CHAPTER 5

DISCUSSION AND ADDITIONAL NOTES ON THE USE AND CULTURAL SIGNIFICANCE OF INDIGENOUS PLANTS

The information presented in the previous chapters as well as that summarized in the Appendix illustrates clearly that the Vhavenda make extensive use of indigenous plants. It is evident that the natural environment is an indispensable source of food, medicine, firewood and building and art materials among other things. Additional notes on the use of plants for selected purposes are given in this chapter.

5.1 PLANTS AS A SOURCE OF FOOD AND BEVERAGE

5.1.1 Porridge

From time immemorial the staple food of the Vhavenda has been porridges made from different cereals that they cultivated, including *Zea mays*, *Andropogon* spp., *Sorghum* spp. and *Pennisetum spicatum*. All these cereals could be cultivated only during the rainy summer period and sometimes when rainfall was insufficient, they produced nothing. Sometimes there was no rain at all and then they had to depend on their meagre reserves. During periods of extreme drought they resorted to indigenous plants for survival. It is reported that during the famine of around 1912, the Vhavenda dug roots of *Boscia albitrunca*, cleaned and pounded it into fine powder to be mixed with a little mealie meal and cooked into a porridge known as *vhuswa ha muṱhobi*. This famine appears to have resulted in untold loss of life and is still remembered today as *ndala ya miṱhobi*. The same expression is found among the Pedi and this may indicate that they also depended on this plant. The *Vhaṋia* of the northern and north-eastern Transvaal gathered and stored substantial quantities of the fruits of *Adansonia digitata*, *Strychnos pungens* and *Berchemia discolor* to make provision for lean times. These fruits have good storage qualities and were either stored as such or the pulp ground into a powder called *nugumo*. The powdered fruit pulp was kept sealed in large clay pots until needed, to be consumed in powder form (*mugumo*). Powder from *A. digitata* and *S. pungens* was usually mixed with

mealie meal and cooked into a sour porridge known as *khwangwali* or *phwambwali*. This porridge is said to have been so palatable that it was rarely shared with outsiders, including visitors. Quinn (1959) reports that the Pedi also dried fruits of *Ximenia caffra*, *Vangueria infausta* and *Strychnos innocoa* for porridges. Porridge made from indigenous fruits is now rare, probably due to industrialization which led to improved production and storage facilities.

5.1.2 Starchy roots, stems, bark and gums

Roots of many plants are prepared and eaten in different ways, and for varying and overlapping purposes. Some are taken for starch and water, others for refreshment, medicinal purposes or thirst. For instance, consumption of storage roots of *Vigna vexillata* and *Manihot utilissima* is basically to appease hunger, while the tuber of the plant, known by the Vhavenda as *khapha*, is primarily used for its taste and to quench thirst.

Tender and soft stems of most sedges (e.g. *Cyperus esculentus*, *C. sexangularis* and *C. latifolius*) are chewed and the juice is swallowed mainly for the salty taste which makes them palatable. On the other hand, the succulent roots of *Wrightia natalensis* are a rich source of water and have aphrodisiac properties.

The root bark of *Securindaca longepedunculata* is nibbled for the sweet and pleasant taste which is probably due to the presence of methyl salicylate, but it is also liked for its aphrodisiac effects. Bark of some plants is chewed and the juice swallowed with saliva for the refreshing taste, e.g. *Acacia albida* and *Landolphia kirkii*. Fibre of the plant known as *mukakate* is used for making ox-whips. As the only way of softening the inner bark of this plant is by chewing it, and it has a palatable taste, the juice is swallowed. A fellow villager stressed the palatability of gum from some acacias by saying that "it is like toffees" (Nemanashi, personal communication), but he also admitted that gums are eaten mostly for medicinal purposes.

Although most tubers may be eaten raw, those of *Manihot utilissima* should not only be properly cooked, but the central core must also be removed first. It is

believed that this part is poisonous. Watt & Breyer-Brandwijk (1962) report that the toxic effects of the tuber, and particularly the core, are due to the presence of a cyanogenic glucoside. According to their report "... in Southern Rhodesia (the present Zimbabwe) the Bantu does not eat the tuber unless driven to in times of famine". The same source also suggests that drying and boiling destroy the toxicity of the tuber. This supports claims by the Vhavenda that prolonged cooking reduces the harmful effects of the tuber and explains the reason why it is commonly sliced and dried for future use. Even when it is properly cooked or dried first, people who do not know it, are warned of the danger of eating too much of it. Symptoms of over-eating this tuber resemble those described by Watt & Breyer-Brandwijk (1962), namely abdominal distention, nausea, vomiting, respiratory difficulty and collapse. Despite extensive use of the tuber by the Tsonga of the lowveld in the eastern Transvaal, Liengme (1981) appears to have only noted its cultivation in the Giyani and Malamulele areas of Gazankulu. Tubers of *Vigna vexillata* are also usually sliced and dried before use, but this appears to be for storage purposes only.

5.1.3 Vegetables for relishing porridge

As in the case of cereals, the Vhavenda cultivate vegetable crops such as pumpkin, *Vigna sinensis* (*muṋawa*), *Voandzeia subterranea* (*phonḍa*), *Phaseolus aureus* (*ṋawa*), *Citrullus lanatus* (*habu*), *Lagenaria vulgaris* (*maranga*), *Arachis hypogea* (*nḍuhu*) and many others. These also being of seasonal availability and significance, the Vhavenda rely heavily on wild growing vegetable plants as well.

Gathering of indigenous vegetables growing in the wild takes place almost throughout the year. Vegetable gathering is a cultural role of women and girls to such an extent that it has become their culturally accepted and strongly commendable hobby. It is a communal activity which is confined to one or more peer groups, and it is usually combined with other tasks such as ploughing, weeding, catching locusts, fetching water or gathering wood. Men sometimes return home with some vegetables which they find in the mountains. However, they often uproot the herbs, lacking the patience and skill for fine picking. They sometimes gather substantial quantities of common vegetables where they find them flourishing, making them look very responsible to their wives in particular and families in

general. Men and boys' tasks are to collect mushrooms and to provide venison from the veld.

The gathering of certain wild vegetables is seasonal and, for most of them, it reaches its peak during the rainy season. Quantities of vegetable leaves gathered during a trip depends, to a large extent, on availability, distance and flavour preference. Those that are most preferred are collected first, followed by the unpalatable ones. Some are extensively gathered merely because they are readily available as weeds in cultivated areas, along footpaths and around homesteads and dumping sites.

Generally soft and tender leaves of the new growth are plucked. Flowers are usually also gathered, but there are some species of which even accidental inclusion of flowers or fruits is strictly avoided. For example, the flowers and fruits of *Cucumis zeyheri* are deadly poisonous and therefore avoided. Vegetables that can be cooked together are normally collected into one container, and in desirable proportions. Gourds or calabashes are used for this purpose, but recently tin containers came into fashion, probably because of their availability. Normally one collecting trip will provide for both the afternoon and evening meal.

Almost all vegetables are cooked before they are served with porridge. Combinations of vegetables depend on flavour, texture, availability and personal preference. Soft-textured vegetables are commonly cooked together. Similarly, the rough-textured ones are combined, but it is common to find the two types mixed in order to improve edibility. The following are some examples of common combinations in Venda vegetable cooking:

Corchorus tridens + *Amaranthus thunbergii*
Corchorus tridens + *Chenopodium album*
Corchorus tridens + *Cucumis zeyheri*
Corchorus tridens + *Obetia tenax*
Corchorus tridens + *Obetia tenax* + *Tragia* sp. (*Dzaluma*)
Corchorus tridens + *Obetia tenax* + *Tragia* sp. + *Pouzolzia mixta*
Corchorus tridens + *pumpkin leaves*
Cleome monophylla + *Cleome gynandra*

Bidens pilosa + *Sonchus oleracea*
B. pilosa + *Sonchus oleracea* + *Cleome gynandra*
B. pilosa + *Sonchus oleracea* + *Cleome gynandra* + *Cleome monophylla*
B. pilosa + *Cleome gynandra*
B. pilosa + *Cleome monophylla*

In case of combinations, the name of a relish is usually derived from the vegetable used in a greater proportion, or the one that has the predominating flavour. Thus, a relish may be called *delele* (*Corchorus tridens*) even when leaves of any other vegetable are included. Some vegetables serve as piquants or spices and are required to be added only in small quantities.

