACEAE				
Sansevieria hyacinthoides	5.93		√	
EBENACEAE				
Diospyros lycioides	5.57	√		
Diospyros mespiliformis	5.55	√	√	
Dombeya rotundifolia	5.90		√	
Euclea divinorum	5.30	√	√	
Euclea natalensis	5.24	√	√	
EUPHORBIACEAE				
Antidesma venosum	5.01	√	√	
Croton megalobotrys	5.27		√	
Euphorbia cooperi	5.43			√
Euphorbia ingens	5.11		√	
Euphorbia tirucalli	5.18		√	
Flueggea virosa	5.24	√	√	√
Jatropha curcas	5.61		√	
Manihot esculenta	5.79	√	√	
Monadenium lugardiae	5.68		√	
Ricinus communis	5.83		√	
Spirostachys africana	5.02		√	
FABACEAE				
Arachis hypogea	5.58	√		√
Bauhinia galpinii	5.09		√	
Bolusanthus speciosus	5.82		√	√
Dalbergia melanoxylon	5.51		√	

Erythrina humeana	5.68		√	
Mundulea sericea	5.36		√	√
Ormocarpum trichocarpum	5.63		√	√
Philenoptera violacea	5.72		√	√
Pterocarpus angolensis	5.58		√	
Pterocarpus rotundifolius	5.30		√	
Vigna subterranean	5.69	√		√
Vigna unguiculata	5.73	√	√	√
FLACOURTIACEAE				
Flacourtia indica	5.72	√		
Scolopia zeyheri	5.9	√	√	
GRAMINEAE				
Bambusa vulgaris	5.04			
HYPOXIDACEAE				
Hypoxis hemerocallidea	5.99		√	
Hypoxis rigidula	5.97		√	
IRIDACEAE				
Gladiolus crassifolius	5.05	√	√	
KIRKACEAE				
Kirkia acuminata	4.48		√	
Kirkia wilmsii	4.53			
LAURACEAE				
Persea americana	6.04	√		√
LOGANIACEAE				
Strychnos madagascariensis	5.61	√	√	√
Strychnos spinosa	5.65	√	√	
MALVACEAE				
Gossypium herbaceum	5.62		√	
Hibiscus cannabinus	5.57		√	
MELIACEAE				
Ekebergia capensis	5.50		√	
Melia azedarch	5.88			
Trichilia emetica	5.81	√	√	
MENISPERMACEAE				
Cocculus hirsutus	4.79			
MIMOSACEAE				
Acacia ataxacantha	5.40			
Acacia caffra	5.52		√	√
Acacia erubescens	5.44			√
Acacia exuvialis	5.41		√	
Acacia galpinii	5.69			√
Acacia gerrardii	5.79	√	√	√
Acacia goetzei	5.68			
Acacia karroo	5.64		√	√
Acacia nigrescens	5.69		√	√

Acacia nilotica	5.64		√	√
Acacia senegal	5.73			√
Acacia sieberiana	5.80		√	√
Acacia xanthophloea	5.68		√	√
Albizia harveyi	5.27		√	√
Albizia versicolor	5.44		√	
Dichrostachys cinerea africana	5.46		√	√
Dichrostachys cinerea nyassana	5.43		√	√
Faidherbia albida	5.61		√	√
Sesbania bispinosa	5.77			
MORACEAE				
Ficus burkei	6.53	√	√	√
Ficus ingens	6.24	√	√	√
Ficus lutea	6.44	√		√
Ficus stuhlmannii	6.17	√	√	√
Ficus sur	6.22		√	
Ficus sycomorus	6.12	√	√	√
Morus alba	6.55	√		√
MUSACEAE				
Musa sapientum	5.95	√	√	√
MYRTACEAE				
Psidium guajava	5.32	√	√	√
Syzygium guineense	5.13	√		√
Syzygium species B	5.41	√		
OLACACEAE				
Ximenia caffra	5.91	√	√	√
PEDILLIACEAE				
Dicerocaryum senecioides	6.09		√	
Sesamum indicum	6.23	√	√	
Sesamum triphyllum	6.31		√	
POACEAE				
Aristrida meridionalis	5.33			√
Cenchrus cillaris	5.91			√
Dactyloctenium australe	6.0			√
Heteropogon contortus	5.16			√
Hyparrhenia dichroa	5.31			√
Hyparrhenia hirta	5.50			√
Hyperthelia dissoluta	5.82		√	√
Melinis repens	5.73			√
Panicum maximum	5.83			√
Pennisetum glaucum	5.76	√	√	√
Phragmites mauritianus	6.04			√
Saccharum officinarum	6.02	√		√
Sorghum bicolor	5.93	√	√	√
Sorghum sp	5.91	√		√

