

## **CHAPTER 1**

### **INTRODUCTION**

The cosmological perspective provides that all biological species are given names in terms of how the local natural environment is perceived (Descola & Palsson 1996:18). The evaluation of indigenous knowledge systems in terms of its taxonomy compared with Western taxonomy has therefore occupied scientific thinking for millennia, and taxonomy itself is regarded as one of the oldest fields of biological sciences. In this study GaMamabolo traditional taxonomy on indigenous plants is regarded as scientific. People's culture is learned, rather than acquired biologically. The old mind of overlooking nature in totality was implemented through implementation of GaMamabolo community indigenous knowledge systems.

Reliance on natural resources renders cultural groups strikingly different from each other not only because the resources differ greatly from one region to another, but also because various cultural or ethnic groups exploit these resources in different ways. Their naming of natural vegetation may differ in line with their ethnicity. In this study the importance of naming indigenous plants of GaMamabolo is explored.

The GaMamabolo community still considers and implements the principle of classifying and naming the natural environment such as habitat taxonomy, morphological taxonomy, medicinal taxonomy, functional taxonomy, and others. They also regard other generic term such as mehare (trees), merogo (potherbs) and mabjang (grasses). The significance of some indigenous plants of GaMamabolo is discussed in this study as the community still uses them in the traditional way. They consider their ancestral legacy.

Mabogo (1990) and Rankoana (2000) researched indigenous plants. The two researchers did not say much about the principle of the taxonomy of plants. They discussed medicinal plants in the area they were researching. GaMamabolo ethnotaxonomic principles and significance of their local vegetation are emphasized in this study. The

approach followed is based on Rankoana's (2000) thesis. A holistic approach has been employed in an ethnobotanical enquiry in which the main objective was to describe the cultural importance of indigenous plants. In the study the focus was not only on the uses of plants, but also on the ethnotaxonomy of plants, their conservation methods as well as people's perception of their availability. A similar approach was adopted for the present study. The study is holistic and describes the principles of ethnotaxonomy, nomenclature as well as the importance of the plants species in the GaMamabolo community. The study is determined to give a full and detailed analysis of the classifying and naming of GaMamabolo indigenous plants. It also presents a full review of principles of ethnotaxonomy of useful plants among the GaMamabolo. This study attempts to convince the youth about the importance of indigenous knowledge. The documentation of this study is of great help for future scholars as a source of reference.

GaMamabolo community's vegetation, in particular its origin and names, is the focus of inquiry in this study. Descola and Palsson (1996:16) indicate that the study of ecology is never ending for human beings interact with the natural environment for survival. They continue by illustrating that the interaction is rooted in rural African communities who exploit the natural environment for fulfillment of basic needs such as food, clothing, shelter and maintaining good health. They further explain that ethnoecology tends to generate much information on taxonomic representation and relationships as perceived by people. The GaMamabolo community possesses plant taxonomy that represents their community principles.

This study explores the indigenous knowledge systems of the GaMamabolo ethnotaxonomic principle of useful plants. The study attempts to encourage future scholars to have an interest in researching further the principle of useful plants in their chosen areas. The present study involves an investigation of utilization of indigenous plants. It aims to instill pride in their culture as dynamic African legacy among people. Youth, adults and children are expected to benefit much from this study. If African educators could implement findings, conclusions and recommendation of this study, the intention of this study, the intention of this study shall have been met. Most future

scholars, if they pursue their studies along this field of ethnobotany, the benefit of this study shall have been accomplished.

### **1.1 The statement of the problem**

Members of different cultural groups perceive the natural environment in different ways. Veillux and King (1990:2006) indicate that ethnobotanists explore how plants are used for things as food, shelter, medicine, clothing, hunting, religious ceremonies and energy sources, for man's survival. Human beings have developed a technology by which they learned to differentiate between objects and phenomena in the local surroundings (Descola & Palsson, 1989:15).

The functional significance of the flora in most cultures is reflected in the commonly understood naming criteria that are used in respect of plants. Indigenous plants are given names to facilitate recognition. Not all names of plant species have an obvious meaning, but those that do have meaning fall in three categories, namely grasses, trees and shrubs (Rankoana 2000:15). The most obvious problem to be addressed concerns the nature and extent to which the flora of the target area supplies in the diverse needs of the local community. The problem to be investigated extends far beyond naming of plants and their uses. All those needs need to be considered as part of a local community value-system.

A problem of great practical interest relates to the perceptions of community members of the flora as self-sustaining natural resources. Community members never asked themselves as to the extent to which the natural flora can sustain itself or the person responsible for sustaining it. Martin (1995:24) warns against rigid divorce of human activity and conservation of the natural flora for its sustenance. According to Martin, human activity directly and indirectly implicates on the availability and depletion of the natural flora, yet humans are not conscious about the implications.

The indigenous knowledge of differentiation is manifested in many scientific studies including ethnobotany. Today this knowledge is slowly vanishing because of the European influence on cultural traditions. The documentation on the importance of the GaMamabolo`s indigenous taxonomy and significance of indigenous plant contains ethnobotanical information in the Northern Sotho culture. Rankoana (2000:9) denotes that knowledge of useful plants must go back to the beginning of human existence. Indigenous knowledge about the utilization of flora and their significance needs publicity.

There appears to be no unambiguous definition or description of the scope of ethnobotany, a relatively new and neglected field of study. Ethnobotanical research over the years has given rise to a number of definitions: Malan and Owen-Smith in Mabogo (1995) studied the ethnobotany of Kaokoland with the main objective of discovering the dispositions of botanical folk classifications encountered among the Herero-speaking peoples of Kaokoland. Mabogo`s (1990) ethnobotanical study contains significant features of folk taxonomy of plants, including the information about the utilization of the flora in the culture of the Vhavenda people.

It is evident from the literature that most researchers in the field of ethnobotany tend to restrict their attention to one aspect, which is the medicinal value of indigenous plants. Very little knowledge exists on indigenous plants taxonomy and nomenclature. Berlin (in Cotton 1996) presented an analysis of indigenous principles of taxonomy and nomenclature. The analysis shows a wealth of knowledge traditional societies have developed in identifying and classifying phenomena and objects in the natural environment. Similar knowledge is held by the Northern Sotho and Vhavenda people researched by Rankoana (2000) and Mabogo (1990) during ethnobotanical enquiries in the Limpopo Province.

## **1.2 Definition of terms**

### **1.2.1 Principles**

Kingsley (2000:651) explains a principle as a fundamental truth or proposition serving as the foundation for belief or action. It is morally correct behaviour and attitude ruling belief governing one's personal behaviour (Persal 2002:26). In this study principle refers to the GaMamabolo community's fundamental truth and cultural beliefs about the naming and classification of the local vegetation for subsequent recognition.

### **1.2.2 Ethnobotany**

Since its conception in 1986; Harsberger (1986) in Martin (1995:51) proves that the concept of "ethnobotany" is a rather difficult term to define. He regarded it as simply the use of plants by aboriginal people. In the study of ethnobotany, 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. As a result, ethnobotany has been repeatedly redefined and even now no definitive agreement in its definition has been reached (Yen in Martin 1995:54).

However, for the purpose of this study, ethnobotany is considered to encompass all studies that concern the mutual relationships between plants and the people (Cotton, 1996:14). It discusses how members of the GaMamabolo community interact with their local vegetation. According to Martin (1995:55), it is the study of people's classification, management and use of plants. The study contributes to analysing how humans interact with the plant world. The GaMamabolo community depicts it as a close relationship between them and local indigenous plants.

### **1.2.3 Taxonomy**

Berg (1997:127) explains taxonomy as the science of describing, naming, and classifying organisms. It is how one uses what he/she already knows about plants if he/she wanted to assign them to groups or would classify them according to their uses; classification such as edible, poisonous plants and groups such as herbs, shrubs, trees and others. In this study the importance of classification of GaMamabolo indigenous plants is discussed.

### **1.2.4 Ethnotaxonomy**

Ethnotaxonomy refers to the naming and classification of things within a certain geographical ethnic group. It refers to how different local communities name, classify and apply their local vegetation or plants based on their perceptions (Cotton 1996). In this study ethnotaxonomy refers to the naming and classification of local vegetation of GaMamabolo.

### **1.2.5 Indigenous knowledge systems**

Indigenous knowledge refers to the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographical area (Grenier 1998). In this study indigenous knowledge systems refer to the knowledge the GaMamabolo community has about naming and classification of their local vegetation.

Indigenous knowledge systems refer to a complex set of knowledge and technologies existing and developed around specific conditions of populations and communities indigenous to a specific geographical area. It also refers to past knowledge which was held by those population groups that existed during the pre-colonization period (Grenier 1998). GaMamabolo indigenous knowledge systems of naming and classifying the indigenous vegetation are of vital importance in this study.

### **1.2.6 Culture**

A set of learned patterns of behavior and thought characteristic of a society. The patterns of behavior and thoughts are commonly shared within a society. It is the primary means by which humans adapt to their environment. The way of life characteristic of a particular human society (Nanda and Warrms: 2002:23). The GaMamabolo adapted to their environment as a community.

### **1.2.7 Plants**

According to Collins South African School Dictionary (2000:680) plants are living things that grow in the earth and have stems, leaves, and roots. Plants are the key to all forms of life on earth. All living organisms of higher life form depend on plants for survival. Plants reproduce themselves by seeds, bulbs, cutting, and spores and by grafting. Plants are the core subjects in this study for scientific investigation.

### **1.3 Literature Review/Survey**

Very limited literature exists on ethnotaxonomic principles of ethnobotany. The only detailed study was conducted by Berlin as cited in Cotton (1996:248). A detailed analysis of the local ways of classifying and naming of indigenous plants is given with reference to human perceptions of the local environment as an influential factor. Nationally, few ethnobotanical studies have made mention of indigenous methods of classifying and naming of indigenous plants except for Rankoana (2000). In this study the local ways of identifying indigenous plant species in the local environment are fully reviewed.

Botanists such as Berg (1997) and Thomas and Michael (1998) support the view that every plant community is named after its dominant species, is characterized by its own roster of associated species. Berg (1997) commented that Carolus Linnaeus, a Swedish botanist, began improving the way organisms were named and classified. He also classified all unknown plants and animals according to their genera.

Ethnotaxonomic studies have determined that local indigenous communities can recognize the integration of knowledge of local people with westernized nations as distinct groups into which the species are classified (Thomas & Michael 1998). They stipulated that the classification systems could be based in morphology, ecology, taste/smell, medicinal use, and nutritional use.

Lister in Alcorn (1995:43) stated that indigenous people classify and name organisms differently to the way present generation do. Lister further stated that of 106 Linnaeus species, the aborigines name 97. He also states that there are different forms of taxa that bear different names because they have different or specific uses according to Aboriginal taxonomy of Central Australia. He documented on the local taxonomy of both plants in that are useful to the Aborigines.

The theory of most European authors, such as Linnaeus (1711) and Hobson *et al* (1995) was based on generalized nomenclatures. The following botanists; Jones, Arlene and Luchsinger (1986), Elliot and Michael (1998), Kaufman (1989), Kingsley (2000) and Berg (1997) were also scientific in their approach regarding botanical nomenclature. Indigenous plants are classified as trees, shrubs, grasses, reeds and aloes. In this regard it means that their studies were considered scientific as compared to traditional approaches. Martin (1995) and illustrating local taxonomic construction, tabled indigenous plants in his literature the way they are categorized and named according to how they are perceived in the local natural environment by local communities.

The researcher was encouraged by ethnobotanical studies of Mabogo (1990) and Rankoana (2000). Both scholars have examined the way in which local communities categorize and name the indigenous plant species as identified during investigations. Their studies were ethnobotanically based. The present study explores the indigenous knowledge systems of naming and classifying plants species in GaMamabolo.

Documentation on taxa of both plants according to their uses was done by Wet Lister (2003: Internet) in Alaska Native Knowledge Network. Most of dominant European authors, such as Linnaeus (1711) and Hobson et al (1995) based their theory on naming of plants of their area study. Their classification and naming were not ethnobotanically based but biologically. The following botanists Jones, Arlene and Luchsinger (1986), Elliot and Michael and (1998), Kingsley (2000), Veilleux & King (1990:Internet) Kaufman (1989), and Berg (1997) were biological in their approach when viewing natural resources as a whole as far as naming and classification of plants is concerned. In this regard it is obvious that they were westernized and not traditional in their approach. Westernized publishers who were relevant pertaining to ethnotaxonomic point of view were Alcorn (1995), Cotton (1996), Croll (1992), Descola and Palsson (1996) and Veilleux and King (1990: Internet).

#### **1.4 Motivation**

Human beings have developed a technology by which they have learned to differentiate between the objects, experiences and phenomena in the local surrounding. Indigenous knowledge of differentiation is manifested in many scientific studies including ethnobotany, where the ethnotaxonomic knowledge is passed on from generation to generation (Martin 1995: 41). This study demands documentation and recording to add to the ethnotaxonomic aspects in ethnobotanical literature and to review the wealth of knowledge traditional communities have in attaching meaning to their local vegetation.

Today the indigenous knowledge systems and the importance of cultural traditions are slowly vanishing because of the European influence on traditions (Msimang 2001:11). Therefore, the present study attempts to describe the importance of cultural traditions in the GaMamabolo community by showing their knowledge systems in aspects of ethnotaxonomy.

The key research problem that this study attempts to address is the community's principles of ethnotaxonomy. The study addresses the indigenous knowledge systems of naming and classifying the indigenous plants employed for household needs in the daily

lives of the GaMamabolo people. The study explores the ethnotaxonomic principles of useful indigenous plants among different community members such as the elders, youth and men and women within the area. Responses from the study informants yielded differences in knowledge about the origin of indigenous plant names. The elders showed a vast knowledge about the grounds for naming and categorization of indigenous plant species identified during the study.

## **1.5 Study aim and objectives**

### **1.5.1 Study aim**

The aim of the study is to describe principles of ethnotaxonomy among the Mamabolo community.

### **1.5.2 Study objectives**

- a. To describe the indigenous knowledge systems of taxonomy of the most useful indigenous plants employed by the GaMamabolo community.
- b. To describe the indigenous knowledge systems of nomenclature of the most useful indigenous plants employed by the GaMamabolo community.