Some of the Venda piquants are *Momordica foetida*, *M. balsamina*, *Cucumis zeyheri*, *Solanum nigrum* and *Sonchus oleracea*. It is interesting to note that most of these piquants have an acrid or bitter taste and that some are even poisonous, e.g. *Cucumis zeyheri*. In his research on the edible wild plants of the Pedi, Quinn (1959) gave reports on 18 vegetable plants, 12 of which are found to be also eaten by the Vhavenda. With regard to the other six, it has been found that the Vhavenda eat other species of the same genera, probably because the species used by the Pedi do not grow in Venda, or have not been identified. In the same report it was also indicated that most of these plants or related species are also used as vegetables in other countries throughout the world, e.g. most of the Cucurbitaceae are found to be popular in India, North America, West Africa, Tanzania, Malawi, Zambia, southern Africa, *etc*. Gelfand *et al.* (1985) report that in Zimbabwe the consumption of *derere* (Venda: *delele* = *Corhorus tridens*) is forbidden for expectant women. All plants reported by Liengme (1981) as vegetables of the Tsonga of Gazankulu, *viz*. *Amaranthus thunbergii*, *Bidens pilosa*, *Corchorus tridens* and *C. confusus*, are used by the Vhavenda, except the last-mentioned.

During favourable rainy seasons some of the vegetable plants mentioned above are collected in abundance and the surplus is dried and stored for use during lean times. When simply dried in the form of leaves, the vegetable is known as *mutshovhotshovho*. Vegetables are sometimes cooked and moulded into small cakes which are dried and used as *mukusule*.

5.1.4 Condiments

With the exception of some soft-textured vegetables like *Corchorus tridens*, *Tragia* sp., *Pouzolzia mixta* and *Amaranthus thunbergii*, all other vegetables of the Vhavenda frequently need condiments to make them more palatable. The main condiments include peanuts (*Arachis hypogea*) and seed kernels of *Sclerocarya birrea* subsp. *caffra* (*mufula*). The kernels and peanuts are called *thanga*. The kernels (seed) are crushed and ground into a pulp which is cooked with vegetables, or alone, to make a delicious savoury. A popular cooking oil is sometimes extracted from these seeds by heating and it is then stored for future use. In the northern and north-eastern regions of Venda the fruit pulp of *Trichilia dregeana* is cooked with vegetable leaves as a condiment.

An even wider use of *mufula* seed kernels is reported by Quinn (1959) in relation to Pedi food: the kernels are used as condiments not only in vegetable cooking, but also with dried kaffir-corn (*Andropogon sorghum*) stew to make *Tsholo le dikoko*. Liengme (1981) reports the use of *mufula* kernels as savoury by the Tsonga. They also use the kernels as a condiment in vegetables. The Tsonga are known to use peanuts as a condiment in chicken dishes, and there is no reason why they may not use *mufula* kernels as substitute, especially because they exchange these two condiments in vegetable cooking. Watt & Breyer-Brandwijk (1962) report the use of seed kernels of *Sclerocarya birrea* subsp. *caffra* as a condiment among the Zulu, Thonga and Pedi as well as in Madagascar. This is said to be very tasty, especially when cooked. The same source also reports the extraction of edible oil from the white fruit pulp of *Trichilia dregeana* in Gazaland. Condiments prepared from indigenous plants are rapidly replaced by the commercially available spices and cooking oils.

Salt is an ingredient of all vegetable dishes of the Vhavenda. This was originally obtained by evaporating salt water on rocks and potsherds. Ash was sometimes added to vegetables to expedite cooking, but this is now accomplished by the commercially available bicarbonate of soda.

5.1.5 Fruits and seeds as sources of food

As fruits of different species ripen at different times, the collection of any particular type of fruit is seasonal, and fruit collection takes place throughout the year. Most fruits are small and eaten in the veld by people of all ages, bringing home only a few for those who cannot go out and collect them. Some fruits require special expeditions from villages to the areas where they are available, especially those that grow on mountains. Three to four trips are undertaken each year to collect fruits of *Bequaertiodendron magalismontanum*, *Mimusops zeyheri*, *Syzygium legati*, *Strychnos pungens* and *Adansonia digitata*, to mention but a few. The collection of these fruits is normally a communal affair and almost every family in a village sends a member. This is one of the expeditions that usually include people of different peer groups. During these trips people try to collect as much as they can carry in bags, twenty litre tins, baskets or other containers. The purpose for collecting so much is to ensure that there would be enough for those who remained at home, including neighbours and relatives.

Consumption of some fruits, especially those of *Sclerocarya birrea* subsp. *caffra* and those that are valued as famine foods, never takes place until the "first-fruit" ceremonies are performed at the chief's kraal. In some areas of Venda this practice remains to this day. During these ceremonies *mufula* beer is brewed and poured into sacred tombs and clay pots for the ancestral spirits to have their share of the newly ripened fruit. Watt & Breyer-Brandwijk (1962) reports that the Tsonga also celebrate the feast of the first fruits by pouring the juice of *mufula* fruit on the tombs of deceased chiefs in the sacred wood.

Most fruits are eaten fresh, with milk or water, while others are dried and stored for future use. Among those that can be dried, some are pounded into powder and cooked as porridges or consumed as *mugumo*.

Seeds of a few species are valued as important sources of food. The seeds of *Sclerocarya birrea* subsp. *caffra* are collected in large quantities during *mukumbi* beer making and stored until needed. Cattle, goats, sheep and pigs bring considerable numbers of *mufula* seeds into their enclosures and resting places. Wild animals also accumulate these seeds which are then easily collected. Children

crack the seeds and eat the kernels raw while guarding cattle and goats. Many of the seeds are cracked at home and the kernels (mainly the embryo) removed to be used as condiments or savoury. Seeds of *Berchemia discolor* are sometimes pounded together with fruit pulp and peel to make a powdered famine food known as *mugumo*. However, some people remove the seeds in the preparation of *mugumo*.

5.1.6 Nectar from flowers

Nectar is sucked or shaken from flowers of various plants. The most popular source of edible nectar is *Schotia brachypetala*, but nectar is also obtained from species of *Leonotis* and *Aloe*.

5.1.7 Beverages

Many types of beverages are made by the Vhavenda. Some are made from mealie meal, millet and sorghum, while others are brewed from fruits of indigenous plants.

a) Attractive beverages

The most popular non-intoxicating beverages of Vhavenda had, for a long time, been derived from boiled crops such as pumpkins (*khobvu*) and leaves of various vegetable plants. Some of those made from leaves of vegetable crops were sometimes taken for medicinal purposes. The introduction of sugar into the Vhavenda diet enabled them to make beverages from many other plants. For instance, leaves of *Grewia flava* and *Pappea capensis* are boiled and sugar added to make teas with pleasant flavours. Both the branches and leaves of *Athrixia phylicoides* are crushed and boiled. With sugar added, the tea produced is like the commercially available *'rooibos'* tea, but it is more yellowish. Roasted roots of *Boscia albitrunca* make a pleasantly flavoured tea with sugar. Most of these teas are rarely used today as a result of the readily available commercial tea and coffee.

b) Alcoholic beverages

Although most of the beverages of the Vhavenda are made from cultivated cereals, a few of those from indigenous plants warrant some attention. Alcoholic beverages are made to quench thirst (*Mabundu* and *tshikoko*), to entertain people at work parties, social, national and religious gatherings. There are beverages made specifically for ritual purposes (e.g. *mpambo*). Only those made from indigenous plants are briefly discussed below.

- *Mukumbi*

Mukumbi is a wine (or beer) made from the fruit juice of *Sclerocarya birrea* subsp. *caffra*. The peel is removed during the process known as *u fhonda mafula* and the rest of the fruit is dropped into a large pot containing water. When the pot is full, the seeds with pulp are stirred, wrung and squeezed to leave as much of the juice in the water as possible. The seed with the remains of the pulp are then removed and given to children to suck as *govhole*.

The liquid is left to ferment for three to four days, depending on the weather. On the second day it is already slightly fermented and may be drunk as *tuvhu*, which is sweetish and much enjoyed by children, young men and women. The fully fermented wine is termed *mukumbi wa lutanda*, and is highly intoxicating.

Even though the making of *mukumbi* wine takes place throughout the ripening period, three stages are particularly important to the Vhavenda. These stages are marked by *mukumbi* presentations to the chiefs. The first offering is made when few of the fruits are ripe and only a little wine has been produced. This offering is termed *mulumo*. It is followed by *gulu* when the ripe fruit is abundant and large quantities of *mukumbi* are made. The offering brewed from the last fruit is termed *zwivhungu*. *Mukumbi* has recently entered the market as most people do not have time to collect the fruit and make their own.

Seeds accumulated during wine making are spread on rocks to dry out and then later used to make condiments.