Sporobolus pyramidalis	5.62			
Themeda triandra	5.43			√
Tricholaena monachne	5.55			√
Urochloa stolonifera	5.75	√		√
Zea mays	5.94	√	√	√
PROTEACEAE				
Faurea saligna	4.00		√	√
RHAMNACEAE				
Berchemia discolor	5.54	√		√
Berchemia zeyheri	5.22	√	√	√
Ziziphus mucronata	5.44	√	√	√
RUBIACEAE				
Breonadia salicina	5.02		√	
Catunaregam spinosa	5.32		√	√
Gardenia volkensii	5.77		√	√
Pavetta schumanniana	5.09		√	
Vangueria infausta	5.38	√	√	√
RUTACEAE				
Zanthoxylum capense	5.49		√	
SAPINDACEAE				
Pappea capensis	5.23	√		√
SAPOTACEAE				
Englerophytum megalismontanum	5.14	√	√	√
SOLANACEAE				
Capsicum annuum	5.42	√		
Datura stramonium	5.65		√	
Nicotiana tabacum	5.76			
Solanum lichtensteinii	5.42		√	
Solanum nigrum	5.48	√		
Solanum panduriforme	5.48		√	
TILIACEAE				
Corchorus tridens	5.68	√		
Grewia flavescens	5.29	√		√
Grewia monticola	5.21	√	√	√
Grewia subspathulata	5.11	√		√
URTICACEAE				
Pouzolzia mixta	5.65		√	
VERBENACEAE				
Clerodendrum glabrum	5.61		√	
Lantana rugosa	5.58	√	√	√
Lippia javanica	5.55		√	
VITACEAE				
Cissus quandrangularis	4.98		√	
ZINGIBERACEAE				

Siphonochilus aethiopicus	5.82		√	
TOTAL		**85**	**135**	**104**

Classification in terms of pH range

Plant species	**pH range**	**Food**	**Medicine**	**fodder**
	4.00-4.59			
Ozoroa insgnis	4.58		√	
Ozoroa spaerocarpa	4.29		√	
Combretum apiculatum	4.38			√
Combretum collinum	4.38		√	√
Combretum erythrophylum	4.59		√	√
Combretum hereroense	4.55		√	√
Combertum imberbe	4.58		√	√
Combretum zeyheri	4.58		√	
Kirkia acuminata	4.48		√	
Kirkia wilmsii	4.53			
Faurea saligna	4.00		√	√
Total number of species used		**0**	**9**	**6**
	4.60-4.99			
Lannea discolor	4.96	√	√	√
Sclerocarya birrea	4.90	√	√	√
Aloe marlothii	4.98		√	√
Aloe zebrina	4.87		√	
Terminalia prunioides	4.64		√	√
Terminalia sericea	4.62		√	√
Cocculus hirsutus	4.79			
Cissus quandrangularis	4.94		√	
Total number of species used		**2**	**7**	**5**
	5.00-5.59			
Agave sisalana	5.18			
Zaleya pentandra	5.34	√		
Lannea edulis	5.00	√	√	√
Lannea schweinfurthii	5.04	√	√	√
Rhus rehmanniana	5.12	√	√	√
Carissa edulis	5.33	√	√	
Phoenix reclinata	5.52	√		
Cussonia spicata	5.46		√	√
Bidens pilosa	5.48	√	√	
Epaltes gariepinia	5.49		√	
Commiphora glandulosa	5.56			√
Cannabis sativa	5.51		√	
Maerua angolensis	5.47		√	√

Carica papaya	5.29	√	√	√
Mystroxylon aethiopicum	5.35	√		√
Parinari curatellifolia	5.10	√	√	√
Diospyros lycioides	5.57	√		
Diospyros mespiliformis	5.55	√	√	
Euclea divinorum	5.30	√	√	
Euclea natalensis	5.24	√	√	
Antidesma venosum	5.01	√	√	
Croton megalobotrys	5.27		√	
Euphorbia cooperi	5.43			√
Euphorbia ingens	5.11		√	
Euphorbia tirucalli	5.18		√	
Flueggea virosa	5.24	√	√	√
Spirostachys africana	5.02		√	
Arachis hypogea	5.58	√		√
Bauhinia galpinii	5.09		√	
Dalbergia melanoxylon	5.51		√	
Mundulea sericea	5.36		√	√
Pterocarpus angolensis	5.58		√	
Pterocarpus rotundifolius	5.30		√	
Bambusa vulgaris	5.04			
Gladiolus crassifolius	5.05	√	√	
Hibiscus cannabinus	5.57		√	
Ekebergia capensis	5.50		√	
Acacia ataxacantha	5.40			
Acacia caffra	5.52		√	√
Acacia erubescens	5.44			√
Acacia exuvialis	5.41		√	
Albizia harveyi	5.27		√	√
Albizia versicolor	5.44		√	
Dichrostachys cinerea Africana	5.46		√	√
Dichrostachys cinerea nyassana	5.43		√	√
Psidium guajava	5.32	√	√	√
Syzygium guineense	5.13	√		√
Syzygium species B	5.41	√		
Aristrida meridionalis	5.33			√
Heteropogon contortus	5.16			√
Hyparrhenia dichroa	5.31			√
Hyparrhenia hirta	5.50			√
Themeda triandra	5.43			√
Tricholaena monachne	5.55			√
Berchemia discolor	5.54	√		√
Berchemia zeyheri	5.22	√	√	√
Ziziphus mucronata	5.44	√	√	√
Breonadia salicina	5.02		√	