## **1.6 Methodology**

### **1.6.1 Study design**

The research design is the framework of the study. The framework is always determined by the study aim and objective. Barbie and Mouton (2006) show that a research design is described in terms of the type of data to be collected during the research process. Menard (1995) adds that the type of research design to be chosen for a study should be determined by the researcher's manipulation of the environment or control of the situation. Two major types of research designs have been identified; qualitative and quantitative research designs. In many cases the research or project is designed to collect

data which are either qualitative or quantitative. The framework for the present study is a qualitative study design. The choice of the framework was influenced by the study objective which is the need to collect information about the indigenous knowledge of naming and classifying the indigenous flora.

The information collected during the research process is qualitative. The information consists of descriptions and explanations about ethnotaxonomy in a traditional society. Another element that influenced the choice of a qualitative study design is the degree to which the researcher will be involved in the research process. The study did not involve any laboratory observations but conducting of interviews and observations of plant-based products in the households.

### **1.6.2 Timeframe**

The study is cross-sectional. Empirical data were collected and completed over one period. Fieldwork was done for a period of twelve months. The researcher stayed in the community for a period of six months conducting interviews and doing observations at the same time. The activity was done during January and July. The researcher observed the community's daily cultural activities while capturing relevant information.

### **1.6.3 Sample**

Barbie and Mouton (2006) define a sample as a subset of a population. Usually, the size of the sample is much less than the size of the population. The primary goal of this research was to use information collected from a sample to try to characterize the GaMamabolo community's principles of ethnotaxonomy. As such, interviews have been conducted with the sample rather than the entire community.

### **1.6.3.1 Sampling procedure**

As representative of the entire population, proper and more relevant procedures have to be followed in the selection of a study sample. A probability sampling procedure was followed. A basic principle of probability sampling is that the sample should be representative of the population from which it is selected if all the members of the population have an equal chance of being selected in the sample (Barbie & Mouton 2006).

A random selection was the key to the selection procedure. All members of the community had equal chances of participating in the study. Selection of research informants was done according to the framework or plan of the community. Every tenth household in every third street was selected to identify the informant to be selected for participation in the study.

### **1.6.3.2 Sample size**

The sample size was 60 informants (15 from each of the four villages). Informants were elders, traditional healers, youth, men and women between ages of eighteen and seventy. They were selected from the villages targeted for study through random sampling. Among the sixty study informants; thirty were males and another thirty were females.

## **1.6.3 Data collection**

### **1.6.3.1 Secondary data**

Menard (1995) defines secondary data as existing primary data that was collected by someone else or for a purpose other than the current one. Secondary data were collected through a review of literature. Ethnobotanical literature was reviewed to give an analysis of which ethnobotanical aspects have been researched as well as identification of gaps in

knowledge in the literature. The researcher reviewed literature such as published books, journals, unpublished theses and dissertations and sources on the internet.

### **1.6.3.2 Primary data**

The primary data, which is generated through administration of questionnaire, conducting interviews and observations may be qualitative in nature (usually in the form of words) or quantitative (usually in the form of numbers or where one can make counts of words used) it is firsthand data collected and known to the researcher only before it could be published (Mwanje 2000).

### **1.6.3.3 Data collection process**

#### Research instrument

An interview schedule was designed to ask the same questions to all the study informants. The questions were designed according to the study aim, objectives and research questions. The questions were designed to enable the researcher to obtain information about the GaMamabolo community's indigenous knowledge systems of naming and classification of the most useful indigenous plants.

Informants were interviewed in their own homes during the study. Field notes were recorded. Precautionary measures were taken to ensure that outstanding information was recorded during and after observations. The researcher never encountered problems in writing and speaking the local dialect for she speaks *Sepedi*, the official language in the Limpopo Province and even in the research site.

#### Collection of voucher specimens

Voucher specimens of the plant species identified by the study informants during the research process were collected, pressed and submitted to the University of Limpopo

Herbarium for scientific identification. The voucher specimens are deposited in the Herbarium for future assistance to other researchers.

#### **1.6.4 Data analysis**

The researcher applied Mwanje's (2000) model in analysing qualitative data collected through interviews and observations. According to the above scholars the use of a qualitative approach for data analysis in a study implies that the researcher encounters data which he/she did not anticipate during the study. In the light of this statement the researcher carried out the analysis in accordance with the model. Firstly, the researcher familiarized himself with the preliminary meaning of data developing from the experiences and ideas gathered through the interviews and observations during data collection period.

Secondly, the researcher identified themes from, the language of interviewees, their thinking in terms of processes, functions, tensions and contradictions, and, finding optimal levels of the complexity of themes from the interview schedules and notes. Data were sorted out and categorized according to explanations, definitions and descriptions. Categories of data produced information that was presented into chapters, list of the most useful plants, categories of plants according to use, morphology, and habitat conservation strategies.

#### **1.6.5 Research question**

The following research questions were asked to the study informants to meet the study aim and objectives:

- a. Name the indigenous plants that you use in your household- as medicine, food, shelter, utensils, and any other purpose for which they may be used.
- b. How are the indigenous plants identified from each other in the wild?
- c. If they are given names, what is the strategy of naming them?

- d. Why are the indigenous plants given such names?
- e. What is the cultural significance of indigenous plant names?
- f. How are indigenous plants categorized?
- g. What cultural practices influence the naming and categorization of indigenous plants?

### **1.6.6 Challenges**

The researcher speaks Northern Sotho; the official Language spoken among the Pedi in the Limpopo Province. Language problems have not been encountered. The researcher did not employ the services of an interpreter. The interviews were conducted in Northern Sotho. Traditional medical practitioners were not free and willing to share their ethnobotanical knowledge for the reason that they have been insulted under the guise of research over the past years. There were allegations that many researchers have consulted with them to obtain knowledge of traditional medical practice and published the research results with the names of the informants. The researcher therefore, promised the traditional medical practitioners and all the informants that they will remain anonymous in the research process. Community members were interested in knowing the results of the study. The researcher promised to share with the community; especially the royal family council the results of the study once the study have been finalized and approved.

## CHAPTER 2

### ETHNOGRAPHY

#### 2.1 Historical Background

It should be borne in mind that the GaMamabolo had not been called by that name until 1803. The GaMamabolo community was part of a nation which migrated from Zimbabwe to Nzhelele in the former Venda Homeland. From Venda they joined the Lobedu community which is now settled in the Modjadji next to the town of Tzaneen. The GaMamabolo further broke away from the Lobedu to settle independently in the area they now occupy next to the University of Limpopo, Turfloop Campus. It was during their break away from the *Lobedu* that they adopted the name GaMamabolo. It is maintained that the name Mamabolo is derived from the Northern Sotho term “*lebollo*”, meaning circumcision. It implies that the GaMmabolo people by then were identified as people practicing lebollo.

*Seolwana* is justified as the founder and the father of the House of GaMamabolo. His wife was Mamabudiša. They both originated from Zimbabwe and were given refuge in Venda. They immigrated to several place such as Bolubedu, Mphahlele, Molepo, Litshitele, Veekraal until they came to stay in Bjatladi in 1860 under the leadership of Maribe. They built their dwellings on the Mahufshe Mountain so as to be able to see their enemies at a distance. The vestiges of such structures are still evident. This is where Haenertsburg is situated.

#### 2.2 Location

GaMamabolo is situated some thirty to thirty-five kilometers East of Polokwane, next to Mankweng Township, Moriya and Limpopo University. The place is fairly low-lying between mountains. The GaMamabolo belong to the North Eastern dialect group of the Northern Sotho and have a slight Lobedu accent. The GaMamabolo land comprises of

numerous African owned farms covering 4933 morgan. Geographically and culturally the GaMamabolo belong to the Plateau East Sotho under the municipality of Polokwane even though they are ruled by a hereditary chief. The land is divided into two chieftainships, each independent under its own chief (*kgoši*). The Mankweng tribe of *GaMamabolo wa thaba*, settled in the south; in an area covering 300 morgan. The Segopye community is North of Mankweng location. There is a demarcation boundary between the tribes. The split into the two chiefdoms occurred around 1860 and 1870 (Mamabolo 1994).

### **2.3 Climate**

The GaMamabolo area falls under high altitude plains and plateaus. Its situation between mountains has an impact on the cold temperature. Rivers and streams are common features around the place. Rainfall ranges from 300 to 750 mm annually. The summers are moderately hot reaching temperatures, of 21°C and during the day and dropping to about 16°C at night. In the winter, day temperature can reach 15°C but night temperature can drop to about 6°C with occasional frost. It rarely rains during winter; most rain falls during summer.

### **2.4 Vegetation**

The GaMamabolo community is settled on a fertile upland with beautiful scenery and luxuriant valleys. The evergreen land was named Bjatladi-a-Dikolobe (GaMamabolo's totem). Along the rivers and valleys grow many types of grasses and weeds. More common trees that are perennial lean over riverbanks. Trees that need little soil such as rock figs are abundant for they can grow easily in the cracks between the rocks. In this area mixed indigenous plants are found. Plains contain different soil types such as sandy clay and nutrient soil. The vegetation, which is classified into five categories, found in the area includes aloes, grasses, reeds, shrubs and trees and other generic forms. There are some species that are not classified or categorized and their significance is unknown.

## **2.5 Cultural Background**

The GaMamabolo community interacts with their physical, social, and spiritual environment. They are endowed with an abundant heritage of a diversity of indigenous knowledge systems. Elders have faith in their ancestors and disseminate that information to their offspring. They recognize the importance of cultural traditional practices for they promote it in totality. This great heritage is expressed through cultural practices such as maintenance of good health, tending livestock, cultivation of the soil and crafting.

The ancestors (*badimo*) were moved from Bolobedu to GaMamabolo (Mamabolo 1994:32). Indigenous knowledge systems are important aspects of the Mamabolo cultural heritage. This great heritage is expressed through cultural practices such as healing of diseases, treatment of illnesses, collecting of indigenous fruit, and gathering of edible plant species. They impose some taboos on certain significant species for their sustainability.

## **2.6 Language**

The GaMamaboolo is a sub-group of the Northern Sotho cultural and linguistic unit. They are proud of their dialect and would never compromise it for another language. The people retained their dialect even after the great influence of western knowledge systems. They are very fortunate for they are not mixed with other tribes like other Northern Sotho speaking people who live amongst other ethnic groups and who are easily influenced by other languages. They maintain their culture and linguistic unit where-ever they are.

## **2.7 Religion, magic and traditional healing**

Ancestor worship was common practice during kgoši Maribe's chieftainship. This type of religion is still valued and plays an important role in the lives of 68% of community members. Sacrifices are still valued to perform healing and thanksgiving rituals. A small majority, 21% of the study informants showed that they have abandoned ancestor

worship for Christianity. They testified that ancestor worship is an old practice and that people would have to move to new lifestyle; adoption of western cultural practices including Christianity. Eleven percent of the study informants practiced a polytheistic type of religion. The people equally valued ancestor worship and Christianity. The two religious practices are observed to maximize the results; for example it was observed that a sick person would receive treatment from a traditional practitioner whose healing paraphernalia are blessings from ancestral spirits and at the same time consult with a spiritual medium, a prophet or priest for prayer.

There is a distinct interrelationship between the GaMamabolo`s religion, magical practices and traditional healing. Their religion is based on relations with personal and supernatural beings and manifests as the veneration of ancestral spirits. These spirits are also important agents in the treatment of many diseases as an essentially religious practice. Plants remedies are considered as *dihlare* in a variety of remedial and protective measures as well as substances that ensure success and good luck. Diviners and traditional healers (*dingaka*) are mainly practitioners who diagnose the cause of disease, misfortune or bad luck and prescribe treatment for remedial, preventive and protective purposes.

## **2.8 The ethnobotany of GaMamabolo community**

A total of 85 plant species were recorded to be used in the daily lives of people in the study area. (See Appendix A) Some of the species have been identified in the literatures of Rankoana (2000, 2001) and Kinchebe (1999). Species have been alphabetically grouped in Appendix A. The botanical names of the species are followed by their vernacular and English names. Ethnobotanical knowledge of Mamabolo community represents a cultural identity molded by activities as gathering, herding, cultivation of the land and production of household utensils and other products from plant material. The Mamabolo community still heeds a subsistence way of life. All people have a good knowledge of the types of vegetation in the area and the purposes for which they are used.

Indigenous plants are used in their entirety (roots, barks, branches, leaves, fruits) for multiple purposes. The importance of plants among the Northern Sotho is quite evident. These people are close to nature that they can easily distinguish a useful species from a useless one, a male from a female one. They would preserve the female species more than the male one because the female species are the fruit bearers and the preserver of the species. The diversity in plant species is matched by the many uses to which plants are put.

### **Foods**

The Mamabolo community can differentiate between edible and poisonous plant materials. Children are taught to differentiate between the poisonous and non-poisonous species during gathering expeditions with the elders. A variety of foods are prepared from the cheap and accessible plant materials in the local environment. Of the total indigenous flora, eight species have been identified as vegetable side dishes and thirteen as fruits. The plant materials exploited for food are available seasonally. People have developed techniques of preserving them for use throughout the year. Some materials are cooked and dried; others are put in the sun to dry. These would be safe in a willow-basket and could last for years.

Nature has also provided the community with a variety of fruits as mentioned in the previous chapters. Many people are knowledgeable about the edible and none edible fruits in the local surroundings. Fruit collection requires a walk from the village to the veld where indigenous fruits are collected in large numbers. In the past, fruits used to constitute a valuable source of food. The life of Adam and Eve in the Garden of Eden confirms the statement. The dependency on indigenous fruit has drastically declined due to human overpopulation and deforestation. The activity of gathering fruits from the veld is seasonal and does not take up much time compared to other agricultural activities. It is a communal exercise in which mostly boys and girls participate.

## **Firewood**

Many people are knowledgeable about the types and quality of wood to exploit for fuel. In this study 11 firewood species have been identified within the local area. Although the majority of species can be used as a source of fuel, good burning firewood was singled out. Most of fruit-bearing species (with the exception of *Sclerocarya birrea*) and species with medicinal value are protected and used for firewood. Women and girls collect firewood. It is a communal activity done in the veld when women and girls break off dry wood by hand and axe. Some boys and men exercise this activity collecting firewood with donkeycarts for commercial purpose. Firewood is excessively used during festivals and burial times. It is still used widely even after the installation of electricity in most communities of GaMamabolo.

## **Construction**

Plant materials are also used for construction of huts. The walls of the huts are made of strong poles and young saplings smeared with cow dung. In selecting plant material suitable for hut construction, characteristics such as shape, strength and durability are taken into account. Preference is given to species that grow tall and have straight trunks with red heartwood that is resistant to termites: *Acacia tortillas* (*moshu*-umbrella thorn).