The use of *mufula* fruits is reported among the Pedi (Quinn 1959) and by the Tsonga (Liengme 1981). According to Watt & Breyer-Brandwijk (1962) the fruit of *Sclerocarya birrea* subsp. *caffra* is used by "...the African in the Eastern Transvaal and Portugese East Africa for the brewing of beer and, in some districts of the latter, a potent spirit is distilled from it". These authors also noted that in Mozambique the fruit is used universally for the making of a "national" fermented beverage. They report that the fruit juice contains citric and malic acid, and that the fermented fruit juice when prepared by the Pedi contains 1,74% citric acid. The fruit contains 54mg vitamin C per 100g and 2.02% citric acid, while the fruit juice contains 2mg vitamin C per millilitre. They also noted that the juice is used in some Shangaan areas for religious ceremonies.

- *Mutshema* and *mulala*

Mutshema is made from *Phoenix reclinata* and *Hyphaene coriacea*. It is prepared by cutting off the stem, especially at the tip, and then collecting the sap which is allowed to drip into a container for a few days. The leaves of the plants are used as gutters to facilitate the flow of sap into the container until it is full. The sap is then taken home and left to ferment into an intoxicating beverage. When this practice was prohibited by law, the fermenting sap was moved out of the homesteads and hidden, in large pots, in the bushes until fully fermented. This beverage is not popular throughout Venda, but in areas where it is known and enjoyed it is also brewed for sale. Large scale brewing may affect a large proportion of the palm population.

- Other beverages

The Vhavenda, especially in the north and north-western regions, make a distilled spirit from the fruit of a plant known as *mutshato* (*Xanthocercis*

zambesiaca (Bak.) Dumaz-le-grand). The ripe fruit is soaked in water for a week or more until a large quantity of foam has formed. The fruit pulp is then separated from the seeds, which are removed. The resulting liquid is boiled in a large clay pot, the mouth of which is sealed. The evaporating alcohol is led out through a pipe which passes through a wooden trough (known as *mukoro*) containing cold water which is regularly changed. Nowadays half tires are used for this purpose. The condensate is collected at the other end of the pipe and is graded according to strength, from number one (strongest) to number three (diluted with water). The method of testing strength is by pouring a little into the fire and checking the colour and strength of the flame. It is reported that the strongest spirit can, and has been used, to run motor engines. The number one spirit is mixed with number three for consumption. With the introduction of sugar, the Vhavenda use the same apparatus to prepare the spirit called *thothotho* from sugar and malt.

Beverages are also made of other of fruits such as those of *Pappea capensis*, *Bequaertiodendron magalismontanum*, *Mimusops zeyheri* and *Parinari curatellifolia*, to mention but a few.

5.1.8 Nutritional adequacy of Vhavenda foods

Plant products are an indispensable source of food for any healthy population. A balanced diet should provide not only the quantity required, but also the necessary quality. It must supply energy foods, proteins, vitamins and minerals. The most important sources of energy are carbohydrates (sugars) as well as fats. Apart from supplying energy upon oxidation, proteins also supply the essential amino acids required to build the human body. Minerals and vitamins are needed for the various metabolic processes in the living cell.

The bulk of Vhavenda foods comprise porridges. These are cooked from meal basically obtained from the various cereals (mainly mealies) cultivated locally or imported from other countries and sold at local shops. Consequently their food is rich in carbohydrates. The incorporation of bread into the diet, although it is

usually used as substitute for porridge, has further increased the carbohydrate content of their food. All porridges are served with a relish of some kind, including meat, vegetables, edible insects and caterpillars of various kinds.

Even though the Vhavenda keep cattle, goats and sheep, these are rarely slaughtered for meat as they represent and protect the social status of the owners and are valued as a medium of exchange, payments of fines and apologies, marriage goods and thanksgiving to the chiefs. The most important food product from domestic animals is milk. Much of the meat used to be obtained by hunting and trapping game and birds. Venison, milk and insects, therefore, play an important role in providing the protein requirements of the diet, and probably supply most of the essential amino acids needed for the proper functioning and growth of the human body. As the Vhavenda did not keep fowls for security reasons, they depended on wild birds, particularly guinea- fowls, for eggs. The cultivation of various leguminous crops provides an important boost to the protein content of the carbohydrate-rich food and, in addition, they also supply considerable amounts of vitamins and vegetable oils.

Fresh vegetables and fruits are significant sources of vitamins and minerals that are frequently deficient in staple foods. For instance, the fruit of the baobab (*Adansonia digitata*), has a very high calcium and vitamin C content, in addition to other minerals. Quinn (1959) analysed the wild vegetables and fruits of the Pedi, most of which are also regularly used by the Vhavenda, and found that they contain moderate amounts of protein, vitamin C and minerals. Condiments cooked with vegetables, as well as nuts and seed kernels eaten raw, are undoubtedly good sources of fats and oils in addition to proteins. This indicates that although the staple food of the Vhavenda is carbohydrate-rich, they always have some way of balancing their diet.

Civilization and the western way of living have brought many changes in the dietary patterns of the Vhavenda. The nature conservation code that has recently been introduced, is such that hunting and trapping of wild game is strictly prohibited and collection of insects is not particularly encouraged. Population explosion, industrialization, migrant labour and civil employment appear to have resulted in diminished arable and non-arable lands, little time for the gathering of wild

vegetables and fruits, and many other changes in the economic structure. Consequently, most families now depend on the food supplied by the local shop and, therefore, on food made in factories.

When money determines the nutritional status of any family unit, it becomes important to realize the effect of unemployment and underemployment on the provision of a balanced diet. This is particularly important when one realizes that the children who used to make substantial contributions to the economic position of their families, now spend much of their time at school in preparation for future employment, and that most of their parents, who should keep them at school and provide food, are not educated enough to secure any sound employment. Furthermore, the social structure has become such that the parents can not spend enough time with their children to pass on their knowledge about edible plants and their preparation. As a result, the young rather tend to withdraw from the natural environment and natural resources, despite the introduction of improved education dealing with the natural environment and its resources.

5.2 OILS, POLISHES AND DYES

Even though the Vhavenda mostly use animal fat, they still need vegetable oils for certain purposes. A considerable proportion of vegetable oil is obtained from seeds of plants. Apart from being used in cooking, the oil obtained from the seed kernels of *Sclerocarya birrea* subsp. *caffra* has for long also been used as an important skin emollient. Similarly the oily pulp of the fruit of *Trichilia dregeana* was used to smear over the body.

Oil extracted from seed kernels of *Ximenia caffra* and *X. americana* was preferred for making *mudo*, used to polish leather clothes, especially those called *zwirivha*, to keep them soft and give them a black colour. *Mudo* is prepared by burning the seeds and then grinding them into a black polish with a characteristic smell. Although *mudo* is not particularly pleasant smelling, its smell was still preferred because of the belief that it repels wild animals and thus keep them away from women when they go out to collect wood and vegetables in the veld.

All leather clothes worn by women should be made from hides of domestic animals, and it was for this reason that they had to be polishied with *mudo* to hide the smell which would otherwise attract beasts of prey. *Mudo* polishes are also made from seeds of *Cryptocarya liebertiana* (Netshiungani et al. 1981), *Ricinus communis*, *Trichilia dregeana* and other plants for the same purpose, as well as for furniture polish. The oil of *Ricinus communis* was, and still is, extracted particularly for use as a medium for mixing medicines, especially powdered and magical ones. This oil is also an important purgative and an ingredient of ear drops.

Dyes for giving colour to articles made from fibre, grass culms and reeds are obtained from barks, stems and leaves of indigenous plants. The use of certain plants as sources of dyes depends on availability, colour preference and knowledge of plants. *Indigofera erecta* is the most popular source of dye in the Vhuphani area, giving light blue, blue, purple and brown colours to articles, depending on how long they are boiled or soaked. In the Niani area most articles are decorated with red colours through the use of the bark of *Berchemia discolor*. *Sclerocarya birrea* subsp. *caffra* is popular for its reddish to dark brown colours on articles in the Vhulafuri region of Venda. Many other plants are used for dyes depending on their availability and previous experience. All articles to be dyed must either be soaked or boiled for a certain period with the source of the dye. In order to get a black colour, the articles, or especially the materials from which they are made must be burnt or soaked in mud for long periods.

5.3 UTILIZATION OF PLANTS FOR MEDICINE AND MAGIC

From the evidence presented in this thesis it is clear that one of the most important uses of indigenous plants is in medicine. Many of the medicines used by the Vhavenda are either plant parts or their products, used for both medicinal and magical treatments.

Medicinal treatment here refers to the direct and empirical application of medicine to treat a particular disease with clearly observable or detectable symptoms, when the success of the treatment is being attributed totally to the effects of the medicine used.