Catunaregam spinosa	5.32		√	√
Pavetta schumanniana	5.09		√	
Vangueria infausta	5.38	√	√	√
Zanthoxylum capense	5.49		√	
Englerophytum megalismontanum	5.14	√	√	√
Pappea capensis	5.23	√		√
Capsicum annuum	5.42	√		
Solanum lichtensteinii	5.42		√	
Solanum nigrum	5.48	√		
Solanum panduriforme	5.48		√	
Grewia flavescens	5.29	√		√
Grewia monticola	5.21	√	√	√
Grewia subspathulata	5.11	√		√
Lantana rugosa	5.58	√	√	√
Lippia javanica	5.55		√	
Total number of species used		**33**	**48**	**37**
	5.60-5.99			
Amaranthus hybridus	5.93	√		
Boophane disticha	5.88		√	
Annona senegalensis	5.79	√	√	√
Carissa bispinosa	5.65	√	√	√
Colocasia esculenta	5.93	√		
Stylochiton natalensis	5.87		√	
Asclepias fallax	5.98	√		
Kigelia africana	5.98		√	
Adansonia digitata	5.98	√	√	√
Ehretia amoena	5.72	√	√	√
Ehretia rigida	5.75	√	√	√
Commiphora mollis	5.92			√
Commiphora pyracanthoides	5.95	√		√
Commiphora schimperi	5.89			√
Afzelia quanzesis	5.83		√	√
Cassia abbreviate	5.85		√	
Colophospermum mopane	5.81		√	√
Peltophorum africanum	5.78		√	√
Piliostigma thonningii	5.88	√	√	√
Schotia brachypetala	5.87	√	√	√
Senna peterisiana	5.69	√	√	√
Elaeodendron transvaalense	5.61	√	√	√
Gymnosporia buxifolia	5.92		√	√
Gymnosporia senegalensis	5.84		√	
Eriosema species	5.92	√		
Ipomoea batatas	5.89	√		
Cyperus immensus	5.97			
Sansevieria hyacinthoides	5.93		√	

Dombeya rotundifolia	5.90		√	
Jatropha curcas	5.61		√	
Manihot esculenta	5.79	√	√	
Monadenium lugardiae	5.68		√	
Ricinus communis	5.83		√	
Bolusanthus speciosus	5.82		√	√
Erythrina humeana	5.68		√	
Ormocarpum trichocarpum	5.63		√	√
Philenoptera violacea	5.72		√	√
Vigna subterranean	5.69	√		√
Vigna unguiculata	5.73	√	√	√
Flacourtia indica	5.72	√		
Scolopia zeyheri	5.90	√	√	
Hypoxis hemerocallidea	5.99		√	
Hypoxis rigidula	5.97		√	
Strychnos madagascariensis	5.61	√	√	√
Strychnos spinosa	5.65	√	√	
Gossypium herbaceum	5.62		√	
Melia azedarch	5.88			
Trichilia emetica	5.81	√	√	
Acacia galpinii	5.69			√
Acacia gerrardii	5.79	√	√	√
Acacia goetzei	5.68			
Acacia karroo	5.64		√	√
Acacia nigrescens	5.69		√	√
Acacia nilotica	5.64		√	√
Acacia senegal	5.73			√
Acacia sieberiana	5.80		√	√
Acacia xanthophloea	5.68		√	√
Faidherbia albida	5.61		√	√
Sesbania bispinosa	5.77			
Musa sapientum	5.95	√	√	√
Ximenia caffra	5.91	√	√	√
Cenchrus cillaris	5.91			√
Hyperthelia dissoluta	5.82		√	√
Melinis repens	5.73			√
Panicum maximum	5.83			√
Pennisetum glaucum	5.76	√	√	√
Sorghum bicolor	5.93	√	√	√
Sorghum sp	5.91	√		√
Sporobolus pyramidalis	5.62			
Urochloa stolonifera	5.75	√		√
Zea mays	5.94	√	√	√
Gardenia volkensii	5.77		√	√
Datura stramonium	5.65		√	