Suitable grasses and reeds for roofing and thatching are chosen on the basis of their availability, durability and waterproofing characteristics. The hut roof is constructed from sapling bound together with wickerwork to form a conical frame. Strings of *Agave Americana* (*sekgopha*; sisal) are used to fasten the poles. The roof is made separately and when finished, it is placed on the wall, which it overlaps considerably.

The conical frame is thatched by plant material selected by virtue of their waterproofing properties. These include *Aristida congesta* (*motšhikiri*; barbicollis) and *Phragmites communis* (*lehlakanoka*; common river reed). The fibre of *Acacia tortilis* (*moshu*;

umbrella thorn) and *Grewia flava* (*mohletlwa*; brandy bush) are to fasten the roofing materials to the supporting frame.

### **Other uses**

Plants have certain economic significance. Some provide shade for social gatherings. Rankoana (2000) notes that grasses, tree trunks, branches and aloes can be weaved and curved to make utensils for subsistence and commercial purposes. Brooms and cooking utensils are produced in large quantities for commercial purposes than was the case in the past. Men are experts in the production of cooking utensils, which are durable. Although the local vegetation is depleted, the Mamabolo communities walk longer distances to search for suitable material. Women still show remarkable knowledge of making wicker utensils and selecting the best material for the making of brooms. These are also produced in large quantities to generate money. Ethnobotanical knowledge is also evident in the choice of species to provide shade in the homesteads. Species with a good root system are transplanted from the veld to the homestead when they are still young.

### **Gender difference of ethnobotanical knowledge**

There is a vast difference in ethnobotanical knowledge among men and women. Women have an intimate day-to-day relationship with their natural environment around them, due to their collection of firewood, indigenous foods and fruits, medicinal plants, as well as collection of water from the water sources. Ploughing is performed by elders, youth, women and men in the fields. Planting generally commences after the first rains have fallen. All the different crops are grown together in the same field. Men and herdboys have knowledge of taking livestock for grazing. Overgrazing of pastures increases the significance of trees and shrubs as stock fodder. In the varied production system, labour is divided among the sexes. Indigenous fruits and firewood are collected by all sexes. Traditional healers collect plants to heal different sickness within the area

## **Indigenous knowledge system transmission**

The Mamabolo community knows through oral culture, which plant material is best suited for which purpose, and one would never take chance with unknown species.

Elderly members of the communities bear the responsibility of imparting this knowledge from generation to generation. The knowledge is not gained in a classroom but is largely consolidated and communicated through stories, songs, dance and also shared through observations and learning. It is accumulated across generation without written documentation. All knowledge originally resided within the memories of living persons. With the introduction of western knowledge systems, many changes took place with respect to traditional lifestyles and practices.

### **2.8.1 The medical ethnobotany of GaMamabolo**

Like other Northern Sotho communities, the GaMamabolo community has developed extensive knowledge of healing plant materials. The traditional medical practitioners diagnose, prevent attack by different types of illness, heal varieties of diseases and social imbalances, combat sorcery and other magical incidents by applying significant plant-based medicines. Hammond-Tooke in Rankoana (2000:24) explains traditional healing as the sum total of all the knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance, relying exclusively on practical experience and observation handed down from generation to generation, either verbally or in written form.

The majority of the medicines used are derived from natural vegetation that has magical qualities. Mönning in Rankoana (2000: 29) says that much of the organic world surrounding the Pedi is conceived of as being infested with supernatural qualities that are sought after by people. This also applies to medicines for healing disease, for magical protection and for ensuring success in various endeavours. Some forces can be transposed

from the vegetable matter to strengthen or protect the dignity of humans and to heal disease.

The use of traditional, plant-based medicines has not been replaced by the use of modern biomedicine and other therapies. Other plant species would often be used to treat the symptoms of a disease, after which traditional divination and remedial action will be sought to remove the root causes of the physical and /or mental affliction. That is the reason why traditional psychotherapy and the accompanying use of traditional medicines have not been supplanted by education, modern medical science or Christian beliefs (Rankoana 2000:30).

Treatment of disease by traditional healers was viewed with efficiency for it was received with the unquesting belief by the community (Kinchebe: 1999). Herbal remedies and the application of other plant materials are culturally well established and still widely used. Medicines are derived from tree leaves, roots, bulbs, some stems, some grasses, young leaves and bark. Herbalists have extensive knowledge of parts of plants to collect for treatment. Plants are processed in several ways before they are administered to patients. Some methods are as follows:

An infusion – Fresh or dried barks and roots are soaked in water overnight and drained to be taken orally when having a stomach ache.

A decoction – Fresh or dried plant material roots are boiled for two hours and the drained decoction is taken orally to treat several conditions.

Powder – The roots of some plants are roasted or burned to ashes to be rubbed into body incisions or the powder can be taken orally with water. It is sometimes mixed with fat and applied on the skin for the treatment of sores or wounds and also toothache.

Smoke – The roots of some plants are burned for their smoke to be inhaled to cure a cough.

Steaming – Plants parts are boiled and the steam is inhaled as a good remedy for Headache.

Chewing – Certain bulbs and leaves are chewed, spat on the hand-palms and rubbed on a patient’s body.

Table 1. The table presents common diseases treated by traditional medical practitioners, plant species exploited and the plant parts harvested for medicine

<b>Name of illness in vernacular</b>	<b>Plants used (vernacular and botanical names)</b>	<b>The name of the plant part used</b>
<i>Bogafi</i> / insanity	<i>Mohletlwa-grewia flava</i>	twigs
<i>Dikotwane</i> /epilepsy	<i>Mohlatswa-chrysophyllum magaliesmontanum</i>	fruit
<i>Hlogwana</i> /pulsating fontanelle	<i>Mokgalo-ziziphus mucronata</i>	leaves
<i>Khubjana</i> /stump	<i>Monee-berchemia zeyheri</i>	fruit
<i>Letšhologo</i> /diarrhoea	<i>Monamane- ilex mitis</i>	root bark
<i>Madi-a-magolo</i> /high blood pressure	<i>Sekanama-urginea sorguinea</i>	bulb
<i>Mala</i> /stomachache	<i>Sekgophana-aloe marlothii</i>	leaves
<i>Malwetši-a-basadi</i> /infertility and miscarriage	<i>Morula-marula-sclerocarya birrea</i>	roots
<i>Mahlo</i> /sore eyes	<i>Mothokolo-carissa bispinosa</i>	root
<i>Meno</i> /toothache	<i>Mokhure-cucumis africanus</i>	leaves
<i>Moroto</i> /urinary disease	<i>Legaba-</i>	bulb
<i>Mpholo</i> /snake-bites	<i>Mmaba- Trichilia emetica</i>	bark
<i>Malwetši-a-banna</i> /impotency	<i>Mokgalo-ziziphus mucronata</i>	leaves

<i>Nogana</i> /dysentery	<i>Monamane- ilex mitis</i>	root
<i>Sekhuba</i> /cough	<i>Mosunkwane-lippia javanica</i>	leaves
<i>Kgetlane</i> /heart-burn	<i>Molope-schotia brachypetala</i>	bark
<i>Mokakamala</i> /piles	<i>Mothokolo-cassa bispinosa</i>	root
<i>Seješo</i> /poison	<i>Selešo-fadogia tetraquetra</i>	root
<i>Boloi</i> /witchcraft	<i>Mohletlwa-grewia flava</i>	twigs

### 2.8.2 Gathering of plant materials

The GaMamabolo community has a good knowledge of the local flora in their area. People utilise these sources extensively as is evident in the collecting of vegetable side-dishes, fruit, medicines and firewood. They can also differentiate between perennial and seasonal, edible and non-edible plants; hence the knowledge of what plants should be gathered. Nature has provided the Mamabolo community with a variety of fruits.

The gathering activities such as plucking (*go fula*), picking up fruits (*go topa*), digging roots (*go epa*), cutting (*go sega*), chopping trees and collecting seeds and fruits are completely devoid of any rites, magic or ceremonies. The gathering activities are based on extensive knowledge about their local environment. Gathering is largely an activity of women and children. Men will eat fruit in the veld when they come across it. It is practically a daily activity for women. They are expected to provide a regular supply of vegetables and firewood for their families. Herdboys also live largely off the veld, and while herding them they gather whatever they can.

### 2.8.3 Vegetable Dishes

Of the area's indigenous flora, twelve species are collected for vegetable side dishes to be eaten with cereal porridge. These plants grow as weeds between crops in the fields and

around homesteads, and in the veld. GaMamabolo women and their daughters have an extensive knowledge of poisonous and edible plants when exercising gathering activity.

Potherbs (*merogo*) collected in the area are as follows:

*Morotho* (*Gynandropis*- Spider-wisp) is the most popular young leaves for the community. It can be eaten green or can be half boiled and kneaded by hand into small lumps (*dikwatana*) and left to dry out naturally and stored for use. It can also be gathered and left to dry out to be eaten as a dried side-dish.

*Theepe* (*Amaranthus thubergii*-Pigweed) can be eaten fresh or dried. It can also be gathered and left to dry and eaten as a dried side-dish.

*Mophotse* (no botanical name - Pumpkin) can be eaten as *tshwahla* after its leaves have been left to dry out and can also be eaten fresh. It is delicious when mixed with its flowers and immature fruits.

*Letelele* (*Amaranthus spinosus* -Thorny pigweed) is only eaten fresh. Its preservation status is poor because of its slimy texture.

*Monyaku* (*Cucumis africanus*-Wild cucumber) is eaten fresh because it loses its original taste when dried.

*Morogo wa maswi a pudi* (*Ipomosa lugardu*- Wild pertunia) can be eaten when added with goat`s milk for tasty and pleasant flavour. Its preservation status is poor.

*Tshehlo* (*Tribulus terrestris*-Devil`s thorn) can be eaten fresh and also after having been dried. It has a bitter taste.

*Sekalerothane* is a favoured side dish and it is not that common to most of the community. It can be served in times of scarcity and can be dehydrated.

*Lehlanye* is a side popular plant for its bitter taste. It cannot be preserved for future use.

*Monawa* is also a popular plant. It can be dried or eaten being fresh. It is abundance in their homesteads and also in their field. From these side dish legumes known as (*dinyebu*) indigenous green beans eaten out of its leaves are enjoyed by the community.

*Motšhatšha* is eaten fresh only. It is bitter in taste.

*Mantlalekgere* The fresh leaves of this plant are only suitable to be eaten. It is bitter in taste. Its preservation status is poor.

#### **2.8.4 Collection of indigenous fruits**

Nature has provided the GaMamabolo community with various fruit trees. In the past, they constituted a valuable source of food. Fruit collection requires a special walk from the village to the veld where fruits were collected in large quantities. The activity of gathering fruit is seasonal. It does not take up much time as compared to agricultural activities. It is a communal exercise for all genders.

The following are the most common useful indigenous fruit varieties:

*Mahlatswa (chrysophyllum magaliesmontanum)*

The fruits are oval with a bright red colour when ripe. They appear all over the GaMamabolo area, in their homesteads, in the veld and on mountains. They are the most popular indigenous fruits in the community. They are eaten fresh or dried for future use. They are available from December to March.

*Dikgalo (ziziphus mucronata)*

This fruit is not commonly eaten. They are in abundance in GaMamabolo area. They are brown and glossy in colour when ripe. They contain a very sweet-sour substance when chewed. They are found in the veld.

*Mokumo (ficus burkei)*

They are brown and hairy when ripe. They look like figs when opened. The seeds are very pleasant after been chewed. The fruit attracts flies, bees and birds.

*Mabilo (vangueria infausta)*

This is a round, leathery, brown skin fruit which is found all over the area, in the homesteads, in the veld and also in the mountain. They are also favourable fruit for the community. The seeds are mostly three in number contained in separate sections like orange quarters. They are semi-sweet. They can be preserved for future use after having been dried.

*Ditloro (opuntia megacantha)*

The pear-shaped fruits of this species are available from November to March. They are reddish-yellow when matured. The fruit is covered with small spines and many people cannot pick them easily. The fruit is peeled and the yellow pulp is succulent. The pulp contains multitudes of small, hard seeds which may cause constipation if excessively taken.

*Dinamane (illex mitis)*

This is a round, fleshy berry that is glossy red when ripe. It is available from October to April in the veld. They are sour-sweet in taste.

*Dithehlwa (grewia flava)*

They have thin layer of sweet flesh and are brown when ripe. They have also tiny hairs on their skin with a thick seed covered by a very sweet skin. They are small and round in shape. They are available from November to March.

*Dithokolo (carissa bispinosa)*

They are round black or red berries when ripe. They are not easy to collect because they grow on a thorny tree. They are available from October to January. They are pleasant in taste.

*Dinee (berchemia zeyheri)*

These fruits are reddish to purple when matured. They are very sweet in taste and juicy. They are available from November to April.

*Marula (sclerocarya birrea)*

They are yellow leathery fruits when matured. These fruits flavour is sour-sweet.

*Matšhidi (ximenia caffra)*

These fruit are smaller than marula. They have a yellow glossy to red leathery skin when ripe. Their oval fruits are little bit sour in taste. They are popular in the area. They are eaten fresh and the dried embryos are pounded to extract oil.

*Mamupudi (mimusops zeyheri)*

They are oval, yellow to deep orange and fleshy. Their inside almost looks like a fig fruit but is very small in size. They are very pleasant in taste. They are available from October to April.

The next chapter outlines how GaMamabolo plants are classified. The information is based on classification of useful plants in the area.

## CHAPTER 3

### GAMAMABOLO PRINCIPLES OF INDIGENOUS TAXONOMY OF THE LOCAL VEGETATION

#### 3.1 Indigenous plants

The GaMamabolo community uses a number of generic terms for the naming and classification of the local flora.

##### 3.1.1 *Mabjang* (grasses)

Grasses are plant species that have no hard stems and flowers but are flowering species consisting of sepals and petals of an orchid. All grasses produce either stamen or pistil, or both. A typical grass species consists of roots and that produce stems leaves and flower-heads. They have several structures to simplify identification for the purpose of classification (Mabogo 1990, Rankoana 2000). The stems are cylindrical or flattened and are usually hollow between the joints and ligule. Grasses are classified together in various ways according to the purpose they serve for the community of GaMamabolo.

The grass family is divided into a number of smaller groups taxonomic (Rankoana 2000). They constitute nodes and leaves. They can be climbers, creepers, weeds, bulbous or reeds. Some of them are omitted because their purposes are unknown. Some are recognized and represent the species names. All their given names are believed to be correct. Their standardization depends on the extent to which they are used and therefore known. Popular grass names do not acquire an equal standing.