Magical practice on the other hand, deals with treatment matters related to, or suspected to be caused by, supernatural forces such as witchcraft, sorcery or ancestral curses. This involves the use of medicines and ritual cults in the treatment of a person, family, nation or a property, to ward off, neutralize, remove or protect against the effects of such forces. There is, however, no clear distinction between the two, as medicines used for one may be similarly used in connection with the other.

5.3.1 History and theories of origin of traditional medicine

The age of traditional medicine is quite difficult to determine, especially in Africa, where there are no written records. The practice of medicine and magic among the Vhavenda is probably as old as their culture. Their history clearly illustrates that traditional medicinal practice and magic were more alive, being an important guiding factor in the development of culture, in the past than at present. The continued existence and survival of the Vhavenda as a nation is seen to have depended on the active and loyal role of medicinal practitioners and magicians who, apart from maintaining good health and peaceful co-existence within the nation by supplying their effective medicines and discouraging evil deeds, also protected the nation and their land against invaders. They are thought to have influenced rainfall, doctored the land and soldiers and made formidable magical weapons such as the sacred drum, *ngomalungundu*, and the different flutes which protected large and smaller groups in their hunting, trade and war missions throughout Africa. Folk tales of the Vhavenda confirm the role of medicine and magic in the daily life of their past.

Records of traditional medicine date as far back as between 2730 and 3000 B.C. (Sofowora 1982). It is not clearly understood how traditional medicine originated. Scholars and traditional practitioners have advanced some theories in an attempt to clarify this mystery. Some of the theories are briefly discussed here:

a) The information was communicated to some individuals by gods

This is the view maintained by some traditional practitioners who claim that their ancestors visit them while in a trance and show them their clients, complaints, causes and treatments needed. Others claim to get the information in dreams or visions. This involves "seeing" a plant that may be known or unknown and then learning about its use. Sometimes the practitioner is shown the plant without being told how and for what purpose it should be used. In such cases he will simply collect the medicine (mostly leaves) from the plant, or make a note of it, and wait to be told about its use. This is probably why traditional practitioners find it necessary to use certain drugs that will help them dream about medicines (Letsoalo & Motimele, personal communication).

In one case a baby boy who was very ill, was hospitalized at Siloam Hospital. One night his mother dreamt about her suffering baby. In the dream she noticed three very old women, one of whom was her grandmother, collecting bark from *Maerua angolensis*. The bark was pounded, mixed with some other medicine and then roasted in a potsherd. While she was still wondering what they intend to do with the medicine, they disappeared, leaving the medicine over the fire. The dream worried her so much that she decided to ask for the discharge of her son from the hospital. On arrival home she consulted a traditional practitioner who divined and advised her to go to another practitioner, an old woman for the treatment of the baby. She noticed that this plant was used with another mixture which she could not recognize, and the baby recovered.

Traditional practitioners also claim that some information on herbal cures is obtained from witches who offer to give it in exchange for not being exposed when detected in their evil acts (Sofowora 1982).

b) Knowledge on herbal cures was gained by chance

As early man was very close to nature, living in daily contact with plants and animals of the forest, hills and valleys which were his inescapable home and source of food and medicine, he was sensitive to the behaviour of animals and the properties and powers of plants. "By copying from animals, man soon learned how to use nature's healing powers for himself" (Thomson 1978).

Among Venda traditional practitioners there are some who, in their search for herbal cures, test the effects of plants known to be browsed by animals by ingesting their parts (Ratshitanga, personal communication). This originates from the view that some animals e.g. the porcupine, feed only on plants that are medicinally important, and that certain animals resort to eating parts of certain plants when injured or ill. Discovery by chance could also have come as a result of curiosity or hunger. It is probable that during periods of food scarcity, man could be forced to taste a number of plants which he normally would not touch, particularly their fruits and seeds, in an attempt to relieve hunger. Some of these plants would prove to be edible, others toxic with fatal effects, while few others would have comforting and remedial effects. Of the plants tasted and found to have medicinal powers, some could be used again to produce healing effects in times of disease. Those people with sufficient knowledge of plants with medicinal powers would then help others (at first for free and later for a fee) and acquire the status of traditional practitioners.

c) The doctrine of signatures

Later when man became sophisticated in his approach, he would look for special features in plants, such as shapes, colours and flavours, which bear resemblance to human organs and behaviour -- heart-shaped leaves for treatment of heart diseases, plants with reddish sap for blood diseases. This doctrine was first postulated by Paracelsus (1490--1541). He believed not only that plants were put on earth for man's use, but also that many of those plants not obviously valuable for food, were stamped by the Creator with a

clear sign or signature, indicating their use (Thomson 1978, Sofowora 1982). Even while adhering literally to this doctrine of signatures, "human beings by trial and error accumulated a vast store of medical knowledge based on their own observations and, above all, their experience" (Thomson 1978). Therefore, from observing the behaviour of animals, from the shapes and aroma of plants, and finally from empirical evidence, man learned how plants could be of service to him not only as food, but also to keep him in sound health.

Whatever the origin, the interest in and progress of knowledge about curative plant products were relentless, and gave birth to the various traditional and modern systems of medicine encountered throughout the world today. The manufacture and marketing of medicine remains a major industry.

5.3.2. Trends in Vhavenda traditional medicinal practice

a) The concept of disease

A patient is regarded as suffering from a "normal" or natural disease if he shows familiar symptoms which can be treated with remedies that are popularly known as active against complications. Injury and diseases such as, colds, fevers, whooping cough, diarrhoea, measles, venereal diseases are considered to be natural. The treatment of natural or "normal" diseases is purely medicinal. However, anyone of the conditions mentioned can be associated with "abnormal" or supernatural diseases if it fails to respond to popular treatments as expected. Such abnormal illnesses are believed to be a result of witchcraft, sorcery or ancestral curses. For example, it is commonly believed among the Vhavenda that a person could be bewitched in such a way that he would be involved in an accident and get injured or killed (a process known as *u livhanya*). The treatment of "abnormal" diseases is both medicinal and magical.

As already mentioned, magical treatments involve an initial ritual purification to remove or neutralize the effects of the supernatural force,

followed by medicinal treatment of the physical symptoms. Traditional practitioners usually try to ascertain the type of disease by divining for every patient. For ancestral curses a ritual ceremony attended by all kin-group members must be performed to communicate with the ancestors. During the ceremony the patient is possessed by the ancestral spirit to become a *mudzimu* or *mukalanga* who speaks *tshikalanga*, a language which is closely related to the present Shona of Zimbabwe. Elderly people gather around her (normally only women become possessed) to ask about his or her name (the *mudzimu*), the ancestral complaint, and what action would appease them and thereby save the patient. The end of the ritual ceremony should normally mark the beginning of a rapid recovery of the patient. It always requires a diviner to determine whether the illness is magically caused or is a result of ancestral complaints.

b) Collection of plant remedies

Even though most medicinal plants are collected and used throughout the year, certain types are left aside for collection at specified periods of the year. These include most of those medicines that are needed for magical uses. Medicines used magically for treatment of persons, homesteads, livestock and agricultural fields are normally collected during winter. There are a number of reasons for this seasonality of collection. It is believed that certain medicines cause heavy lightning sounds in the area if collected during summer and that this may encourage more lightning strikes, especially at the homestead where they are stored. Examples of such medicines are the roots of *Salacia rehmannii* and *Capparis tomentosa*. Winter collection co-incides with the period of resting, celebrations, immigrations and emigrations, building of new homes and renovation of old ones, visits to relatives and friends, and many other activities that are only possible when people are temporarily free from agricultural tasks. It is also the period of abundant food after harvesting. Traditional practitioners confirm that most medicinal plants are past the period of vigorous growth and are "hardened and matured" in winter. Traditional practitioners also have enough time to wander about and collect the medicines they need when they are free from agricultural activities.

Some medicines are collected only during the night, because the collector has to be be naked during collection and should perform certain rituals to avoid nightmares and misfortunes.

Medicines may be collected anywhere except on other peoples premises, i.e. their homesteads and fields. As everybody "doctors" his premises, it is believed that plants growing in and around them have been affected by his *phamba* and may not work properly for others, unless they are given some treatment to remove such effects. If a person has to collect medicines from other territories or homelands, he must first get permission from the relevant headman or chief, who will give him some of his people to accompany and protect him against possible tribal victimisation, show him where to find his medicines, make sure that he collects properly and not too much, and ascertain that he is not a spy sent to inspect the country. It is customary that the collector takes something to the headman or chief as a form of thanksgiving.