Nicotiana tabacum	5.76			
Corchorus tridens	5.68	√		
Pouzolzia mixta	5.65		√	
Clerodendrum glabrum	5.61		√	
Siphonochilus aethiopicus	5.82		√	
Total number of species used		**32**	**54**	**43**
	6.00-6.59			
Amaranthus thunbergii	6.46	√		
Asparagus cooperi	6.07		√	
Balanites maughamii	6.11		√	√
Balanites pedicillaris	6.09			
Opuntia ficus-indica	6.00	√	√	
Cleome gynandra	6.31	√	√	√
Citrillus lanatus	6.54	√	√	
Cucumis metuliferus	6.43			√
Lagenaria sicereria	6.51	√		
Momordica balsamina	6.24	√	√	
Mormodica cardiospermoides	6.20	√	√	
Schoenoplectus brachyceras	6.06			
Persea americana	6.04	√		√
Ficus burkei	6.53	√	√	√
Ficus ingens	6.24	√	√	√
Ficus lutea	6.44	√		√
Ficus stuhlmannii	6.17	√	√	√
Ficus sur	6.22		√	
Ficus sycomorus	6.12	√	√	√
Morus alba	6.55	√		√
Dicerocaryum senecioides	6.09		√	
Sesamum indicum	6.23	√	√	
Sesamum triphyllum	6.31		√	
Dactyloctenium australe	6.0			√
Phragmites mauritianus	6.04			√
Saccharum officinarum	6.02	√		√
Total number of species used		**16**	**15**	**13**
	6.60-6.99			
Amaranthus spinosus	6.72	√		
Cucumis africanus	6.69			
Cucurbita pepo	6.87	√	√	
Cyperus textiles	6.74		√	
Total number of species used		**2**	**2**	**0**

APPENDIX B QUESTIONNAIRE NO

A. PERSONAL INFORMATION

PLACE OF RESIDENCE

NAME OF TRIBAL AUTHORITY

NAME OF **NDHUNA**

AGE

SEX MALE FEMALE

DID YOU ATTEND SCHOOL? YES NO

IF YES, STATE THE HIGHEST STANDARD PASSED

ARE YOU A MEMBER OF ANY COMMUNITY STRUCTURE? YES NO

IF YES, STATE NAME OF STRUCTURE

OCCUPATION

B. PLANT USES

1. In this question indicate if you know or do not know the plant. Do you consume it (as food and / or beverage)? If you do consume it indicate the frequency of consumption when it is in season.

	Know Plant		Consume Plant		Frequency of Consumption			Plant No.
	Yes	No	Yes	No	Daily	Weekly	Monthly	
Acacia karro **Bota/ Mbote**								1
Adansonia digitata **Ximuwu**								2
Amaranthus hybridus **Thyeke xilungu**								3
Amaranthus spinosus **Xidlaya-mesisa**								4
Amaranthus thurnberghii **Thyeke**								5
Annona senegalensis **Mphovani**								6
Antidesma venosum **Tshongwe**								7
Arachis hypogea **Timanga**								8
Asclepias fallax **Xihaja**								9
Berchemia discolor **Nkuhuma**								10
Berchemia zeyheri **Xinyirana**								11
Bidens pilosa **Muxiji**								12
Capsium annum **Biriviri**								13
Carica papaya **Mpopo**								14
Carissa bispinosa **Mhlava-nkunzi**								15
Carissa edulis **Ntshunguri**								16
Citrillus lanatus **Khalavatla**								17
Cleome gynandra **Bangala**								18

Colocasia esculenta **Marhupi**								19
Commiphora pyracanthoides **Xisenga**								20
Corchorus tridens **Guxe**								21
Cucurbita pepo **Kwembe**								22
Diospyros lycioides **Xintomantomana**								23
Diospyros mespiliformis **Ntoma**								24
Ehretia amoena **Ximunyamunyana**								25
Ehretia rigida **Mpon'wana**								26
Elaeodendron transvalensis **Ximapana**								27
Englerophytum magalismontanum **Munombhela**								28
Eriosema species **Xikondle**								29
Euclea divinorum **Nhlangula**								30
Euclea natalensis **Nhlangulantima**								31
Ficus burkei **Xirhomberhombe**								32
Ficus ingens **Nkuwamaribye**								33
Ficus lutea **Mphayi**								34
Ficus stuhlmannii **Xirhomberhombe**								35
Ficus sycomorus **Nkuwa**								36
Flacourtia indica **Xivambula**								37
Flueggea virosa **Nhlangasi**								38
Gladiolus crassifolius **Timba ra nhova**								39