Grasses are given names to conquer the environment, to be used and to be identified in order to be classified. Grasses have several values to the community. Examples of species include *Stipagrostis ciliata* (*Bjang*) good for prevention of soil erosion. *Lehlakanoka* is good for interior and exterior decoration. *Dicerocaryum eriocarpum* (*Mompate*) has a

medicinal value. *Aristida congesta* (Lefielo) is used for making household brooms. *Motšhikiri* used for thatching huts. *Scipus validus* (Mohlahlala) is used for the making of artifacts. *Cynodondactylon* (Mohlakahlaka) is good source of fodder. *Gynandropsis* (Morotho) is for a palatable side-dish and fodder. *Castalia* (Kgoloane) is used to make household brooms and is a source of fodder for cattle.

### **3.1.2 Mehlašana (Shrubs)**

Shrubs are categorized as small tree plants in terms of height. Shrubs are believed to have short branches, stems and twigs. They are all leafy plants. Some bear flowers and edible or inedible fruits. Some are perennial while others are deciduous. They are also plants with firm and strong stems. Shrubs are recognised according to the purpose they serve the GaMamabolo community. They are identified on the basis of the quality of the stem: *Grewia flava* (Mohletlwa) has a sturdy stem and is used for several purposes such as carpentry, shelters, and daily utensils and weaving. Some of shrubs serve as sidedishes such as *Cucumis africanus* (Monyaku), *Lippia javanica* (Moshunkoane) and are recognized for their medical purposes. *Rotalaria capensis* (Fora) is vital for grazing; *Gnaphalium helichrysum* (Mohlahlaila) is good for tea and making brooms; *Grewia flava* (Mohletlwa) is used for its fruit and light source of fuel, and *Cythula ucinulata* (Maime) has medicinal strength.

### **3.1.3 Dikgopha (Aloes)**

Aloes are perennial plants that have short stems and long succulent leaves. Their leaves are fleshy, retain water and have thorns on the edges. Aloes are considered an indigenous flower and a protected plant. They are known as stemless plants. Some develop offshoots to form dense groups. They are categorized according to their stem shapes and size, leaf touch and length, size of their spines, leaf-sap, colour and size of leaves. Their leaf-sap is honey-coloured. The inflorescence grows about 1 metre high. They survive during drought because they retain water within themselves. Aloes are important in the lives of GaMamabolo community; they are planted in the households to decorate the courtyards.

Examples of species preferred include *Euphoria* (*Motlalamela*) and *Agave americana* (*Sekgopha*). The *Aloe marlothii* (*Sekgophana*) is mostly exploited for medicinal purpose and the, *Opuntia megacanth*, (*Motoro*) is a source of fruits and fodder.

#### **3.1.4 Mehare (Trees)**

This is typical plant species that consists of roots, twigs, branches and leaves. The tree families are considered by the community as the largest and most striking plants. They are conspicuous and easy to be identified. Some are deciduous and some are perennial. Some bear flowers and fruits while others do not. The GaMamabolo community names species according to their value in their culture. For example: *Ximenia caffra* (*Motšhidi*) provides sour-sweet fruits and medicine; *Combrutum imberbe* (*Mohwelere-tšhipi*) provides favourable firewood and medicine; *Mimosops zeyheri*, (*Mmupudu*) for providing good shade and fruits. *Sclerocarya birrea* (*Morula*) a good source of firewood, marula beer, artifacts, medicine, carpentry, shade and fruits and *Acacia tortilis* (*Moshu*) provides firewood, wood for constructions of houses fencing, fodder, and is used as medicine for livestock.

### **3.2 Categories according to use**

The value of plant species that exist in a particular environment differs according to how the local community perceives it. The category portrays the relationship between the local people and the plant resources in the local environment. Certain plant species are given names and classified according to their cultural importance. Some species are important to people as medicines, as food, or as sources of fuel.

*Selešo*, *Fadogia tetraquatra* - (a poisonous substance in the stomach that causes stomach pains). Medicine is prepared from this plant to dissolve the poisonous substance in the stomach.

### 3.2.1 Taxonomy derived from taste

*Mmaba* (bitter)

This plant is named (*Mmaba*) by the community because it is bitter in taste and also used to prepare a medicine that will act as a poison to kill poisonous foods in the stomach, and to combat snake poison in the body.

### 3.2.2 Habitat

(Phelalegolana) *Dicoma gerradii* grows in the veld.

(*Lehlakanoka*) *Phragmites communis* is a name for the plant that grows on riverbanks.

### 3.2.3 Morphological taxonomy

The names of some plants are derived from their appearance, colour or other characteristics. The following are examples:

*Letelele* (*Amaranthus spinosus*) a slimy texture: the leaves of this potherb have a slimy texture.

*Mokgalo* a reprimand. This tree has sharp piercing and tearing thorns that drive away gatherers when they collect its fruit or woods. It also drives away the stock when they eat its leaves.

*Morobadiepe* (*Pappea capensis*) an axe-cutter. The tree has a very hard wood.

*Mosehla* (*Peltophrum africanum*) African wattle. This tree has a yellow-whitish crown.

*Moselaphala* a buck's tail. The shape of the braches resembles the tail of a buck.

*Sekalerothane* a similar to *lerotho*. The leaves of this herb resemble those of *lerotho* spider-wisp.

### **3.2.4 Medicinal taxonomy**

*Bjere* (powerlessness). The name of this shrub conveys the idea of beating one's opponent in a court-case or by making the opponent powerless. These qualities are magically transferred to the person who takes the powder made from the plant's root bark.

*Maimo* (self-strength). The medicine from this plant is used to strengthen one's dignity.

*Mohlakola* (the rescuer). Medicine derived from this tree is applied to rescue one from malicious condition caused by witches.

*Morarwane* (tangled). Magical means to tangle enemies such as thieves and witches derived from the roots of this climber.

*Sekanama* (similarity with flesh). The inside reddish bulb resembles flesh. It is used for the treatment of high blood pressure (*madi a magolo*).

*Phela* (be alive). This herbal remedy cures cough and helps one to stay alive.

### **3.2.5 Functional taxonomy**

*Lefielo* (*Sporobos pyramidalis*) broom. Its culms are bound together and used to sweep (*go fiela*)

### **3.2.6 Taxonomy derived from food**

*Maswi-a-pudi* (goat's milk). This potherb is only palatable when cooked with goat's milk.

### **3.3 Other Generic Terms**

A variety of indigenous plants have the same generic name derived from their use or value. People know that these plants are related because of their common cultural value. They are also grouped together by means of a functional generic term although they have different primary names. This similarity in diversity is evident in the following instances as outlined by Cotton (1996) in Rankoana (2000).

#### **3.3.1 *Dihlare* (medicinal plants)**

All plant remedies are collectively referred to as *dihlare* (medicines). They include a wide variety of remedial and protective medicines, as well as substances that ensure success and good luck in a magical way (Rankoana 2001). Example of such plants are *mmilo*, *morula*, *mokgwete*, *moshunkoane*, *maime*, *sekgopha*, *monee*, *motšhidi*, *mokumo*, *mothokolo*, *molaka*, *mamba*, *mompati*, *mopilikomo*, *thitikwane*, *mohlakola*, *mmale*, *mokhure* and others

#### **3.3.2 *Dikgong* (Firewood)**

The activity of collecting firewood (*go topela dikgonye*) refers to the gathering and cutting of dry or live wood for fuel. All types of wood that are recognized as sources of fuel are collectively termed *dikgonye* (firewood).

### **3.3.3 Merogo (Side-dishes)**

Potherbs are collectively referred as *merogo*. Although all these potherbs represent different species they are cooked for the purpose of eating with porridge. Examples of such species are *theepe*, *lerocho*, *monawa*, *mophotse*, *letelele*, *maswi-a-pudi*, *sekalerotoane*.

### **3.3.4 Phulo (Fodder)**

*Phulo* refers to all plants material, leaves, pods and grass that are grazed by livestock. Plants such as *mokgalo*, *mooka* and others are considered as fodder plants.

Chapter 4 describes the significance of useful indigenous plants in Mamabolo area. It discloses all the information captured during the research.

## CHAPTER 4

### THE SIGNIFICANCE OF INDIGENOUS PLANTS

The vegetation in the area is classified under several categories such as *dikgopa* (aloes), *mabjang* (grasses) *mehlare* (trees), *mehlašana* (shrubs), *digwere* (bulbs), *mahlaka* (reeds), and other generic names.

Various species known and used in the GaMamabolo area will be discussed based on their classification as aloes, grasses, trees, shrubs, bulbs, reeds and other generic terms. Natural vegetation were discussed in terms of their habitat, use, description on what type of soil they grow, their duration of their life and the season when they blossom and have fruits in order to multiply.

Different types of plant names are discussed below:

#### 4.1 Grass Category

##### 4.1.1 *Kgoloane* (*Aristita sp*; red grass)

This red grass species forms dense tufts of thin culms up to 750 long. It occurs on all soil types, but flourishes on loamy soil. It also grows in the veld, in the fields and along roads. The grass is cut during winter when it is dry A number of culms are tied together to make a simple broom to sweep floors. It is used to thatch the conical frame of traditional huts. It is also important stock-fodder during dry periods.

#### **4.1.2 *Lefielo* (*Aristida congesta*; broom grass)**

This is a seasonal species that grow densely in the veld. Its sticks are very strong and tall. They turn light yellowish when matured to be collected. They grow in all types of soil. They are used for roofing huts (thatching) and also as brooms for sweeping courtyards and homesteads. They are used for thatching and making brooms.

#### **4.1.3 *Mabjang* (*Eragrostis pall*; broom love grass)**

This is a hard, robust, mostly dense perennial tufted grass. It is usually longer than the surrounding grasses. Its culms are shiny, unbranched and usually erect. Its leaf blade is hard, rolled, and mostly hairless. Mature spikes grow up to 25 mm. Its leaf sheath turns yellow with age. Broom love grass grows mainly in sandy soil, often in moist areas in valleys and slopes. Youngstock graze on it. It is used to make good brooms and also used to make some indigenous musical instruments by the GaMamabolo.

#### **4.1.4 *Mabjang* (*Ishaemum afrum*; turf grass)**

This is a perennial grass with long rhizomes. Its leaves are blue-green, flat, course and arranged more or less horizontally. Its inflorescence comprises slightly hairy, segmented, light green to straw-coloured fingers. The spikelets have inconspicuous, curled awns. It can grow up to 6 mm long. Its dry leaves are frequently twisted, like a corkscrew. Turf grass grows in black turf soil, usually where seasonal water is available and little or no trees grow. It is important grazing grass that is not often utilized by livestock. It is apparently well grazed by reedbuck. It is sometimes used to weave hats, baskets and bracelets.

#### **4.1.5 Mabjang (*Stipagrostis ciliata*; tall bush grass)**

This is an erect perennial tufted grass. It has a ring of long white hairs, pointing downs. Its leaves are mostly concentrated around the base of the grass. Its dry leaves are curled. Culms are typically yellow. Its roots are covered with a layer of sand. Inflorescence is a panicle with twisting branches. Tall bush grass usually grows in coarse sandy soil such as on gravel plains and in riverbeds. It is associated with the veld when in a good condition. It is a palatable and very valuable grazing grass during drought or when rainfall is scarce. It produces food of a high nutritional value for game and livestock. It also effectively protects exposed soil against wind erosion.

#### **4.1.6 Mabjang (*Harpochloa falx*; caterpillar grass)**

This is a densely tufted perennial grass with short rhizomes. Its inflorescence consists of one-sided grey spikes that curled when ripe. Its leaves are stiff with blunt tips. Culms are flattened and unbranched. Caterpillar grass grows on stony slopes in well-drained soil. This kind of grass flourishes during high rainfall periods. It is mostly found in undisturbed mountainous grassland. It sometimes forms dense stands in the veld. This grass is not favoured or is unacceptable as a fodder for livestock. It seems to be able to endure trampling and heavy grazing. It is often associated with red grass. Its inflorescences are sometimes used in decorating homesteads.

#### **4.1.7 Mabjang (*Cymopogon validus*; giant turpentine grass)**

This is a robust perennial tufted grass with culms up to 2, 5 m in height. It has a strong turpentine smell and a bitter taste. Its inflorescences are often drooping, and are brown-purple in colour. The leaves have rough margins and a prominent midrib. At the base the leaves are the same breadth as the width of the culms. Giant turpentine grass usually grows in open veld in damp soil on slopes and along riversides. It is very poor grazing grass with a strong aromatic smell. This type of grass contains an essential oil with 28

ingredients, of which beta-cubebene and caryophyllene are two of the most important (Van Wyk and Gerike 2000). It is considered to be good thatching grass.

#### **4.1.8 Mabjang (*Hyperthelia dissolute*; yellow thatching grass)**

This is a robust, perennial tufted grass with long inflorescence. It is usually taller than the surrounding grasses. The entire plant is predominantly yellow and green. It has long spikelets and thick yellow awns. Its leaf sheath has prominent auricles. Its culms are mostly unbranched thatching grass that usually grows in sandy soil in the veld. It is also found in open grassland and sometimes in other soil types. It often grows in disturbed places such as road reserves where it utilizes runoff rainwater. It is palatable grass grazed in the young stage because at later stage it becomes too hard for grazing. It is a strong competitor with other grasses and can form dense stands in undergrazed veld, which is then difficult to eradicate. It is a popular thatching grass.

#### **4.1.9 Mabjang (*Hyparrhenia filipendula*; fine thatching grass)**

This is a relatively densely tufted, perennial grass with flexible culms. Its inflorescences are much branched, fine and spread outwards. Its racemes (leaves) are short and borne in pairs. They are light in colour. Each raceme has one or two long, thin, brown awns. Pair of racemes usually point away from each other. It is usually taller than the surrounding grasses. Fine thatching grass is mostly found in the veld and in the open grassland. It also found in all types of soil, but more often in gravelly soil where it can form dense stands. It can also found in damp areas and often on roadsides. It offers palatable grazing early in the season, but its palatability decreases as the grass matures. It is slightly more palatable than other thatching grasses. It is a good thatching grass.