The part of the plant used varies from one species to another, from practitioner to practitioner, and depends on the nature and state of disease, but there are general tendencies. In the case of trees and shrubs the stem and root bark are mostly used, whereas leaves, flowers and fruits are less frequently needed. For herbs and grasses it is common practice to use the whole plant including roots, leaves and stems as well as flowers and fruits if present. Depending on the factors mentioned above, leaves, stems, roots or flowers may be used alone or in combination.

Venda traditional practitioners stress the need to avoid killing the plants from which the medicines are obtained. They believe that if a person kills the plant as a result of collecting medicine from it, the medicine would kill the patient instead of healing him. Leaving the rooting parts exposed after obtaining medicine from the plant is strictly forbidden. This is said to leave the plant dying of exposure of these parts which may then cause the death of the patient treated. As a result of this belief the roots of the plant from which the medicines have been obtained are always left covered with soil. Another reason for this is the belief that jealous persons, who may have

seen the collector taking medicines from the plant, may bewitch it in such a way that his medicines would not work effectively.

It is common practice when collecting bark medicine from stems of trees, that pieces from opposite sides of the trunk be obtained, i.e. east and west or south and north, *etc*. The reason given for this is the fact that the wind which carries all the healing magic from all parts of the globe, does not blow from one direction only. This normally results in removal of bark all around the stem when the plant is close to the village and within reach, especially when only a few trees are found in the area. Collection of roots is confined to the horizontally growing ones, probably because removal of these roots normally does not kill the source of the medicine. The treatment of some diseases may specifically require that only those roots that grow across footpaths be used.

c) Preparation and application of plant medicines

A determined and responsible practitioner has the duty not only to know the plants used to treat diseases, but also to know where to find them, how to collect them as well as the way in which they should be processed for use. It is also important that he or she should be able to understand and practice the safest possible applications of the medicines, giving the patient the correct dosage at the right time. One should also enjoy an appreciable degree of flexibility when it comes to combination of drugs, diluting and choosing alternatives.

The method of preparation and administration of any one drug depends on the plant used, the part collected, disease to be treated and on the practitioner's experience. Some methods are quick, simple and straightforward, while others, especially those related to some cultural, religious or superstitious practices, are more complicated. Some of the most popular ones are given below.

- Chewing:

This method is usually important in emergency cases such as when the patient has swallowed a poison and needs to vomit it, or when he is still waiting for treatment and his pain has to be stopped or minimized. The resulting juice is commonly swallowed, but for a few medicines it is spat onto the palms of the hands and rubbed over a painful part of the body. For children who cannot chew, the mothers usually chew for them and spit the resulting juice into their mouths.

- Crushing and sniffing:

This method is common for leaves and soft succulent stems, especially those with strong aromatic flavours. It is mostly used for colds and related chest complaints. Crushed medicines may also be soaked and used as a pressing or dressing on wounds, burns, bruises and sprains. The infusion resulting from soaking may be drunk.

- Dry pounding:

This method is particularly convenient for those medicines that should be used or stored in powder form. Powdered medicines may be mixed with animal fat or vegetable oils and be used as skin ointments, dressings on inflammatious wounds, contusions, and incisions cut on the skin. Ointments find many applications in external use and are particularly suitable for smearing on hut poles, doors, gate poles and magical sticks in the doctoring of homesteads and other property. Powdered medicines may be swallowed with saliva, soaked or boiled in water and drunk, sprinkled over soft porridge or taken in urine or beer. The use of powdered medicines for herbal baths is quite common among the Vhavenda. Some magical powders are just blown away to the accompaniment of incantations to have them register certain magical effects at a distance. Others are tied in cloths and attached to a girdle, necklace or anklet and carried along as a charm. Certain powders are burnt around homesteads or business sites to drive away evil spirits or attract customers.

- Soaking:

Soaked medicines are usually crushed or powdered first. The resulting infusion may be taken orally for internal complaints, e.g, as an emetic or mouthwash for toothache. Some of the soaked medicines are used as enemas or for external applications against burns, bruises and wounds, or as herbal baths for ritual purifications. Infusions are generally also used to prepare soft porridges and as eye or ear drops.

- Burning:

Burning is a popular method of preparation for those medicines in which only the ash is needed. The resulting black powder or ash is usually mixed with fat for external application, or licked for internal treatments.

- Heating and roasting:

These methods are common in the preparation of poultices from succulent herbs. Such medicines are prepared mostly for external use on sprained joints, inflammations, bruises and for backache.

- Fumigation:

Dried medicines (leaves or stems) are frequently burnt in the treatment of diseases, especially fevers, colds and related chest complaints. The plant portions are placed on hot coals and the patient is covered in a blanket to inhale the smoke. Fumigations are also used for external treatments where the affected parts are exposed to the smoke or heat. Adults usually smoke some of these medicines wrapped in paper like tobacco. Fresh leaves of aromatic plants are often boiled and the patient is covered in a blanket to inhale the resulting steam. These two forms of treatment are also used for external treatments of rheumatism, skin problems, general body pains, and ulcers. The water used for steaming may be used as pressings over such areas while still hot (hydrotherapy) or the decoction drunk thereafter.

- Boiling:

Barks, leaves and roots are commonly boiled to produce decoctions which are either taken orally or used for external applications. The resulting decoction is frequently used to cook soft porridge and gruel.

It is interesting to note that the different methods of preparation of drugs employed by the Vhavenda are basically similar to those encountered in traditional medicinal practice in other parts of the world. Kokwaro (1974), Sofowora (1982), Watt & Breyer-Brandwijk (1962), Gelfand *et al.* (1985) and Arnold & Gulumian (1984), in their studies on African medicinal plants, described methods of preparation that display great uniformity all over the continent. It would appear that each method of preparation has, through experience, been found suited to the extraction of the active principles in desired proportions and chemical forms in relation to the treatments for which they are needed. This is particularly important with drugs that may become toxic or ineffective when improper methods are used.

d) Combinations of drugs

Medicines used in Venda traditional medicine are generally compounded for effective or multiple treatment, the proportions differing from practitioner to practitioner and from treatment to treatment. In general, the combinations include the main remedies that are known to be effective for the treatment. More often an adjuvant is added to complement or enhance the treatment. It is also common practice to include other substances, the corrigents, to improve the flavour, appearance or palatability. Some ingredients are included for the sole purpose of minimizing the side effects associated with a treatment. There are practitioners who sometimes mix drugs because they are uncertain about the most effective ingredients. This is normally the case with those mixtures that have simply been inherited from older generations, who also had little knowldge of the main remedies, or did not inform their successors properly. In case of diseases caused by supernatural forces, some

of the medicines may be included to deal with the effects of witchcraft, sorcery or ancestral curses, while others are for the physical symptoms. It is also believed that some practitioners mix medicines with the purpose of concealing the identity of the main remedies. In such cases it is reported that they may mix the effective medicines with leaves, fruits or burnt grass, all of which are known to be edible with no serious side effects. No evidence has been found to support mixing of drugs or inclusion of accessory substances to improve the keeping qualities of drugs.

Water, fats, oils and milk are important mediums in the mixing of drugs. Mixing may involve boiling, soaking, burning or roasting medicines together. Edible medicines are generally mixed separately from nonedible ones and the two kinds may also need to be mixed on different days. A ready made mixture is known as *thevhele*, *phamba* or *luṋanga*, the last two names being more often applied to magical mixtures than to medicinal ones.

e) Dosage

In Venda medicinal practice, the dosage is generally a matter of personal judgment and experience. The quantity of any medicine used at a time is normally arbitrarily determined by indicating the minimum and maximum limits for effective and safe use, and may be influenced by the type and state of disease. The medicines are mostly measured as, for example, a pinch using two fingers, a handful, or stating the amount as filling a standardized and popular container. The patient also receives instructions to take the crudely stipulated quantity either once, twice or three times a day, usually before meals. As modern medicinal practice becomes popular, traditional practitioners are starting to use spoons, teaspoons and cups as measuring units.

f) Storage of drugs

Medicines used by practitioners are collected from far and near, and it may take a few minutes, days or even years to bring all the required medicines together. Leaves, flowers, bark or branches may be collected from the veld

and brought home for treatment or further processing. Dedicated and established practitioners normally have separate huts for storage and preparation of their drugs. Such huts may also be used for consultations and treatment of patients. Medicines awaiting further processing such as those that must first be dried, and readily prepared ones are all kept in this hut, which is normally placed at a distance from all the others.