Grewia flavescens **Nsihana**								40
Grewia monticola **Nsihana**								41
Grewia subspathula **Nsihana**								42
Ipomoea batatas **Nhlata**								43
Lagenaria siceraria **Marhanga**								44
Lannea discolor **Ximumbyana**								45
Lannea edulis **Mphotiphoti**								46
Lannea shweinfurthii **Xibombokanyi**								47
Lantana rugosa **Tihove ta valungu**								48
Manihot esculenta **Ntsumbula**								49
Momordica balsamina **Nkaka**								50
Momordica cardiospermoides **Nkakanhova**								51
Morus alba **Murubeyila**								52
Musa sapientum **Banana**								53
Mystroxylon aethiopicum **Tinqcayi**								54
Opuntia ficus-indica **Xitorofiya**								55
Pappea capensis **Xikwakwaxu**								56
Parinari curatellifolia **Mbulwa**								57
Pennisten glaucum **N'wahuva**								58
Persea americana **Avokhado**								59
Phoenix reclinata **Xicindzu**								60
Piliostigma thonningii **Xidengana**								61

Psidium guajava **Mugwava**								62
Rhus rehmanniana **Mbholelakhutla**								63
Saccharum officinarum **Mova**								64
Schotia brachypetala **Chochela - mandleni**								65
Sclerocarya birrea **Nkanyi**								66
Scolopia zeyheri **Mnqcokolo**								67
Senna petersiana **Nembenembe**								68
Sesamum indicum **Rininga**								69
Solanum nigrum **Muphya**								70
Sorghum bicolor **Maxalana**								71
Sorghum species **Timba**								72
Strychnos madagascariensis **Nkwakwa**								73
Strychnos spinosa **Nsala**								74
Syzygium guineense **Nqhozi**								75
Syzygium species **Nqhozi ya xilungu**								76
Trichilia emetica **Nkuhlu**								77
Urochloa stolonifera **Xihuvani**								78
Vangueria infausta **Mpyila**								79
Vigna subterranean **Ndluwu**								80
Vigna unguiculata **Nyawa**								81
Ximenia caffra **Nthunduluka – lowukulu**								82

Zaleya pentandra **Nhlava**								83
Zea mays **Xifaki**								84
Zizipus mucronata **Mbhafa**								85

2. The species below are renowned for their medicinal/magical potency. Do you know the plant? How frequent do you use the plant when you are ill?

Name of species	Know plant		Frequency of use			
	Yes	No	Regularly	Rarely	Never	
Acacia caffra **Mbhvinya-xihloka**						86
Acacia exuvialis **Nsavani**						87
Acacia gerradii **Mbota/ Bote**						88
Acacia karroo **Munga**						89
Acacia nigrescens **Nkaya**						90
Acacia nilotica **Munga**						91
Acacia sieberiana **Mganduzi**						92
Acacia xanthophloea **Khanyakude**						93
Adansonia digitata **Ximuwu**						94
Afzelia quanzensi **Nxenhe**						95
Albizia harveyi **Ndzhololwani**						96
Albizia versicolor **Mvhangazi**						97
Aloe marlothii **Mhangani/Mhanga**						98
Aloe zebrina **Mbhakanani**						99
Annona senegalensis **Mphovhani**						100

Antidesma venosum **Tshongwe**						101
Asparagus cooperi **Nkwangula-tilo**						102
Balanites maughamii **Nulu**						103
Bauhinia galpinii **Xiqwendere/ Ntshiriri**						104
Berchemia zeyheri **Xinyirana**						105
Bidens pilosa **Muxiji**						106
Bolusanthus speciousus **Mpfimba-hongonyi**						107
Boophane disticha **Rihemana**						108
Breonadia salicina **Nthuma**						109
Cannabis sativa **Mbangi**						110
Cariya papaya **Mpopo**						111
Carissa bispinosa **Mhlava-nkunzi**						112
Carissa edulis **Ntshuguri**						113
Cassia abbreviata **Numanyama**						114
Catunaregam spinosa **Xirhole**						115
Cissus quadrangularis **Nyangala**						116
Citrillus lanatus **Khalavatla**						117
Clerodendrum glabrum **Xinun'hwela-mbeva**						118
Cleome gynandra **Bangala**						119
Colophospermum mopane **Nxanatsi**						120
Combretum collinum **Ndzhuva**						121
Combretum erythrophyllum **Ndzhuva**						122