#### **4.1.10 Motšhikiri (*Aristida*; barbicollis grass)**

This is an annual slender grass with many side-branches spreading from and exposing the main axis. Sometimes it forms dense tufts of thin culms that usually grow up to 900

mm. This type of grass is fond of growing on hard clayey soil and also grows in the veld and along roads too. It is palatable when the grass is still immature for livestock. It is a strong competitor as far as thatching of traditional huts and waterproofing is concern. This grass can be used for making brooms. It is popular in making courtyard brooms and is an excellent thatching grass.

#### **4.1.11 Mohlakahlaka (*Cynodon dactylon*; scutch grass)**

This is a prostrate, creeping grass that grows in hedges. This type of grass grows throughout the year. During winter periods it changes to light yellow but most of the time this species is evergreen. It is found on all types of soil. It is also grows on sandy and loamy soils. It is a good fodder for livestock. Cattle are fond of grazing it.

#### **4.1.12 Lefielo (*Porobons pyramidalis*; catstail grass)**

This is a densely tufted species that grows periodically. It is fond of growing on periodically flooded areas on sandy and clayey soils. It also grows in the veld and along the roads. This plant is used to make brooms to sweep in homesteads. It is important source of fodder for cattle. It is a good broom- making grass.

#### **4.1.13 Mohlahla (*Scirpus validus*; common bulbush)**

The species has flat- rounds shaped erect stems with the height of 1, 7 cm approximately. It is long green twig with a tuft of flat leaves that are apart from each other at the tips. This species is fond of growing in multitudes where the soil moist. It grows at river-edges, pools; along streams and also in other wet place. Green, mature stems are collected during winter months. They are used for traditional art such as weaving mats (*magogo*), different types of basket and other homesteads tools. It is good in making indigenous artifacts.

#### **4.1.14 *Lehlakanoka* (*Phragmites grandiflora*; common river reed)**

This is a long rhizomatous reed that develops in clusters. This reed is also collected during winter periods. It is found in moist areas and in shallow water along edges of streams only. It has tall matured reeds after they have been dried and are used to thatch the roof of traditional huts. Even to date they are still utilized for several types of roofing and decoration. Some homestead furniture such as chairs and tables are made out of this reed. It is good in thatching, decorating homesteads and also a good artifacts maker reed.

### **4.2 Indigenous creepers**

#### **4.2.1 *Mompate* (*Dicerocaryum eriocarpum*; devil's-claw)**

This is a prostrate creeper with small greyish leaves and attractive pink flowers. It has big round thorns, which make it difficult for people to pick it easily. It is found everywhere in the veld. It also grows on all types of soil. An infusion of the leaves serves as natural hair conditioner that does not contain any after effects or scalp irritation. It gives hair fine texture glossiness. The same infusion is considered as a good remedy for disease in cattle. It is administered orally to sick cattle. Its dried roots can be burned to combat witchcraft. Its infusion helps cattle to give birth without complications. We found a natural hair conditioner from its leaves. Its infusion is used to easy cattle birth.

#### **4.2.2 *Mohlakahlaka* (*Cynodon dactylylon*; creeping grass)**

This is a prostrate, creeping grass. It is not that long in its size. It is a perennial species. It grows in hedges and in the fields. It is found everywhere in the veld and on all types of soil. It is fond of sandy and loamy soil. It is for grazing purpose, especially cattle. It also preserves moisture in soils. It also protects soil from erosion.

#### **4.2.3 *Phela Cf. (hypoxis; yellow star)***

This is a seasonal creeper with a taproot. It grows on soft, sandy and loam soil in the veld. It is very popular remedy for cough. An infusion from its dry bark is taken orally by people of all ages for treatment of coughs. It can also serve as livestock fodder. It is medicinal.

#### **4.2.4 *Selešo (Fadogia tertraquetra; unknown)***

This is an annual creeper with brownish leaves that grows in summer. It grows in the veld on sandy and loamy soils. It is a good remedy against poisonous food or drink. Patients vomit the poison; and take its decoction of the roots orally. It contains a very powerful medicinal purpose for it saves people's lives.

#### **4.2.5 *Theepe (Amaranthus thubergii; pigweed)***

It has several branches that have also several small leaves. Its leaves are green at front view and maroon at the back. It also contains maroon veins at the back of their leaves. This herb can only be eaten fresh. It usually occurs in fields when the soil is well cultivated. It can also grow in and around homesteads. It is also found almost everywhere in the veld. Its dried leaves are mixed with dried aloe leaves to make snuff. Its young leaves are cooked and served as porridge relish. It is a favourite species for livestock and people. It serves as a medicinal plant.

#### **4.2.6 *Phelalegolana (Dicoma gerrardii; koors-bossie)***

This is a small species with creeping branches spreading around woody rootstock. This plant can be found everywhere on land and in the veld on all soil types. Its root decoction is the best remedy to cure coughing and common flu can be cured after sniffing its grounded roots. Its infusion of the leaves is used to treat stomachache. Its purpose is medicinally inclined.

#### **4.2.7 Tshetlo (*Tribulus terrestr*; devil`s thorn)**

This is a seasonal plant with a long taproot and prostate branches. It bears purple-yellowish attractive flowers and leaves creeping on the ground. It has round glabrous thorns as its seeds. It grows in the fields as a weed. It thrives on loamy and clayey soils. It is an edible potherb when young. It can also be eaten dried as relish but it is bitter in taste. It is valuable for livestock as fodder.

#### **4.2.8 Monyaku (*Cucumis africanus*; wild cucumber)**

This is a herb with long, slender, trailing tiny branches. It occurs in old fields and in the veld. The fresh tender leaves are gathered and cooked with *theepe* vegetable leaves

### **4.3 Indigenous Potherbs**

Potherbs are fresh young selected edible leaves gathered and prepared for the purpose of relishing porridge. These plants grow as weeds between crops in and round homesteads. The GaMamabolo community like other tribes; enjoy this form of natural vegetation. They provide vitamins and proteins. They are also classified as grasses (*mabjang*). Most edible potherbs in the GaMamabolo area are as follow:

#### **4.3.1 Morotho (*Gynandropis*; spider-wisp)**

This is a seasonal plant for it grows during summer. It consists of several short and long branches with small leaves at its tips. The branches are covered with glandular, sticky hair. It also bears tiny whitish flowers as its seeds. This herb usually grows everywhere on all soil types. It is also found in the fields on cultivated soils between crops as a weed and in and around homesteads. It multiplied itself during summer after it shall have rained. It also grows easily after its green leaves have been collected. It leaves and young shoots are cooked and eaten with porridge. People benefit from it by keeping them

healthy for it provides vitamins and proteins, heals malnutrition and also heals cancer and wounds. It is highly medicinally inclined.

#### **4.3.2 *Monawa* (No botanical name; indigenous beans)**

This herb grows like climbers as it has long twigs that have some leaves along it. When getting matured it bears flowers and turned into beans. These beans can be eaten fresh as (*dinyebu*) or be eaten dried as *dinawa*. The leaves are dark-green. It is a seasonal plant. Young leaves fresh or dried are very pleasant when eaten with porridge. It also possesses vitamins and proteins. It prevents several diseases such as cancer, nervous systems and others. It is also considered as medicinal species.

#### **4.3.3 *Mophotse* (No botanical name; pumpkin young leaves)**

This is a seasonal vegetable that blossoms during summer. It is a climber with long twigs and yellow flowers at its tips. Those flowers bear young pumpkins. Their leaves are a little bit rough and covered with hairy leather that is removed when prepared for cooking. It grows on cultivated soil especially in fields and around homesteads. It is fond of loam soil. Young leaves and its flowers and developed pumpkins are cooked and served as a favourable relish. It can be eaten fresh or dried as (*šwahla*). It also provides people with vitamins, proteins and also prevents malnutrition.

#### **4.3.4 *Mantlalekgeru* (No botanical name; unknown)**

This is a seasonal species with fibrous roots. It spreads itself on the ground. It bears semi-star shaped leaves that are semi-grey in colour. It also bears yellow-whitish tiny flowers. It is palatable for livestock and human beings. It grows as a weed in the veld and near the homesteads. It is not a favourite herb for it is not that tasty. It flourished on gravel and in stoney areas.

#### **4.3.5 *Letelele* (*Amaranthus spinosus*; thorny pigweed)**

This is an annual potherb that possesses two growth forms; upright to a height of 10 cm and prostrate on the ground. It is fond of wet, loamy soils in the veld (it is an unprepared land) and also in the field (prepared land to grow plants). Its fresh, tender leaves are used in the preparation of a popular potherb. This *morogo* has a slimy very fine texture.

### **4.4 Indigenous Shrubs**

Shrubs are categorized as small or medium size trees. Shrubs and other plants from communities are recognized as different veld types determined by soil, type, and other factors (Wilsenach 1995:2). They nurture the nature by beautifying it. Nature without them is not attractive. Most known useful shrubs around the GaMamabolo area are the following:

#### **4.4.1 *Thitikwane* (*Hypoxis villosa*; bushman poison bulb)**

This is a bulbous species to be grown at the communities homestead for ancestral purposes (to appease the gods) as a shrine (*modimo wa fase*). This species is found usually in open grassland. It also grows everywhere on sandy and loamy soils in the veld. It has great religious significance as a sacred species. The communities present their sacrifices to their ancestors, at the common place where it is planted at the homestead (*go phasa badimo*). Its decoction from the bulb scales is taken orally for treatment of several diseases such as tiredness of the body, fatigue, improvement of the nervous system; strengthens clotting ability of the blood and it also heals chronic illness and infections. It is also known as (*makgona-tšohle*). It has magical and medicinal purposes.

#### **4.4.2 *Legaba* (*Cf. hypoxis*; African potato)**

This is a bulbous species having a big round shaped bulb, light brown, similar to potatoes in shape and colour. It is also rooted on the ground. It is a perennial plant. Its

leaves spread on the ground. This species is found on rocky places or on mountains. It has an edible bulb eaten being raw, just like when eating sweet potato raw. Some bulbs are tasteless while others are sweet. It cleans the urinary system, kidneys, and bladder and also stomach. It can also boost the blood system. It is medicinally significant.

#### **4.4.3 Tlokoane (No botanical name; mushroom)**

This is an umbrella shaped plant. It has a slippery texture. Its most striking feature is the fleshy growth in height. It bears fruits in small groups, fairy rings brownish and white cup. Its stem is up to 3-7 cm in breadth. It is a bulbous herb that has slimy light green colour. Its bulb is rooted with thin fluffy roots on the ground. Woodlands such as oaks or sandy soils are where it is found. It is found almost everywhere after it has rained. It is a seasonal species. It serves as relish with porridge and as a spice when cooking.

#### **4.4.4 Sekanama (*Urginea sorgunea*; unknown)**

This is a bulbous plant, which grows above the ground. It is the species which resembles flesh (*nama*) for its appearance is just like human flesh. Its decoction of the bulb is used for the treatment of high blood pressure. It is medically administered.

#### **4.4.5 Fora (*Crotalaria capensis*; cape-rattle-height)**

This plant is planted around courtyards to form a thick, impenetrable hedge. It is poisonous for it causes stiff-sickness in cattle

#### **4.4.6 Maime (*Cythula ucinulata*; cape-rattle-height)**

This is a seasonal plant because it grows during summer periods. Its roots are the most important protective medicine (*pheko*), which people carry for its magical strength. It is used to give people dignity (*serithi*) when they appear in court cases for them not to be found guilty. It is also used as a preventative measure to protect people against legal

actions. The competition and holistics of modern society have increased the demand for this plant (*pheko*). It is a medicinally and magically empowered plant.

#### **4.4.7 Mohlahlaila (*Gnaphalium helichrysum*; white brittle bush)**

It is a long lasting perennial shrub. It has grey leaves and several short branches. It can grow up to more than 2,7m in height. This is a perennial shrub with a number of branches. This shrub grows in the veld on sandy and loamy soils. Fresh, terminal leaves are plucked and dried and be boiled for a red-brown decoction used as tea. It is a natural caffeine-free pleasant tea. The tea made from leaves is also herbal. It cleans blood system. Dry and fresh twigs are tied together to make a strong broom for sweeping courtyards (*mekgotha*). It serves the community as a healthy natural tea.

#### **4.4.8 Mohletlwa (*Grewia flara*; brandy bush)**

This shrub is seasonal. It has several branches and twigs, close to one another. It is an open crown shape like shrub. It is fond of growing in the veld on rocky and sandy soils. It bears sweet edible fruit known as *dihletlwa*. Young shoots and leaves are considered as important fodder during late spring and early summer. The bark of this shrub provides a strong fibre for rope. Women bind firewoods while men use the rope and branches to wattle for thatching. The twigs and fibre are used by herd-boys for making hunting tools such as bird traps (*ditoropo*). A catapult (*seragamabje*) is made with its mature branches. Long straight branches are used to make walking sticks.

The lightwood is good for fire during the rainy season, since does not absorb much water. The twigs also have religious and magical significance. Herd-boys believe that by spitting saliva between the twigs, they will arrive safely home with the livestock without making people angry, be beaten or be endangered because of its magical power. Traditional healers use its twigs as a divining instrument known as *mankgonyane*.

#### **4.4.9 Moshunkoane (*Lippia javanica*; fever tea)**

This is a perennial shrub with straight, natural erected twigs. It is a medium size shrub with numerous branches and twigs with velvet-hair leaves. The leaves vary between grey and green. Its leaves have a pleasant odour. It occurs everywhere in the veld particularly in rocky places. It grows on a loamy soil or between stones. It can also found in the homesteads. It has a natural menthol flavour when its leaves are crushed and sniffed for healing cold, flu and headache. An infusion from the leaves is taken orally for the same conditions mentioned. Inhaling its smoke from chips of its roots charred on a potsherd with live coals is also a good remedy for influenza and headaches.

#### **4.4.10 Monamane (*Llex mitis*; African holly)**

This is an evergreen plant with a slightly elongated to rounded crown. It is fond of evergreen woodlands in shady places and between rocks in the veld. The fruit is edible, but sometimes bitter. Its infusion from the root bark is used for the treatment of diarrhea, usually in children. Livestock graze the fruit and leaves.

#### **4.4.11 Mokhure (*Ricinus communis*; castor oil plant)**

This multiple branched, evergreen shrub with hand-shaped leaves grows on moist sandy and loamy soils in the veld and in villages. It is a love-magic species. A medicated pipe is made from a twig of this species. The medicine applied to it includes powder from the roots of marula. Young men who cannot get love-partners blow the pipe. Its leaves are used to heal wounds. A decoction of the root is a good remedy for toothache.