Most Venda practitioners maintain that for quick drying, medicines should not be exposed to direct sunlight. They believe that the medicinal powers of the plant are destroyed by heat and exposure to wind. In some cases drying medicines are covered even though they are inside the hut. Medicines should also not be left outside for drying when there is nobody to guard them against others who may bewitch the material. During storage inside the hut edible medicines must be kept at a distance from the nonedible ones because "they may absorb the poisonous or harmful properties from them". Those medicines that are stored in powder form are usually kept in pouches made from hides of a variety of animals. For the edible ones the pouch must be made from the hide of an animal that is eaten by people, while for the nonedible the pouch may be made from any other animal. Some magical powders are stored strictly in pouches made from hides of specific animals. Otherwise, it is believed they may lose their powers to such an extent that they may become dangerous to the owner. Containers made from wood, gourds, clay and iron as well as horns of small and large stock are also widely used. Nowadays there is a tendency to keep medicines in bottles of various sizes as they become readily and freely available.

Some medicines such as bark, roots or leaves are left unprocessed until needed, while others are processed immediately and stored in powder form. Venda medicines are rarely stored in liquid form, probably because they become fermented if they remain dissolved for too long. A few, however, are gathered from the surrounding area and used fresh.

Stored medicines are identified by their colour, flavour, texture and positions on the racks. It must also be appreciated that no information regarding their identification, collection, preparation and application as well

as storage properties is recorded anywhere and that the practitioner carries the responsibility of remembering everything. Such information is once again transferred verbally from one practitioner to the other and from generation to generation. This verbal transmission of medical information may present problems when the practitioner becomes too old to cope, or dies before passing all the necessary information to a young and able person.

g) The doctrine of signatures in Venda traditional medicine
(see also 5.3.1 c)

The following examples illustrate the possible contribution of the doctrine of signatures towards the development of Venda traditional medicine:

- Plants containing a milky latex are frequently used to promote lactation in humans and domestic animals, e.g. *Sarcostemma viminale*, *Ficus* spp.

- Owing to its profuse flowering, *Dombeya rotundifolia* is included as an ingredient in medicines used to promote fertility in humans. The same appears to be the case with most other plants that produce abundant fruit, e.g. *Sclerocarya birrea* subsp. *caffra*.

- Those plants that have a reddish sap or or give a reddish decoction when boiled are found to be commonly used for blood diseases, e.g. *Pterocarpus angolensis*, *Cassine transvaalensis* are used as remedies against dysmenorrhoea, menorrhagia, dysentery, piles (haemorrhoids) and related diseases.

- Plants with sharp-pointed thorns are medicines for pricking pains, e.g. *Ziziphus mucronata*, *Acacia* spp.

- There is a common belief that plants with few or very thin horizontally growing roots when compared to those growing straight downwards, are medicines for stomach troubles e.g. *Artabotrys monteiroae* and some *Acacia* spp.

- Climbers and other small, soft and thin-stemmed plants are mostly used as medicines for children, while large trees and shrubs are used for adults, e.g. *Sphedamnocarpus pruriens*, *Asparagus* spp. and *Hermannia glanduligera* are used as medicines for children and rarely for adults.

- The bark of the baobab tree, *Adansonia digitata*, is soaked, and the infusion used to bathe babies to promote growth, particularly to increase their weight. This is because the plant has a very thick trunk and the bark is as smooth as a human skin when observed from a distance.

- Plants bearing drupes and berries are generally considered to be effective medicines against ulcers, e.g. *Sclerocarya birrea* subsp. *caffra*, *Cassine transvaalensis*, *C. aethiopica* and *Solanum incanum*.

- Owing to its regeneration capacity when the bark is damaged, the *mufula* (*Sclerocarya birrea* subsp. *caffra*) is used to treat open wounds.

- The use of *Myrothamnus flabellifolius* in the treatment of epileptic fits is related to its resurrection capacity.

- Plants with multiple longitudinal ribs on their stems are used as panaceas and are termed *mizwilaminzhi* (many paths) to refer to their many uses in medicine, e.g. *Grewia occidentalis* and *Euphorbia ingens*.

- The roots of *Hermannia glanduligera* have a network of spiral thickenings and for this reason the infusion of the roots is used to bathe babies who, as a result of poor health, develop a similar network of dilated veins over their bodies, especially on the abdominal part.

- The bark of *Combretum hereroense* is covered by reddish fibres which form a network resembling the capillary network around an animal heart. It is probably for this reason that the plant is used for heart diseases.

When related to animal behaviour, the doctrine of signatures appears to be associated with magical practices. For instance, burrowing rodents such as moles are used to treat cancerous ulcers that spread from one part of the body to another, e.g. the ulcers that are commonly known as *pfuko*, which means *a mole*, and are suspected to be caused by witchcraft.

It is not clear how this apparent relationship between Venda medicine and the doctrine of signatures developed. It is also possible that after realizing the medicinal uses of some plants and animals, people might have tried to explain why such plants are effective, and then came up with this doctrine. This may be particularly true in view of the fact that most of the medicines used in this way are too effective against the diseases for which they are used, to have been discovered as a result of speculation only. It is possible that both approaches might have been used, one involving the discovery of a medicine and then a search for plants with similar features to be tried for the same disease, and the other one involving the observation of certain structures in the plants that resemble human organs or behaviour. A deductive/inductive approach to the development of this doctrine may possibly give a better explanation.

5.3.3 The future of Venda traditional medicine

While Venda medicine, and traditional medicine in general, has served the African population, without much complaint and competition, for many centuries before the advent of modern medicine, it appears that much effort is now required to have it introduced into the existing formal health structures. The biggest problem appears to be the recognition and proper registration of traditional practitioners by the various departments of health in most countries, especially those that are based on Christian doctrines. The most important stumbling block is probably the intimate relationship that exists between traditional medicine and the religious and magical beliefs of the people, although this is rarely pointed out. It would appear that modern medicine can use this important feature of traditional practice as one of the reasons why the two approaches cannot be reconciled and combined to work as one all-inclusive medical organization. A number of disadvantages related to

traditional medicine have been pointed out by some scientists and the proponents of modern medicine as the only reason for the world population health problems. Some of these are as follows:

a) Traditional medicine lacks scientific proof of efficacy:

This should, of course, be expected in a population with an underdeveloped technology. The lack of scientific proof, however, does not necessarily mean that the medicines used are not valuable, but only that much scientific work is needed to expand the field of medicine.

b) The techniques of diagnosis are imprecise:

Even though traditional practitioners use divination to determine health problems, in most cases they also use normal observable symptoms to diagnose their patients' problems. Generally divination is used to ensure that supernatural forces are not involved. This plays an important social role among Africans as witchcraft and ancestral curses are always suspected. In most cases the medicines used by traditional healers are compounded to fight against all known causes of the symptoms observed, and here the imprecise nature of diagnosis may play a minor role.

c) Imprecise dosage

This is one common feature of traditional medicine. According to Sofowora (1982), the absence of exactness of doses in traditional medicine is not very critical as the concentration of active principles in a potion is usually very small and large volumes must be taken to obtain any response. The lack of prescriptions related to the patient's age, weight and condition of illness has also been pointed out. This is not always true as traditional practitioners do specify doses for adults and for children. In such cases they also use different plants for the same diseases in children and adults. Dilution is used as one method of prescription that differentiates between strong patients and those weakened by serious conditions. This, however, does not mean that

dosage in traditional medicinal practice is acceptable according to civilized standards, and standardization is required in this regard.

d) Lack of hygiene

The fact that most practices in traditional medicine look unhygienic should be seen as a result of a comparison between traditional and modern medical standards. This can, however, be improved through retraining programmes.

e) Intangibility

The intangible aspects of traditional medicine such as occult practices, magic and beliefs in witchcraft and ancestral spirits cannot be verified scientifically, and are therefore regarded with suspicion by modern practitioners. This, however, does not seem very different from praying for the rapid recovery of a patient under treatment.