Combretum hereroense **Xikhavi**						123
Combretum imberbe **Mondzo**						124
Combretum zeyheri **Mafamba-borile**						125
Croton megalobotrys **Xungu-xungu**						126
Cucumis africanus **Xiyakayana**						127
Cucurbita pepo **N'hwembe**						128
Cussonia spicata **Musenje**						129
Dalbergia melanoxylon **Xipalatsi**						130
Datura stramonium **Zava-zava**						131
Dicerocaryum senecioides **Dinda**						132
Dichrostachys cinerea **Ndzhenga-matsune**						133
Dichrostachys nyassana **Ndzhenga**						134
Diospyros mespiliformis **Ntoma**						135
Dombeya rotundifolia **Bikanguva**						136
Ehretia amoena **Ximunyamunyana**						137
Ehretia rigida **Mpon'wana**						138
Ekebergia capensis **Xipalatsi**						139
Elaeodendron transvalensis **Ximapana**						140
Englerophytum megalismontanum **Munombhela**						141
Epaltes gariepinia **Munywana**						142
Erythrina humeana **Nsinsimbana**						143
Euclea divinorum **Nhlangula**						144

Euclea natalensis **Nhlangula-ntima**						145
Euphorbia ingens **Nhlohlo**						146
Euphorbia tirucalli **Neta**						147
Faidherbia albida **Nxokonxoko**						148
Faurea saligna **N'wamindzumba**						149
Ficus burkei **Xirhomberhombe**						150
Ficus ingens **Nkuwa-maribye**						151
Ficus stuhlmannii **Xirhomberhombe**						152
Ficus sur **Mphayi**						153
Ficus sycomorus **Nkuwa**						154
Flueggea virosa **Nhlangasi**						155
Gardenia volkensii **Xitsalala**						156
Gladiolus crassifolius **Timba ra nhova**						157
Gossypium herbaceum **Xiveve**						158
Grewia monticola **Nsihana**						159
Gymnosporia buxifolia **Xihlangwa-lexikulu**						160
Gymnosporia senegalensis **Xihlangwa**						161
Hibiscus cannabinus **Ntsembyana**						162
Hyperthelia dissoluta **Tlhongwe**						163
Hypoxis hemerocallidea **Mbhumbununu**						164
Hypoxis rigidula **Khondovha**						165
Jatropha curcas **Hlampfurha ya Xilungu**						166

Kigelia africana **Mvhongoti**						167
Kirkia accuminata **Mvumayila**						168
Lannea discolor **Ximumbyana**						169
Lannea edulis **Mphotiphoti**						170
Lannea schweinfurthii **Xibombonkanyi (Xibombokani)**						171
Lantana rugosa **Tihove ta valungu**						172
Lippia javanica **Musuzwane**						173
Maerua angolensis **Xiyima-na-murhi**						174
Manihot esculenta **Ntsumbula**						175
Momordica balsamina **Nkaka**						176
Momordica cardiospermoides **Nkaka-nhova**						177
Monadenium lugardii **Mdleve**						178
Mundulea sericea **Mbholovisani**						179
Musa sapientum **Banana**						180
Opuntia ficus-indica **Xitorofiya**						181
Ormocarpum trichocarpum **Xisedani**						182
Ozoroa insignis **Xinungu-mafi**						183
Ozoroa sphaerocarpa **Xinungu-mafi**						184
Parinari curatellifolia **Mbulwa**						185
Pavetta schumanniana **Mudya-mbhongolo**						186
Peltophorum africanum **Nhlahlanhi**						187

Pennistem glaucum **N'wahuva**						188
Philenoptera violacea **Mbhandzu**						189
Piliostigma thonningii **Xidengani**						190
Pouzolzia mixta **Xirheti**						191
Psidium guajava **Mugwava**						192
Pterocarpus angolensis **Murhotso**						193
Pterocarpus rotundifolius **Bikanguva**						194
Rhus rehmanniana **Mbholelakhutla**						195
Ricinus communis **Hlampfurha**						196
Sanseviera hyacinthoides **Xikwenga-nhova**						197
Schotia brachypetala **Chochela-mandleni**						198
Sclerocarya birrea **Nkanyi**						199
Scolopia zeyheri **Mnqcokolo**						200
Senna petersiana **Nembenembe**						201
Sesamum indicum **Rininga**						202
Sesamum triphyllum **Rininga-nhova**						203
Siphonochilus aethiopicus **Xirhungulo**						204
Solanum lichtensteinnii **Ndhulwana leyikulu**						205
Solanum panduriforme **Ndhulwana-leyitsongo**						206
Sorghum bicolor **Maxalana**						207
Spirostachys africana **Xilanga-mahlo**						208
Strychnos madagascariensis **Nkwakwa**						209

Strychnos spinosa **Nsala**						210
Stylochiton natalensis **Mfana-wa-timbuti**						211
Terminalia prunioides **Xaxandzawu**						212
Terminalia sericea **Nsusu**						213
Trichilia emetica **Nkuhlu**						214
Vangueria infausta **Mpyila**						215
Vigna unguiculata **Nyawa**						216
Ximenia caffra **Nthunduluka-lowukulu**						217
Zanthoxylum capense **Manungwana**						218
Zea mays **Vele/ Xifaki**						219
Ziziphus mucronata **Mbhafa**						220

3. If you were ill would you prefer hospital or traditional treatment? Mark the appropriate box with an X

Hospital				221
Traditional				222
Both				223

4. The following diseases are commonly known as **mavabyi ya xintu** (traditional illness). For their treatment would you prefer bio-medicine or herbal treatment? Mark appropriate column with an X.