#### **4.4.12 Motholla (*Solanum panduriforme*; flame acacia)**

This is a much branched, brown, shiny spine shrub. It is widely distributed in all soil types. Its powder from the roasted root is used for the treatment of infertility in women.

The powder is obtained from the pounded dried bark. It is used to heal diarrhoea and vomiting among children.

## **4.5 Indigenous Trees**

Amongst the rich variety of plants in the natural world, trees are the largest and the most striking. They make their mark on landscapes with very different natural environments. Trees provide shade, coolness, protection, fruit and sense of being connected with nature (Dobbenburgh: 1996:3). Rural man has a close cradle-to-grave relationship with trees. He appreciates the shade, uses tools, instruments, utensils and ornaments made of wood, furniture, canoes, walking sticks, spears, almost all his medicines for almost all ailments come from trees as often does his alcohol vitamins and food (Wilsennach 1995:2). The following trees commonly found in the area are:

### **4.5.1 Dikgopha (Aloe Category)**

#### **4.5.1.1 Sekgopha (*Agave americana*; sisal)**

A perennial species with very long overlapping green leaves. Its leaf edges are spineless. It is a succulent species with water in its leaves. Its substance is not poisonous but itchy when is peeled. The leaves have some threads after being peeled off. It occurs naturally in all places. Its leaves are gathered for traditional use. It is used for weaving mats, baskets, binding wattles to roof poles and for binding bundles of fire woods.

#### **4.5.1.2 Sekgophana (*Aloe marlothii*; bitter aloe)**

It is an evergreen plant that survives with or without rain. It grows up to size of 3 m in height. It occurs in all types of habitat, but most frequently in rocky places. Its dry leaves are burnt and mixed with the grain of (*leotša*) insects. The mixture can last for years. Dry leaves are burnt and mixed with other species to make snuff (*fola*). The sap obtained from

green leaves can be used to wean babies. An infusion from its leaves is a good remedy for stomach ache and malfunction of the alimentary and urinary tracks. Its substance is used for producing aloe-vera products (products for smearing on bodies, faces and also drinking for medical purposes). It is medicinally empowered.

#### **4.5.1.3 *Motlalamela* (No botanical name; euphorbia)**

This is a green succulent plant. It has green branches with milky latex, reduced leaves and very inconspicuous flowers. The plant's main trunk can grow up to 3-8m in height. Its horny ridges are thorny. Each ridge has a horny edge with pairs of short hard thorns. It is fond of growing on the hills and between big rocks. They can sustain during drought and dry seasons. They beautify the land and preserve water. Their latex milk is used as fish poison. They are armed with spines to prevent them from being eaten by animals. People utilize this plant when fishing and it preserves water (Dobbenburgh 1996).

#### **4.5.1.4 *Motoro* (*Opuntia megacanta*); sweet prickly pear)**

This is a succulent plant with multiple branches. It has flat leaves with some small spines. It bears fruits also having spines around them. The fruit is succulent and contains many hard seeds in it. It bears yellow-whitish bright flowers before bearing fruits. Its fruit is covered with thick green peel having tiny spines around it. Its fruit is nutritious for it serves as fibre in our digestive systems. It grows on all soil types, but thrives on mountains and rocky places. It bears eaten favoured fruit known as sweet prickly pear (*ditlhoru*). It sustains during dry periods. It decorates our land for it an evergreen species. Its fruit juice can be fermented for a beer called (*mmakgere*). Young stems during dry seasons are used as fodder. It contains vitamins and produces an indigenous drink.

## **4.5.2 Indigenous trees bearing flowers and fruit**

### **4.5.2.1 Mokumo (*Ficus burkei*; common-wild fig)**

A perennial deciduous tree for it is always green. It forms a rounded to spreading dense crown. It bears small hairy figs occur in the leaf axils. The figs are dark-red or brownish when matured. It is a medium sized stranding fig tree. It grows on hills and mountains. It can also be found close to homesteads. Its fruit are edible, but insects and birds eat most of its fruit. Monkeys and baboons feed on it. People rarely eat them. The tree is preferred as shade. Its dried barks are crushed into powder to heal womb problems. The powder is swallowed with water. Its medicinal usage is of importance to people.

### **4.5.2.2 Mothokolo (*Carissa bispinosa*; num-num)**

This is a perennial tree and is evergreen. The tree contains many thorny branches. And the branches sometimes spread even touching the ground. The fruit grow between those thorny branches. The fruits are either black or red berries when ripe. The fruit contains hard big seed. Leaves are tiny. This tree can grow up to 6 m tall with many branches. The whole plant is armed with rigid spines up to 7 mm long. Its leaves are simple and opposite, leathery, and dark green. Its size of the fruit is usually 25 mm in diameter. This tree grows mostly on the mountains, in the veld on sandy or loamy soil. It can also be found in woodlands.

The fruit is edible and has a very pleasant taste. After they have been boiled, dried roots are the best remedy for magical foot pains (*mogatišo*). Its dried roots can also be crushed to a powder and be using as magical prevention. An infusion from its roots is taken to ease stomach pains. It is also recognized as good remedy for sore eyes and cataract problems. The powdered root is used as a remedy for chest complaints. Its infusion can serve as a cough remedy. A decoction made from the root is administered as a mild purgative to children. The root is placed on abscesses to treat infection. It is highly medicinal and magical empowered plant.

#### **4.5.2.3 Mmilo (*Vangueria infausta*; wild medlar)**

This is perennial tree that is evergreen. It is a deciduous tree, which can grow up to 8 m tall. It consists of multi-branches. Its barks on young branches are hairy with conspicuous leaf scars. Its multi- branches spread crown -like. It is a medium sized indigenous tree. It bears round leathery, glossy brown fruits when matured. The seeds are mostly three in number in one fruit. The leaves are little bit rough to the touch. The tree is found mostly in the veld and sometimes in homesteads. It can also grow on all types of woodland, especially on rocky ridges. Its fruit are eaten fresh or dried with milk.

The root bark is ground into a fine powder to be taken orally to enhance fertility in women. Baboons and monkeys eat its fruit. Goats and game browse the leaves. The roots and leaves are used to treat malaria and pneumonia. An infusion made from the roots is good treatment for coughs and chest troubles. The pounded leaves are applied to tick bite sores on livestock. A poultice made of the leaves is used to treat swellings on legs. An infusion made from the leaves is used to treat abdominal pains. Its root is a popular roundworm remedy. It possesses multiple medicinal services and it is also a vitamin provider.

#### **4.5.2.4 Mokgalo (*Ziziphus mucronata*; buffalo thorn tree)**

It is an evergreen species with a wide, spreading crown tree. This is a single trunk tree with a short braches fairly low down to form a shiny, moderately spreading canopy. It can grow very tall; up to 12 m in height. Its twigs are slightly zigzag branches tight to one another with hooked long spines on the stems. It bears yellow attractive flowers which blossom during summer times. It bears edible brown fruit when ripe. It often occurs in the veld on all types of soil.

The fruit is edible but not that much. It is sweetish in taste. The dark green leaves are chewed by a mother or traditional healer, and put on the head of a baby to heal the

common condition among children known as pulsating fontanelle or little head (*hlogoana*). The same treatment is a good remedy for stump (*khubjana*) in babies. A decoction of the root is applied externally to boils, sores and glandular swellings to effect healing. The thorny branches were in the past preferred to fence homesteads and also to erect livestock enclosures. Livestock browses on the leaves in winter. The seeds can be roasted as a coffee substitute. Its infusion is used for stomach ailments, skin ulcers and chest troubles.

Its branches are used to attract the ancestral spirits from one place to the other and it is also used to be planted around graveyards. An infusion of the root is taken for dysentery. Its seeds can be dried and produce a meal to cook porridge after been grounded. The young leaves can be cooked and eaten as *morogo* (potherb). The powdered leaf and bark in water is taken as an emetic for chest troubles. Its wood makes good fuel. Its nutrition, fuel and medicinal sources are of most significant to human beings.

#### **4.5.2.5 Motšhidi (*Ximenia caffra*; sour plum)**

A deciduous tree with branches low down into numerous main branches, and then grows upwards to form a sparse untidy, irregular canopy. The dull green, simple leaves grow on short spine-tipped branchlets. Its plum-like fruit turns red or orange when ripe and it has a strong, sourish taste. It is found on all rocky areas of the mixed bush. It is also fond of sandy places. The oil from the seed is used to rub chapped feet and to anoint the body (Croll 1992: 44).

An extract from the root is used as a remedy for dysentery and diarrhoea, abdominal pains and bilharzia. An extract from the leaves is used to soothe inflamed eyes. Its dried leaves are taken to break fevers. Powdered roots are used to heal sores. An infusion of the leaves is used to treat infertility in women. A decoction of the root is used to treat stomach pains. It bears sweet-scented star shaped flowers, which are cream-white in colour.

#### **4.5.2.6 Mohlatswa (*Chrysophyllum*; milk plum)**

This is a low-branching, multi-stemmed tree or shrub. It has short, thick stem which surrounds densely. It is very low branching, and branches often reach to the ground. The tree contains milky latex. Its leaves are thick, rigid, dark green and shiny and crowded towards the end of the stubby branchlets. The tree is evergreen. It bears plum-shaped fruit with a sharp tip and contains sticky, milky juice when peeled to be eaten. Its fruit is bright red when ripe. It bears strong smelling cream-white to pink, star-shaped flowers. It is easiest to be found in rocky areas or mountain. The fruit, high in Vitamin C, is eaten fresh (Berg 1997). The fruit is used to make wine, jelly, brandy and syrup. Finely mashed fruit and roots are used to treat headaches and epilepsy. The powdered root, rubbed into incisions over the affected part, is used to relieve rheumatism.

#### **4.5.2.7 Mohlokohloko (*Clerodendrum verbenatae*; white cat's whiskers)**

This is a deciduous plant easiest to be identified when in flower or fruit. Its leaves have a slightly wavy margin and a tapering tip and base. Its flowers are small with unpleasant smell when crushed. It bears fruit, which is eaten by insects and birds. It bears white to pinkish trumpet shaped flowers with long filaments conspicuously crowded. The plant has a strong unbearable smell. It grows mostly in open woodlands.

Its leaf extracts are used to expel roundworms and thread worms. It is used as a disinfectant and to prevent maggot infection in wounds. The root is widely known as a snake bite remedy, especially for mamba bites. Leaves are used to drive away evil spirits. It is known as the rain- tree of South Africa. People benefit from its medical qualities.

### **4. 5. 3 Indigenous trees used for technological purpose**

#### **4.5.3.1 *Mokgwete* (No botanical name; velvet bushwillow)**

This is a singletrunked tree, with a dark, crooked trunk that branches fairly high into meandering branches, branchlets and twigs. The irregular, darkgreen canopy stands out between the surrounding vegetation and spreads downwards. The leaves are soft and velvety. It can grow up to 11 m in height. Its tiny fruit are brownish when ripe. It bears sweetscented and conspicuous flowerspikes. It is mostly found in rocky places. Its wood is used for fencing posts, implement handles, grain mortars and bowls for grinding mealies and peanuts.

Leaves are used as a red fabric dye and roots as a yellow brown dye for decoration. Its fresh leaves are used to dress wounds. Its roots are used as an antidote for snakebite. Its roots can also be used to induce abortion and to treat constipation. Its fruit is edible and sweet. Its branches can make strong courtyard brooms.

#### **4.5.3.2 *Monee* (*Berchemia zeyheri*; red ivorywood)**

This is a singlestemmed deciduous tree with trunk and spreading branches forming a dense, irregular canopy when growing amongst other trees, but rounded in shape when growing single. It has dark green shiny leaves. The leafstalks are often reddish. It bears oval, berrylike edible fruit. The fruit is yellow orange to deep red when ripe and sweet in taste. Its flowers are inconspicuous, greenish - white, star-like. This tree normally grows singly in groups of other trees in the veld. It is easily found on rocky areas and also along rivers and streams. Its fleshy fruit is edible and contains vitamins (Wilsenach 1995).

Its wood is used for carving several indigenous ornaments such as wooden bowls and walking sticks. It is good furniture wood. Its bark is used as a dye for fibre and woven material. The powdered root is smoked as a headache cure. An extract of the inner bark is

used to relieve back pains. Dysentery too is healed by its inner bark extract. Wooden walking sticks are made from its wood (*thoka*).

#### **4.5.3.3 *Mmupudu* (*Mimusops zeyheri*; moepel- red- milkwood)**

This is a medium large, or multi trunk tree. It branches low down to form a spreading moderate- to- dense, patchy, and round- to irregular canopy. All parts of the tree contain some milky latex. The leaves are thick and leathery, with long, sometimes reddish leaf-stalks of up to 35 mm. Those leaves are shiny and dark lime- green. Its fruit is smooth skinned fleshy, plum-like. It is orange yellow when ripe and grows in the angles formed by leaves. It is a perennial tree. Its flowers have strong smell, cream white, star-shaped with a long stalk. This tree usually grows singly, often in close association with rocks. The wood is used to make various indigenous implements. Its fruit is edible. Its artifact usage is beneficial to human beings.

#### **4.5.3.4 *Modumela* (*Kirkia wilmsii*; white kirkia)**

This is a single deciduous tree with straight trunk. Its branches are horizontal and form a sparse, spreading canopy. It has compound leaves that are clustered at the ends of blunt-tipped branchlets. The leaves have brilliant yellow autumn colours. It bears greenish-cream to creamywhite flowers at the ends of sprayed branchlets. The wood is used for furniture and to make household goods such as bowls. Its waterladen roots are used as a source of drinking water. Livestock and game dig up the roots during drought. Its artifact purpose is of importance.

#### **4.5.3.5 *Mogatakomo* (No botanical name; African white stinkwood)**

This is a single deciduous tree with a straight trunk that branches to form a dense, semi-circular, spreading canopy. The grey branches are usually obscured by the leaves, which hang from thin twigs. Its fruit are small and berrylike and grow on a long stalk of about

13 mm. It bears conspicuous greenish, star-like flowers. This is a single trunk deciduous tree with a straight trunk that branches to form a dense, semicircular, spreading canopy. It has triangular bright green leaves. Its leaves tend to be held in a flat plane towards the light. The wood is used to make yokes, planks, tent bows as well as indigenous household articles.