Apart from these and other disadvantages, it is a fact that traditional medicine also has a number of advantages, perhaps even more than the disadvantages, and still serves the greater proportion of the African population for the following reasons:

a) Traditional medicine is cheaper compared to modern medicine. In a country with rising figures of unemployment, underemployment and inflation, it is more economical to go for cheaper treatment if the results are the same or comparable. Traditional practitioners normally allow for treatment on credit, leaving it to the patient to pay when able to do so. Also local patients are sometimes treated free of charge out of good neighbourliness. One reason for cheap treatment might be that most medicines are obtained locally and at very little, if any, cost.

b) Traditional medicine is more accessible to most of the population in the Third World. Sofowora (1982) estimates that 60 to 85 % of the population in every country of the developing world has to rely on traditional or indigenous forms of medicine. This is possibly due to shortage of formal health

institutions and professional staff. The cost of transport to these institutions may also be contributory.

c) Traditional medicine is widely accepted among the African population. According to Sofowora (1982), a major contributory factor may be that traditional medicine is deeply rooted, and blends readily into the sociocultural life of the African people. In this respect he gives examples of people in Guatemala, Kenya, Nigeria, Ghana and Ethiopia, who consult traditional healers as a first choice despite the fact that they live very close to hospitals. In addition to the high cost of modern medical treatment which keeps most people away, there are those who believe that certain types of diseases can only be treated successfully only by traditional practitioners and are reluctant to consult modern practitioners, especially with regard to those diseases suspected to be caused by witchcraft and ancestral spirits, e.g. insanity, *ṅwatela*, *pfuko* and *tshiliso*. Despite the recent introduction of antibiotic treatments for most sexually transmitted conditions such as venereal disease, most people still believe that the treatment only suppresses the symptoms and does not heal the disease completely. This is the reason why most people prefer to receive traditional treatment for these diseases, even though they may first go for antibiotic treatment.

Another reason, it is claimed, is that modern practitioners normally do not wish to inform their patients about the result of their diagnosis, the prognosis and implications of further treatment or the side effects related to the treatment. While this is not true for most practitioners, it remains a strict rule in most hospitals that patients and their relatives are not allowed to read their bed charts (medical files), let alone ask about the diagnosis and nature of treatment.

d) Traditional practitioners may play an important role as sources of additional manpower and expertise. This may, of course, require that they be trained to meet the required standards in simple hygiene, general health care concepts, health education (including nutrition), environmental sanitation, epidemic diseases, emergencies and referrals, record-keeping, and general diagnostic techniques.

e) Traditional medicine is a potential source of new drugs. This source can be used in the synthesis of known drugs or a direct inexpensive source of these drugs. Research on the medicines used by traditional practitioners may result in the discovery of new drugs for treating such diseases as diabetes, cancer and AIDS. There is great fear at present that if AIDS is allowed to spread, it may exterminate the human population. Some practitioners in Uganda recently came forward with a mixture of herbs that is reported to show improvement in the treatment of AIDS (Sunday Times, 4 October 1987, p. 4).

f) The red tape associated with consulting a modern practitioner involves two queues for registration and payment of fees, a queue for a nurse to take disease history (including blood pressure, temperature and weight), one more to see a doctor, and possibly another one for diagnostic tests (including urine tests, X-ray if necessary), coming back for a prescription and lastly a queue to the dispensary. Even though a traditional practitioner may have more than one patient at a time, this may happen only once in a while. Consulting a practitioner of traditional medicine may also take a whole day, but this time is spent while giving his patient treatments which he feels should be done by himself, such as emetics, enemas or applications of medicines through incisions made on the body. The patient may have to wait for a traditional practitioner to go out and collect some of those medicines that must be used fresh, but normally this does not take long as they are mostly obtained in close proximity to his homestead.

g) Some parasites and micro-organisms are known to develop resistance to synthetic chemotherapeutic agents, e.g. strains of malaria parasites (*Plasmodium falciparum* or *P. vivax*) develop resistance to chloroquine, whereas some micro-organisms develop resistance to antibiotics. No resistance is known to develop as a result of treatment by traditional medicines, but this may be due to the fact that traditional practitioners do not keep medical files or records. It is also possible that traditional medicines may provide a solution to this problem as a result of their multicomponent nature.

The above account clearly indicates that neither of the two approaches is without its shortcomings. It is also evident that traditional medicine, like modern medicines, is in need of extensive scientific study. Such a study should demand that effective and appropriate approaches be sought that would lead to the development of suitable methods of research aimed at providing maximum utilization of the positive aspects of traditional medicine, and the removal of negative and irrelevant ones. All such approaches will necessarily require that traditional drugs be standardized. Sofowora (1982) points out that the problem of standardizing a crude drug preparation is not only that of specifying the amount of the medicine to be taken by the patient, but also that all stages leading to the preparation and application of the drug should be standardized. The following are some of those many aspects that should be considered in the process of standarization:

a) Identification and collection of the plants:

Firstly, the correct plant must be collected. This is particularly important in Venda and other medicinal systems where one finds that there are many plants with the same common name or where one plant may be known by several such names. The lack of recorded data about the plants used and their names adds to the confusion that may arise during collection. Secondly, the right part of the plant must be collected as for most plants there is a difference in the availability or concentration of active ingredients in different parts of the plant. For instance, the collection of roots where leaves should be used may result in negative, toxic or indifferent effects. Thirdly, the drug must be collected at the appropriate season as the active compounds of some plants vary from one season to another. The same also applies to the developmental stage of the plant. The yield of plant constituents may even vary within the 24 hour period of the day, generally as a result of the interconversion of compounds. Some plant drugs must be obtained during the night, while others must be taken in bright sunlight, e.g. *Eupatorium odoratum* loses its oil content in bright sunlight, but regains it from sunset to midnight (Sofowora 1982).

b) Post-harvest processing:

It is important that the keeping qualities of the plants are studied as there are plants in which the constituents rapidly deteriorate soon after harvesting. Deterioration may be a result of enzyme activity, volatilization or attacks by moulds during damp storage, for example. Quick drying is suggested where enzyme action and mould attacks are not desired (Sofowora 1982). Harvested drugs must also be stored in such a way that, when dried, they remain dry and the storage period must be kept to a minimum.

c) Preparation of galenicals:

This may also pose problems when no standardized method of preparation exists. It may not only lead to varying results every time a new drug must be prepared, but an incorrect method may also produce ineffective or toxic results.

d) Appropriate containers must be used:

The stored drug must be prevented from interacting with its container, just as with atmospheric gases, moisture or any other substances. It is only when these factors are considered that dosage can be standardized.

The study of traditional medicines will necessarily require that a comprehensive vocabulary be compiled involving the terminology associated with names of diseases, descriptions of symptoms and treatments, and names of plants used. This can make the interpretation of diseases, associated diagnostic principles and treatments easier before the necessary plants are subjected to scientific research.

Scientific research may take various forms. One of these is the screening of plants for bioactive agents. This involves biological screening (i.e. searching for the physiological effect which a plant or extract may produce) and phytochemical screening (i.e. searching for the active compound). According to Sofowora (1982)

these approaches have one problem in common, namely selection of material to be screened, otherwise known as sampling. Various sampling and screening procedures have been discussed elsewhere and are not repeated here (Sofowora 1982). Kokwaro (1976) gives guidelines on the chemical constituents of plants as well their possible medicinal effects. A very brief summary of these are given below.

a) Fats and oils

Fixed oils are good as emollients and ointment bases and are common in species of *Annona*, *Balanites* and *Trichilia*. Unsaturated fatty acids which are not readily absorbed or digested, are common in *Ricinus communis* and species of *Croton*, the seeds of which are used as mild or strong purgatives. Oils of both the latter species contain toxalbumins which must be destroyed by heat before use. Species of *Ximenia* contain cathartic fixed oils.

Essential oils can regulate the intestinal movement, preventing or controlling violent contractions and aiding the orderly flow of bowel content. Plants with these oils are, therefore, widely used as condiments with food and also to relieve colicky pain. Many essential oils have the power to hinder bacterial growth and are, therefore, generally used for treating wound infections. Species of *Chenopodium* (widely used as a vegetable) have oils that are less well absorbed and were reported to be remedies for roundworm and hookworms (vermifuges).

Sulphur oils are found in species of *Boscia*, *Capparis*, *Cleome*, *Capsicum*, *Salvadora* and some members of the Brassicaceae. Plants containing them can be good as carminatives in small doses and emetics in large doses.

b) Resins

The majority of resins are extremely irritating and cause vomiting and purging if taken in large doses, e.g. gum resins found in species of *Boswellia* and *Commiphora*. Many resins resemble the essential oils in their drug

activities, e.g. species of *Piper* and *Zingiber* (used as carminatives), and *Albizia* and *Zanthoxylum* (used as medicines for the urinary tract). Purgative resins found in species of *Ipomoea* are considered very effective. It is also reported that the adhesive quality of resins gives them value as wound-dressing materials.

c) Glucosides

Tannins have the property of precipitating proteins and mucous, and also constricting blood vessels. This accounts for their medicinal value in preventing diarrhoea, controlling haemorrhage and they may be applied to wounds as a protective coating. These compounds are abundant in the bark of many trees including species of *Acacia*, *Diospyros*, *Kigelia*, *Pterocarpus* and *Cassine*. Tannins are extracted by boiling the bark or soaking it in cold water. Some of the plants containing tannins are also used as vermifuges.