Illness	Bio-medicine		Herbal medicine		
Xijiso		**224**			**224a**
Xifulana		**225**			**225a**
Micwa		**226**			**226a**
Mafularha		**227**			**227a**
Ndaphya		**228**			**228a**
Xikuna		**229**			**229a**
Matlulana		**230**			**230a**
Xindzawu		**231**			**231a**

Tindzhaka		**232**			**232a**
Nciko		**233**			**233a**
Midlukulu		**234**			**234a**
Xifambi		**235**			**235a**

5. For the treatment of the following diseases would you prefer bio-medicine or herbal treatment?

Disease	Bio-medicine		Herbal medicine		
Diarrhoea / Dysentery		236			236a
Kidney ailments		237			237a
TB		238			238a
Flu, coughs & colds		239			239a
Arthritis		240			240a
Asthma		241			241a
Depressed fontanelle		242			242a
Venereal diseases		243			243a
Earache		244			244a
Toothache		245			245a
Bilharzia		246			246a
Pneumonia		247			247a
Insanity		248			248a
Epilepsy		249			249a
Heart ailments		250			250a
Oedema		251			251a
Aids		252			252a
Migraine		253			253a
Cancer		254			254a

6. Would you prefer modern (western) or traditional method for (treatment of)

	Modern		Traditional		
Blood purification		255			255a
Aphrodisiac		256			256a
Infertility		257			257a
Weaning		258			258a

Abortion		259			259a
Toothbrushing		260			260a

7. Would you regard the following household utensils to be outdated and to be done away with?

	Yes		No			
Tshuri (mortar)		261				261a
Musi (pestle)		262				262a
Nkombe (woodenspoon)		263				263a
Rihlelo (winnowing basket)		264				264a
Rifeto (porridge stirring stick)		265				265a
Xirhundzu (conical basket)		266				266a
Sangu (traditional mat)		267				267a

C. ENVIRONMENTAL DEGRADATION

1. According to your observation is there any change in the environment around your place as compared to 10 or more than 10 years ago?

Yes			268
No			269

If yes, what is it that has changed?

2. Do you regard these changes as environmental degradation or environmental boost? Write down your answer

Environmental degradation			270
Environmental boost			271

3. Who or what has brought about these changes?

People	Yes		272	No			272a
Animals	Yes		273	No			273a
Natural disasters	Yes		274	No			274a

4. Are there certain plants species that you know existed but have now become extinct?

Yes			275
No			276

5. If yes, mention them:

6. Would you regard the harvesting of medicinal plants by traditional healers as a contributory factor towards environmental degradation?

Yes			277
No			278

D. MANAGEMENT OF RESOURCES

1. Who does the veld around your village belong to?

2. If you think the environment in your village is being eroded mention the people and/or structures that you think is their responsibility to protect it.

3. Do you think the people and structures mentioned above are doing enough to curb or control environmental degradation?

Yes			279
No			280

4. Since your village (farm) has been supplied with electricity, is there still any need for the collection of firewood?

Yes			281
No			282

Substantiate your answer

5. Do you think the permit obtained to cut down trees for poles is a method effective enough to control environmental degradation?

Yes			283
No			284

6. It is estimated that in the near future this area shall reach its 'maturation point' if the present rate of degradation is not controlled. Do you agree with this estimation?

Yes			285
No			286

7. What is your perception of this estimation?

8. Mention the methods which you think can be the most effective in the preservation of the natural environment.

E. GENERAL INFORMATION

Plant Species

1. Do you have a field (**nsimu**) for the family?

Yes			287
No			288

2. If yes, where is it located?

In the stand			289
Near to the stand			290
Far from the stand			291

3. Which of the following crops do you plant every year? Mark with an X

Mavele			292
Timanga			293
Tinyawa			294
Tindluwu			295
Tinhwembe			296
N'wahuva			297
Other? Specify			298

4. Do you know of crops which were very common and cultivated in the past but are no longer in existence or cultivated now? Mention them

5. Under the present economic circumstances, is there still any need for subsistence farming? Substantiate your answer

Yes			299
No			300

Substantiate

6. Do you regard subsistence farming in your family as providing primary or secondary economy?

Primary			301
Secondary			302

Substantiate

7. What other source of income exists in your family?

8. Are there animals (domestic & wild) and birds that eat the crops that you grow in your **nsimu**? Mention them

9. In the case of domestic animals damaging your crops do you claim some compensation?

Yes			303
No			304

If yes, what form of compensation do you claim? And how soon should this be paid?