#### **4.5.3.6 Mokgoba (*Dombeya rotundifolia*; wild pear dombeya)**

It is a single stemmed semi-deciduous tree with a straight trunk and densely branched, moderate, irregular, canopy. Large branches are normally visible in the canopy. The leaves are rigid and covered by coarse hair, giving the leaf sandpaper feel. The upper surface is dark green with a pale under the leaves can appear, conspicuous. It is difficult to identify when no leaves or flowers are present. Flowers started to appear in late winter and early spring times. Its surface is white to light and conspicuous. Its flowers spray at the ends of the flower twigs.

These flowers turn brownish when old. It is the first tree to flower in spring and it is very striking from July to October. This tree occurs in all soil types but flourishes in rocky areas. The wood is used for yokes and mine props. The bark fibre is used to make ropes. Its inner bark is used to treat heart weakness and nausea in pregnant women. Infusion of the bark or wood is used for intestinal ulceration. Its flowers serve as a love potion. It is highly medicinally inclined.

#### **4.5.4 Indigenous trees used for firewood**

##### **4.5.4.1 Mohweleretšhipi (*Combrutum imberbe*; leadwood)**

This is a deciduous species. It is a very tall, high-branching, majestic tree. It has a grey white stem and light grey bark. Its leaves are small. It can grow up to 20 m in height. Its branches tend to grow horizontally and upwards attached to a straight trunk. It usually

grows singly. Mature trees; often have dead, bare branches and twigs. Its leaves are grey green to yellow green and covered with minute silver scales. They are leathery and without hairs. It bears creamy to creamy yellow flowers that are sweet- smelling.

Branches, stems and roots are natural coal. It is favourable firewood for it last longer than other types of wood. Its smoke is nonpoisonous. Its fire can burn while people are asleep. The ash from firewood is used as a whitewash on huts. Its flowers are used as cough mixture and the smoke from the burning leaf is inhaled to relieve coughs and colds. The fruit and its leaves are believed to have mystical powders. It occurs mostly on the plains and on mountains. It can also grow along rivers.

#### **4.5.4.2 *Mohwelere* (No botanical name; red bush willow)**

This is a semi deciduous to deciduous tree that grows up to 9 m tall. Its bark on young twigs is sticky, young branches covered with reddish brown fibrous, grey to light in colour. Its leaves are light green. It bears glossy and reddish fruit to attract insects and various insect- eating birds. It bears greenish-yellow and heavily scented flowers borne in single spikes up to 70 x 20 mm. It is fond of growing on sandy to rocky soil in dry open woodland.

It possesses an excellent fodder tree for livestock and game. The flowers attract many insects and birds. The wood can be used as fencing posts. It makes excellent firewood. Decoction of the leaves is used as an enema to relieve stomach disorders. The dark red soluble gum is edible and is stored for months before use. It has potential for medical and technical usage.

#### **4.5.4.3 *Monamane* (*Llex mitis*); kooboo-berry)**

This is an evergreen tree usually up to 6 m tall but can reach up to 15 m with a roundish crown. Its bark on branches is green and softly hairy, but dark grey and rough on older

branches and stems. Its leaves are simple, glossy above dull lighter green underneath. It bears fleshy oval to round red to purple drupe up to 20 mm in diameter and eaten by game. Yellowish green on short stalks, borne in clusters in leaf axils are strongly scented. It is found in all soil type.

Its leaves are eaten by livestock and game. Its fruit are eaten by kudu, baboons and monkeys. Its bark is used in tanning leather, giving it a light brown colour. The wood sometimes is used for carvings and small household articles. Its wood makes good fuel. The fruit is edible, with a tart taste. An infusion made from the root bark is used for treating diarrhea and dysentery and sometimes used as an enema.

#### **4.5.4.4 *Mosehla* (*Peltophrum africanum*; African weeping-wattle)**

This tree has dull green, soft, feathery, Acacia leave-like leaves. It does not have thorns. Its branches low down from spreading an irregular and untidy canopy. Its mature leaves, at the tips of the branches, are often yellowish. It is seasonal deciduous tree. The conspicuous, sweet scented, bright yellow flowers grow in sprays at the ends of twigs. It is easiest to find on plains of all types. It grows singly among other trees. The wood is used as good fuel. The wood is also used to make furniture, axe handles, buckets and ornaments. Root extracts are used as enemas, and to treat sterility and backache. Bark extracts are used for cough, sore throats, fevers, stomach complaints, wounds, intestinal parasites, eye complaints and venereal diseases.

#### **4.5.4.5 *Mooka* (*Acacia Karoo*; sweet thorn acacia)**

This is a single or multitrunk tree that branches low down into several large branches to form a wide canopy. It has bright green, twice compound leaves and straight, long, with the dark, rough bark. It is a semi deciduous tree with a wide spreading crown. It bears creamcoloured flowers long shaped on long leaflets above thorns. The sweet- thorn Acacia is one of the most widespread and common trees in South Africa. It often occurs

in large groups on grassland, and single trees are found along drainage lines. It is also easiest to find along rivers and streams. It can also be found on the plains and rocky areas.

It provides an excellent fodder since the leaves, flowers and pods are eaten by livestock. Livestock browses young leaves in spring. Its inner bark is pliable when wet and it makes a strong rope for women for binding bundles of firewood. It is also a source of fibre used to bind wattles around roof poles. The injured trunks and branches yield gum which is favoured by children. The bark yields a red pigment used as dye for fibre and wicker utensils. The wood is subject to borer attacks and used for building fences when better wood is not available.

#### **4.5.4.6 Moshu (*Acacia tortolis*; camel-thorn acacia)**

This is a single trunk tree with a large, spread canopy. The bark is dark, ropey and deeply fissured lengthways. The straight, white thorns are well developed, and often have a swollen base. The young twigs grow in zigzag patterns between each pair of thorns. It has various sizes from small spiny shrubs to large spreading trees. The yellow flower-balls, which appear before the leaves, are conspicuous from late July to November. They grow towards the ends of the twigs and branchlets. The camel-thorn *Acacia* prefers deep, sandy, well drained soils. It grows single but where one is found, others are usually nearby.

It can also found on mountains and along rivers and streams. It can also occur in dry woodland. Its pods provide excellent fodder, and are relished by livestock and game. Its wood is used as fuel source, but it is difficult because of its sharp thorn. The trunk makes good quality poles for fencing and the construction of houses. The bark is a source of fibre for binding wattle on roof poles as well as for binding other structures. Owing to its thorny feature branches of this tree are preferred for hedge fencing. Children eat the gum from thorny trunks and branches. Its technological importance is of potential to human beings.

#### **4.5.4.7 Mokaka (*Acacia mellifera*; black- thorn)**

This is a deciduous tree or shrub that has a round and much branched crown with strong black thorns. It can sometimes reach a height of more than 4 m. It bears cream-white round flowers along its thorn branches. Its dry wood makes an excellent fuel. The stems are very strong, pliable and used for tool, axe, pick and instrument handles. The heartwood is termite and bore proof, the large stems making excellent fencing posts. It is the most valuable fodder trees for cattle and game.

The leaves, young twigs and pods are nutritious. Children relish gum collected from injured trunks and branches. A thorny branch is used to close the entrance of the livestock enclosure. Its branches also are used to make enclosures for small stock and calves. A decoction made from the roots is used for relief of stomach pains. Its medical and technological significance are most essential to people.

#### **4.5.4.8 Mosehla (*Acacia permixta*; slender thorn)**

This is a deciduous tree that can grow to be tall with a round crown. Its branches resemble a buck's tail. It is commonly found on clayey places in grassland. It is a good source of fuel. Its trunk is preferred for fencing and building purposes. Livestock browse the leaves.

#### **4.5.4.9 Mokgwaripa (*Acacia burkei*; black monkey thorn)**

This is a deciduous tree with an open crown. The straight black thorns are well developed. Its bark and branches are hard and have multiple thorns around it. It occurs on variety of soil types in mixed woodlands and grassland. The hard and heavy heartwood makes good quality fuel with coals that last for a long time. The termite resistant wood makes lasting building and fencing posts. The injured trunks and branches provide gum,

which is edible. Its dry pods are nutritious especially for cattle. Its leaves also serve as fodder for livestock. It is technologically important.

#### **4.5.4.10 Mophato (*Gymnosporia senegalensis*; red spikethorn)**

This is a semi deciduous, multi-stemmed shrub or small tree that sometimes can reach heights of 8 m. It occurs mostly in wooded grassland and also on sandy soil. This is a very popular tree for firewood. Livestock grazes its leaves. It is technologically important

#### **4.5.4.11 Morobadiepe (*Pappea capensis*; jacket plum)**

An evergreen to semi deciduous tree with multiple branched and round crown. It occurs all various soil types in the veld. This tree is known to be a good source of firewood as it produces long lasting coals. It provides excellent fodder tree for livestock. Dried leaves are boiled and the infusion is used as tea. Its wood is also suitable to make weapons such as clubs and others. Its straight mature and immature twigs are collected, sorted and bound together to make brooms. This species is technologically significant.

### **4.5.5 Indigenous trees for shade**

#### **4.5.5.1 Morula (*Sclerocrya birrea*; marula)**

This is a large deciduous evergreen tree. It is very tall for it can grow up to 18 m with a round spreading crown and long stems and branches. Its smooth branches are grey with prominent scars formed by the drooping leaves. Its fruit is fleshy, spherical and 30-35 mm in diameter, yellow when matured. It bears those sour-sweet fruit called marula during summer periods. It is widely distributed throughout the land. It can also found in homesteads. It is fond of growing in woodlands on sandy-loam soil. Most of the communities are adorned with large beautiful shade trees.

People of all ages and some animals eat its sweet and palatable fruit. Its shells are cracked to obtain kernels that are eaten raw. The kernels have nuts inside. They can be crushed and put into and meat for better taste. The kernels can be used to make oil, which is used to cook. An alcoholic beverage known as marula beer (*mokgope*) is made from the matured fruit. Its juice from ripe fruit serves as fertilizer. An infusion from its bark is used to treat diarrhea and headache. Livestock relish the fruit and leaves. Its wood is good source of fuel. Its trunk is used by wood-workers (*babetli*).

It is used in the making of household's utensils such as mortars, pestles, milking pails, platters, stirring-sticks and spoons. Jelly and jam can be made from the fruit. It produces a good- quality sweet wine, port, juice and nectar. Oil (56, 2%) can be pressed from its edible nuts and used as a preservative. Its roasted nuts are rich in oil and protein (28%) (Croll et al 1992). It is used most successfully as a shade tree. A brandy tincture of the bark is taken in small doses as a prophylactic against malaria. Its inner bark shows an antihistaminic action against insect bites and burns of hairy caterpillars. Its nuts are used as a substitute for coffee or as a snuff; burns and abscesses are treated with an essence made from its leaves. A relatively good quality rope can be made from the inner bark. This species is multi potential.

#### **4.5.5.2 Mosarampomo (*Melia azedarach*; seringa)**

It is a deciduous tree with a rounded, spreading crown and thick foliage. It grows in the veld, on roadsides, in disturbed places and on riverbanks. It flourishes well on all soil types and quickly matures. It is commonly planted for shading.

#### **4.5.5.3 Moshu (*Acacia tortilis*; umbrella thorn)**

This is a semi-deciduous tree. Its leaves are evergreen. It has thorns all over its branches and stems. The branches are tight to one another because of its long spines. During summer time it bears beautiful yellow or white flowers. Its thorns are very sharp. Its

thorns occur straight, hooked or curved in pairs. It grows everywhere on all soil types in mixed woodlands. It normally prefers heavier sweet soil. It can serve as shade homesteads. Firewood is collected from this species.

Its trunk makes good quality poles for fencing and the construction of houses. Branches from this tree are preferred for hedge fencing because of its nature. Leaves and pods are eaten by livestock. Gums from its trunk and stem are diet of herd boys. It consists of papery barks. By chewing its barks (*matswamati*), immune system is strengthened. The enzymes to digest tight food and cellulose get improved. Its seeds have proteins for animals particularly cows and goats.

#### **4.5.5.4 *Mphoka* (*Senecio barbetonicup*; paperbarked thorn)**

A semi-deciduous to deciduous tree grows up to 18 m tall with a large and spreading flat crown. Bark light to yellowish and corky, young branches are densely covered with long yellowish hairs. It bears cream-coloured flowers with scented balls 10- 12 mm diameter, borne singly or clustered in the axils of the leaves. It occurs in grassland, wooded grassland and woodland areas along drainage lines and on flood plains. It seems to prefer loamy soils but also grows on sandy soil.

Livestock relish pods and game for it is a very valuable fodder tree. It can be used as a general timber purposes in homesteads. A good tree to have for shade as it grows up. The gum that exudes from wounds on the stem is edible. An infusion made from the roots is used as an antiseptic. A decoction made from the bark is used as a painkiller.

#### **4.5.5.5 *Mosehla* (*Peltophrum africanum*; African wattle)**

This is a semi-deciduous to deciduous tree that grows to 15 m tall with dense round to spreading crown. Bark smooth and grey on the young branches, twigs covered in reddish brown hairs. It has compound leaves. Its flowers are erected densely, on bright yellow

and crinkled leaves. This tree occurs in wooded grassland, woodland and along well-drained soils.

It produces a good source of timber and used for furniture and implement handles. It is planted along fences to protect smaller stock and game. It makes a good shade tree. The powdered decorticated root is applied to wounds to hasten healing. Bark is chewed to relieve colic and an infusion made from the root is taken orally to relieve stomach disorders and to get rid of intestinal parasites. A decoction of the bark and leaves is taken for the same reason.

The steam from a hot decoction is used for treating sore eyes and in serious cases it is dropped into the eyes. A decoction made from the powdered stem and root bark is taken for diarrhea and dysentery. A decoction made from the root is taken by mouth or as a gargle to treat sores in the throat. Leaves are boiled and steam is then directed into the mouth to relieve toothache. The wood also makes good fuel.

#### **4.5.5. 6 *Mophala* (No botanical name; forest fever tree)**

This is an evergreen tree grows up to 30m tall with a long, clean stem and roundish crown. Its bark is smooth and grey. Leaves are borne at tips of branches, simple, and dark glossy green. It bears white flowers, which turn yellow with age. A long perennial streams and springs in forests. It can also found in humus rich soils. It is the best tree for shade. Cattle eat the leaves that drop on the ground. It is a decorative tree. Its decoction from the bark and leaves is taken to treat malaria, diabetes, diarrhea, high blood pressure, venereal diseases and to get rid of roundworms.

#### **4.5.5.7 *Mohlwehlwe* (No botanical; mountain Karee)**

It is an evergreen tree with drooping branches, up to dense crown. Bark on young branches are reddish brown, but brown on older branches and stems. Its leaves have three

dull green sessile leaflets. Fruit flattened, glossy, light yellowish brown, up to 6 mm in diameter. Flowers are sprayed at the tips of branches, small and light yellow. It grows up to 6 mm in diameter. Occupies most habitat types but shows a preference for rocky slopes (Lorus et. al: 1989).

It is used for shade. It provides livestock with valuable fodder during drought conditions. The wood is suitable for the manufacture of small pieces of furniture. Its sour tasting fruit is edible and a strong beer can be made from the fermented fruit.

The next chapter discusses findings of the research.

## CHAPTER 5

### INDIGENOUS KNOWLEDGE OF CATEGORIZATION OF USEFUL INDIGENOUS PLANTS

#### 5.1 Plant taxonomy

During the gathering of information on plants in the Mamabolo area, two questions were constantly asked: How and why a plant got its name, and the cultural uses of the various plants. It is clear that plants are most often named after the fruit they produce or after the illness treated with the plant, for example, a plant called *phela* (African Potato). An infusion from this plant is taken orally by people of all ages for the treatment of coughs and helps people to stay alive. The nomenclature and taxonomic system for plants are therefore developed from practical and utilitarian criteria.

Kinchebe (1999) contends that plants are given names according to their different characteristics and their cultural importance in the local community where they grow. Each person often had their own taxonomy, and grouped plants according to how each is used or conceived of. However, findings from this study show that most people in the community consistently agreed with each other on plant groupings. In keeping with Mamabolo`s classification and naming as a subsistence traditional community, the principle criteria were in terms of grasses, shrubs, aloes, trees and other generic terms.

The functional significance of the flora in the Mamabolo culture is also reflected in the commonly understood naming criteria that are used in respect of plants. Indigenous plants are given names to facilitate recognition. Not all names of plant species have an obvious meaning, but those that have meaning fall in the three categories:

- i. Functional significance
- ii. Morphology
- iii. Habitat

The GaMamabolo community has strategies to categorise their local vegetation. The strategies have been presented according to the classes identified by Ramushu and Mphahlele (1988). The indigenous plants identified during the study process have been categorized as follows:

Noun prefix plant names (mo-) in this category, as in singular form are classified as class 3. Example: *Monamane (Illex mitis)*.

Plants names (me-) in the plural form are classified as class 4. Example: *Mekgalo (Ziziphus mucronata)*

Singular plant names with (le-) noun prefix are classified as class 5. Example: *Letelele (Amaranthus spinosus)*.

Plants names begin with (ma-) noun prefix in plural form are classified as class 6. Example: *Mahlatswa (Chrysophyllum)*.

Singular plant names with the (se-) noun prefix are classified as class 7. Example: *Sekgopha; (Agave Americana)*.

Plants names beginning with (di-, m-) noun prefixes in plural form are classified as class 8. Example: *Dikgopha-* a generic name for aloes.

Plants are further subdivided according to whether it bears fruit or not. Plants are subdivided according to their significance for the community, example of plants such as edible, non-edible, ornamental, vines (edible and non-edible) and plants that have other significance. Plant life is categorized into four groups using the following primary lexemes: trees, vines, grasses and herbs. The community plant nomenclature consists of more than one roots (*mo-*, *me-*, *se-*, *di-* prefixes).

Medicinal use is considered in the basic plant taxonomic scheme of the Mamabolo as a separate attribute from the main point of interest about a plant: whether it yields an edible or material product. Findings from this are that any medicinal categories of plants could be systematically superimposed on the basic taxonomic scheme. In chapter 4 the taxonomic category as edible, material used, medicinal used are clearly stated. The whole chapter portrays the community taxonomy on the plant species in their vicinity. For

example the *Sclerocarya birrea* (*morula*; marula tree) fruit is edible, produces juice which is made into beer and also has medicinal purposes.

A variety of plant species have the same generic name derived from their use or value. People know that these plants are related due to their common cultural value, and for this reason they are grouped together by means of a functional generic term although they have different primary names. This similarity in diversity is evident in the following instances:

**a. Firewood (*Dikgonye*)**

The activity of collecting firewood, *go rwalela dikgonye*, refers to the gathering and cutting off of dry wood for fire. All types of wood, which are recognized as sources of fuel are collectively termed *dikgonye*: *magonye*: singular: *legonye*, (*g > kg*) noun class 7 (*se*) and 8 (*di*).

**b. Fodder (*Phulo*)**

The name refers to all plant material, leaves, pods and grasses that are grazed by livestock and animals. Most animals and livestock predominantly dependent on nature to supply the fodder needed to sustain them. Some trees, shrubs and grasses are all important in this regard, for example: *Acacia burkei* (*mokgwaripa* (plural) noun class 3 (*mo*) and 4 (*me*)). Dry pods from this plant have high nutritional value for cattle. They also graze its leaves. It is said that cows feeding on these pods show an increase in milk production.

**c. Vegetable dishes (*Merogo*)**

Vegetable sides are collectively referred to as *merogo*. Although these potherbs represent different species they are cooked for purpose of eating with porridge. The community terminology concurred with the evidence discussed in Chapter 2. Young and tender leaves of edible plant species such as *Amaranthus*, *Gynandropsis* and *Cucumis* are

gathered by women and girls around their homestead or in the veld for vegetable side dish. Women have extensive knowledge of poisonous and edible plant materials. Tender vegetative plant materials are gathered before they reach maturity to prepare palatable side dishes.

**d. Brooms (*Mafielo*)**

This category consists of all grasses and other plant materials used to sweep the floor and courtyard. Although they differ in quality and durability, these plant materials are given the common name of brooms. Examples of such species have been clarified in full detail in Chapter 4 according to the community's norm.

**e. Medicine (*Dihlare*)**

All plant remedies are collectively referred to as *dihlare*. This category includes a wide variety of remedial and protective medicines, as well as substances that ensure success and good luck in a magical way. A large number of indigenous plants are reported to have medicinal qualities. The heavy reliance on natural, flora medicine is the subject of inquiry in the emerging science of ethnomedicine also referred to as ethnopharmacology (Rankoana 2000). Many people rely on traditional herbal remedies not only because of proven beneficial effects of many of these cures. The over-exploitation of certain species for this purpose necessitates the cultivation and re-establishing endangered species to make the resources more readily available to traditional healers and other people who also gather plant components with reputed medicinal value. See Appendix A

## CHAPTER 6

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Concluding remarks

Research findings:

The study is an ethnobotanical enquiry into the indigenous knowledge of naming and classifying the most useful indigenous plants in a rural community. The study shows that the GaMamabolo community still uses indigenous plant materials to sustain life. A variety of plant species are exploited for food. Naturally growing vegetative materials are harvested in the wild and fields for household consumption. Traditional medical practitioners, herbalists and community members with knowledge of herbal medicine, harvest a bulk of their medicinal plants in the local wild. Livestock owners and herders drive livestock to the fields and wild for grazing varieties of grass and leaves. Construction of huts (fewer identified are used as dispensaries by traditional medical practitioners), exploit durable plant materials, and household utensils are manufactured out of durable wood.

Extensive use of plant materials to sustain life enable the GaMamabolo community to develop a strategy to identify local plant species which they should and should not exploit for fulfillment of their daily needs such as medicine, food, shelter, manufacture of household utensils and for livestock feed. The community has developed the naming strategies. The plant species are differentiated from one another in the local environment by means of their morphology, ecology, medicinal use, nutritional use, household value and taste. The plant species were then given names according to the above characteristics.

A few examples are provided below:

- Life form- *lehlakanoka* (the type reed that grows in the rivers, lakes, or in moist places; a water resistant reed that is used for thatching the huts).
- Texture- *telelele* (the type of vegetable with a slimy texture)
- Colour- *mosehla* (a type of tree with a yellow-white colour)

- Taste- *mmaba* (a type of tree whose bitter bark is exploited for medicinal purpose)
- Household use-*lefielo*- (a type of grass harvested to make brooms)

The above examples are an indication that the community developed an indigenous technology of differentiating among the plant species by a thorough examination of the local vegetation before they could assign any term for a particular species. This is an indication that the community has a comprehensive knowledge of ecology.

The classification of the indigenous plant species was made necessary to enable people to identify the types of plants and number of plant species used for a particular purpose. As the number of known plant species increased, it became necessary to group them into broader categories according to some established criteria. Usually the Mamabolo community classified the plant species by common use. Several classes of plant species have been identified.

The bulk of plant species discussed in the study have been identified by adults and elderly members of the community selected for the study. They could clearly distinguish between the plant species and their cultural significance. The informants testified that they have learnt about the use of indigenous plant materials during their early ages and have learnt about their names and the categories of plants that should be harvested for a particular use.

The youth testified that they have little knowledge of the plant species that should be exploited for household purpose. The exception was herd-boys who could mention at least two types of grasses and four trees that are browsed by livestock in the wild.

## 6.2 Recommendations

1. Incentives should be in place to encourage more scholars to further their studies on the importance of sustaining indigenous knowledge systems, in order that documentation of this field (Ethnobotanical studies) is multiplied.
2. I recommend a comparative analysis of the ethnotaxonomy of the cultural groups that exist in the Limpopo Province to establish differences and similarities in terms of knowledge and the strategies people have developed to exploit the natural vegetation for fulfillment of household needs; as well as the strategies they have developed in terms of naming and categorization of the natural vegetation for subsequent recognition.
3. I recommend a study on the similarities and differences between scientific and indigenous knowledge systems of identification of the indigenous plants - naming and classification (scientific naming and grouping-genus). There should be clear lines as to how the two sciences differ in terms of naming and classification.
4. The comprehensive knowledge possessed by local communities should be integrated into biodiversity monitoring programs. More research will be necessary to learn more about the indigenous perspective on the ecology and reproductive and management of important plant species

## 7 LIST OF REFERENCES

1. Alcorn, J.B. 1995: **The Scope and Aims of Ethnobotany in a Developing World**, Schulte R.E and Von Reis (eds.) **Ethnobotany: Evolution of a Discipline**, London: Dioscoredes Press.
2. Barbie, E, and Mouton 1996: **The Practice of Social Research**: Oxford University Press: New York.
3. Berg, L. R. 1997: **Introductory Botany, Plants, People & Environment**, Orlando, U.S.A. Sanuders College Publishing.
4. Croll, E. and Parkin D. 1992: **Culture and the Perception of the Environment, and Development**, London: Routledge.
5. Cotton, C. M. 1996: **Ethnobotany, Principles and Applications**, New York: John Willy and Sons.
6. Descola, P. and Palsson, G. 1996: **Nature & Society, Anthropological Perspectives**, New York and London: Routledge.
7. Dobbenburgh, P.K. 1996: **Indigenous trees of South Africa**, South Africa: Briza Publication.
8. Elliot, V and Michael, C. B. 1998: **An Introduction to Plant Biology**, Canada: University of California Press.
9. Grenier, L. 1998: **Working with indigenous knowledge\_\_International Development Research Centre**. Canada.

10. Harper, C. 2002: Collins South African School Dictionary, Great Britain: Harper Collins Publishers.
11. Hobson, N. K. Jessop, J. P. and Ginn, C. Vd. R. 1995: **Veld plants of South Africa**, Johannesburg, MacMillan South Africa.
12. Jones, S. B. Arlene, J. Luchsinger, and E. 1986: **Introductory to Plant Science**, South Africa: Free Press.
13. Kaufman, P. 1989: **Their Biology and Importance**, New York: Merlin Press.
14. Kinchebe, J. L. 1999: **Indigenous knowledge from the Academy**, New York and London: Oxford University Press.
15. Kingsley, R. S. 2000: **Introduction to Plant Biology**, North America: Man-Graw Hill Companies.
16. Linnaeus, N. 1971: **National Herbarium**, Pretoria: University of Pretoria.
17. Lorus, J. and Milne, 1989: **Plant Life**, U.S.A: Cambridge Press.
18. Mabogo, D.E.N. 1990: **The Ethnobotany of the Vhavenda**, Unpublished Thesis: Pretoria; University of Pretoria.
19. Mamabolo, M.E.R. 1994: **The Original and Development of the Mamabolo Tribe, A historical Perspective of Dikolobe-Tša-Bjatladi up to the 1960s**, Unpublished Thesis: Pietersburg: University of the North.
20. Martin, G. J. 1995: **People and Plants Conservation**, Ethnobotany, UNESCO, and London: Chapman and Hall.

21. Menard, M.B 1995: **An Introduction to Research Design**, *Massage Therapy Journal*-Summer 1995, Volume 34, Number 3, pp 47-50.
22. Msimang, C.T. 2001: **South African Journal for Folklore Studies**, Journal: Pretoria: Unisa University.
23. Persal, J. 2002: **Oxford English Dictionary**, New York: Oxford University Press.
24. Ramushu, J. M. and Mphahlele, M.C. J 1988: **Polelo ye e Phelago**, South Africa: Shuter and Shooter.
25. Rankoana, S.A. 2000: **Aspects of the Ethnobotany of the Dikgale community in the Northern Province**, Unpublished Thesis Pietersburg: University of the North.
26. Rankoana, S.A. 2001: **Plant-Based Medicine of the Dikgale of the Northern Province**, *South Africa Journal of Ethology* 24(3): 99-104).
27. Schultes, R.E. and Sir Reis, V. 1995: **Ethnobotany, Evolution of a Discipline**, New York, U.S.A.: Chapman and Hall.
28. Smith, C.A. 1966: **Common names of South Africa Plants**, Pretoria: Republic of South Africa.
29. Strasburger, J. 1987: **Botany on plants**, London: Cambridge Press.
30. Thomas, R. and Michael, and G. 1998: **Plant Biology**, U.S.A: Wadsworth Publishing Company.
31. Van Wyk, B. E. and Gericke, N. 2000, **People`s Plants**, South Africa: Briza Publications.

32. Venter, F. and Venter, J. A. 1996: **Making the Most of Indigenous Trees**, Pretoria, South Africa: Briza Publications.

33. Warms and Nanda, M. 2002: **Culture and Anthropology**, New York: Wadsworth Publishing Company.

34. Wilsennach, Z. N. 1995: **Tree of South Africa**, South Africa: Free Press.

Internet: **<http://site.Uws.edu.au/vip/listerp/ethtax.htm>**. 08/13/2003.

Internet: Alaska Native Knowledge Network; **Traditional Ecological knowledge// fynk @u af edu.**

Internet: **Ethnobotany; an Introduction to Ethnobotany, Veilleux C and King, S. Search/Home.**