10. How big is the family **nsimu**?

Less than 1 *ha*		2 -5 *ha*		More than 5 *ha*	
	305		305a		305b

11. Do you know of any taboos that are related to the use of plant species? If yes mention them.

12. What is the role of these taboos?

13. What happens if these taboos are transgressed? Do you know of any incident that was the result of non-observance of a taboo?

14. Are there any outsiders who enter your area other than the local villagers and use the natural resources without any permission?

Yes			306
No			307

15. If yes, what type of resource(s) do they target?

16. If permission has been granted by the magistrate without the knowledge of the local leaders (**hosi**, **ndhuna** or civic members) will the permit holder be able to acquire/use the resources?

Yes			308
No			309

17. Some villagers cut down tree branches and at worst fell the entire tree to be sold as firewood. What is your feeling about this practice?

18. In these modern times is it still worthwhile using plant species in the building and construction of huts, granaries and kraals?

Yes			310
No			311

19. If yes, do you think there is still enough of the plant species to cater for these needs?

Yes			312
No			313

20. Do you think plant species and other natural resources like rivers count for the beauty of the environment and should be

Conserved?			314
Ignored?			315
Destroyed?			316

21. Are the authorities doing enough to curb environmental erosion?

Yes			317
No			318

Animal Species

1. Which of the following livestock do you keep in your family?

Cattle			319
Goat			320
Sheep			321
Donkey			322
Other? Specify			323

2. Do you think your local area is overstocked?

Yes			324
No			325

3. If the answer in 2 is "Yes", do you think the number of livestock per family should be controlled?

Yes			326
No			327

Whether yes or no, why?

4. Would you regard livestock as contributing to environmental degradation?

Yes			328

No			329

If yes, how does it contribute?

5. Despite being kept for their meat and as draught animals what other important significances should livestock be kept for?

6. Do carnivores come into your area to kill livestock?

Yes			330
No			331

If yes, mention them

7. Did you ever have any encounter with wild animals?

Yes			332
No			333

8. Do you know of anyone in your area or neighbouring areas who had an encounter with animals? If so, can you relate the incident?

9. If animals, particularly felines break out of the Kruger National Park, Manyeleti Game Reserve or any neighbouring game farms/ sanctuaries what do you do?

10. Up until the beginning of the 20th Century, the entire area of Bushbuckridge, your area included, was infested with game. By the middle of the century most farms were depleted of the game and the last vestiges of this game were evacuated in the early 1970's with helicopters from the farms like Welverdiend, Gottenberg and Thorndale. If this game were to be returned to your area, would you

Keep them?			334
Chase them away?			335
Kill them for their meat?			336

Fire burning

1. Would you regard fire burning as desirable or not?

Desirable			337
Not desirable			338

Substantiate

2. Which treatment best stimulates vegetation growth?

Complete protection			339
Annual early burning			340
Annual late burning			341

Substantiate

3. If you see fire burning would you

Fight it			342
Ignore it			343

Witchcraft

1. Do you believe in witchcraft?

Yes			344
No			345

2. If yes, do natural phenomena feature in witchcraft practice?

Yes			346
No			347

3. Which of the following natural phenomena are used by witches in their evil practices? You may give examples of the natural phenomena if you know them.

Plants	e.g.		348
Animals	e.g.		349
Birds	e.g.		350
Objects	e.g.		351

4. Are you scared of the **valoyi**?

Yes			352
No			353

5. Have you been innocculated (**u tlhaveriwile**) against **valoyi**?

Yes			354
No			355

If yes, how often is this process revived?

Semesterly			356
Yearly			357
If necessary			358

6. Is your homestead magically protected against **valoyi**?

Yes			359
No			360

If yes, how often is this protection revived?

Semesterly			361
Yearly			362
If necessary			363

7. What makes the **valoyi** to continue with their anti-social behaviour and not refrain from it?

8. What would you regard to be the most effective way to deal with **valoyi**?

Reporting them to the police			364
Calling the services of a diviner			365
Witch-hunt (**ku hisa valoyi**)			366

HIV and AIDS

1. Do you believe in AIDS as an existing phenomenon and killer disease?

Yes			367
No			368

2. Do you know of people who died from AIDS?

Yes			369
No			370

3. Is the disease:

Curable			371
Incurable			372

If curable, who can cure it?

Hospital			373
Traditional healers			374
Powerful churches			375
Others? Specify			376

4. What is the best way to avoid AIDS?

Sticking to one partner			377
Use of condoms			378
Sexual abstinence			379

5 Are you scared of AIDS?

Yes			380
No			381