Anthelmintic glucosides kill tapeworms and are all taenicides. Most species of *Albizia*, *Hugonia*, *Maesa*, *Myrsine* and *Phytolacca*, contain anthelmintic glucosides.

Cardiac glucosides are contained primarily in the Apocynaceae, e.g. species of *Acokanthera*. These are often extremely poisonous.

d) Alkaloids

These are mostly used as poisons rather than drugs. They are found in *Datura stramonium*, for example. The less toxic alkaloids such as caffeine and sparteine would normally increase renal excretion either by increasing the blood flow through the kidneys or by some direct action and are therefore used as diuretics and in the treatment of dropsy. Most alkaloids are characterised by a bitter taste.

e) Toxalbumins

These are poisonous proteins, usually irritant in nature, and found mainly in seeds. They can induce inflammation of the mucous membranes such as those of the eye or nose, and can cause violent vomiting and purging when swallowed since they are not digested. They are found in seeds of *Abrus precatorius*, *Cassia absus*, *Croton* spp., *Ricinus communis*, *Jatropha* spp.

f) Anthraquinone cathartics

These are found in many groups, particularly species of *Cassia* and *Aloe*. Species of these genera are used as cathartics, while others are used as dressings for burns and other skin lesions.

The information given above can be used in two ways in the study of traditional medicine. Firstly, all plants used as medicines and known to produce similar effects can be screened for those chemical substances that are related to their effects. For instance, the fact that *Cassine transvaalensis*, *Pterocarpus angolensis*, *Pouzolzia mixta* and some species of *Aloe* are used in Venda medicine to treat piles (haemorrhoids) could mean that they all contain a common active principle (or group of chemicals), possibly tannin, which is responsible for the healing effects. The same applies to plants that are used to treat dysmenorrhoea, menorrhagia, scurvey and nose bleeding. Plants used for treating infectious diseases such as venereal diseases may be screened for antibiotic properties. Those plants found to have negative tests for known antibiotics, but known to be effective against diseases known to be caused by bacteria or viruses, can be very interesting because it could mean that they contain new compounds which combat bacterial or viral infections. Some could probably be found to build up the immunity of the body and this may provide some clues towards the future treatment of such problematic diseases as AIDS.

Secondly, all plants screened and found to contain similar or related chemical substances may be tried in the treatment of some diseases, e.g. all plants known or found to contain cardiac glucosides may be tested for their effects on the

various heart diseases. Some of these may be found to be so effective that heart transplantations may no longer always be necessary. A combination of these two approaches may lead to substantial contributions in the field of medicine. In fact, previous research has proved that it does help to use either one or both of these approaches (see also Sofowora 1982).

5.4 UTILIZATION OF PLANTS FOR FIREWOOD

5.4.1 Fire-making

a) History

There is disagreement among the people of Venda about the way in which fire-making became incorporated into their culture. The Vhalemba and Vhasenzi claim that the other tribes who occupied what is now Venda before them did not use or did not even know anything about fire before their arrival many years ago. On the other hand, there is evidence that the first settlers of Venda such as the Vhangona and Vhambedzi used fire in many of their domestic and outdoor activities. It is reported that when the Vhalemba and Vhasenzi arrived in Venda, they found Vhangona and other neighbouring tribes cultivating most of the cereals and other crops that the Venda people still use today. Most of these crops have no history of being eaten raw, not even in religious cults. It also became common practice if a Mulemba or Musenzi man became ill after having had sexual intercourse with a Mungona woman, to use ash from Vhangona ruins as an important ingredient in the remedy – the existence of ash in their ruins indicating that they must have made fires. Potsherds and pieces of iron which could not have been made without the use of fire, unless they were bought from neighbouring tribes, were unearthed from the ruins of the Vhangona.

Ritual and other sacrificial performances of these indigenous people often required the making of bonfires. Fire-making is also reported to have existed among the Zulu, Sotho, Tsonga and Swazi for a long time. Whether these tribes initially depended on fire from lightning strikes, after which they preserved it, or that made by friction which gave the initial spark, it is true

that firemaking by friction developed at an early stage in the history of the southern African peoples.

b) Method of firemaking and plants used

Two pieces of wood are required to make fire by friction. One of these is relatively thin and hard, while the other may be thicker and softer. It is important that both pieces should be dry. Holes are made in one surface of the thicker one (the cow-stick) to receive the tip of the thinner stick (the bull-stick) which is used to drill fire. The pointed end of the bull-stick is inserted into one of the holes in the cow-stick and then twirled very fast. Dry wood shavings and a little sand are normally added to the hole to create more friction. A small quantity of combustible material such as dry donkey dung or grass is heaped close to the hole so that it would catch fire easily when a spark develops. Two or more people may take turns to drill before enough heat is generated by the friction to start a fire. Drilling may take from 45 minutes to an hour, or even more, depending on the plants used, their dryness and the force exerted.

The Vhavenda use, amongst others, *Grewia* spp., *Ehretia rigida*, *Bequaertiodendron magalismontanum* for bull-sticks, and *Annona senegalensis*, *Ficus* spp. and *Berchemia* spp. for cow-sticks. For maximal hardness, bull-sticks are carved mostly from the heartwood of stems. The use of particular species of plants for making fire varies greatly between the community groups living in geographically isolated regions, and is also influenced by availability and previous experience.

The method of making fire as described above is gradually falling into disuse as commercially available matches are becoming more and more popular. At present the traditional method of making fire remains a practice of historical interest. The method is, however, still encountered in ritual ceremonies and initiation schools when bonfires are made, but then more as a formality than a necessity.

5.4.2 Collection and use of plants as firewood

The division of labour among the Vhavenda is such that women and girls carry the responsibility of gathering all the wood needed for domestic use. Boys and young men may only collect firewood for the *khoro*, a place outside the living quarters of the homestead, where old men, young men and initiated boys spend most of the evenings. A favourite spot for the *khoro* is next to the cattle kraal, where men can discuss their matters and inspect, advise and discipline the boys in the absence of women. Big fires are made here and large poles are needed to provide enough warmth for everybody throughout the evening. Women are not expected to provide wood for this purpose.

The gathering of wood by women is a communal activity and is usually done by a group of two or more who may belong to the same or neighbouring families. Depending on the quantity and type of wood required, gathering may take place close to the homestead or far away in the mountains and valleys. Axes, hatchets and other instruments are used for cutting wood which is then piled into headloads and bound together by ropes. Normally one headload is gathered per trip, but more wood may be collected. Long poles which are hooked at one end (*govho*) are commonly used to pull dry branches off the canopies of tall trees. Wood gatherers usually leave home very early in the morning and return around midday.

Mostly dry wood is gathered. These may be three to fifteen centimetres thick and one to three metres long, splints chopped from fallen or standing logs and tree stumps. Fallen twigs and bark are usually gathered around homesteads. Fallen logs that are too big to be carried home are chopped and split longitudinally. When dry wood becomes scarce near homesteads or villages, the collection is restricted to small twigs and tree stumps that are split down to ground level. During extreme shortages these stumps are completely uprooted and carried home in dishes, baskets or bags. As a consequence of the population explosion and the resulting competition for firewood, trees and forests near villages are often depleted of dry wood, and there is a growing tendency to cut down living trees and keep them until they are dry. The Department of Nature Conservation discourages the cutting down of living trees and a fine of not less than R10 is charged for this offence. As a result of this, living wood is gathered and left in the bush to dry before it is brought home.

Some is brought home before it is dry and then hidden in dwelling huts and storage structures. Living trees known to provide good wood when dry, are ring-barked and left to die.

Firewood is needed for purposes such as cooking, light and warmth, firing of clay pots and preparation of medicine. The choice of any particular plant species for use as firewood depends on the type of fire reqiured. Plants that produce good coals with little smoke and little white ash are used for warmth and cooking, e.g. *Combretum* spp., *Colophospermum mopane*, *Burkea africana*, and most *Acacia* spp. Light wood that gives short-lived fire is needed for temporary fires to cook beer and firing clay pots. Some wood is collected to provide light when cereals are pounded during the night, and for this purpose plants that produce good flames are chosen. Plants with cracking fire are avoided when firing pots or when making fire for warmth. Those that produce bad or strong smelling smoke are not used as sources of firewood. For example, *Androstachys johnsonii* is extensively harvested for building and fencing, but never used for firewood. Most Apocynaceae and some Euphorbiaceae that have a milky latex are strictly avoided for use as firewood. Some of these produce smoke that irritates the eyes and nose, and could be harmful. Such plants are allowed into the homestead only for medicinal purposes, and then in very small quantities.

The use of plants as sources of firewood by the Vhavenda has always been influenced by traditional laws and taboos. Traditional laws prohibited the use of important medicinal and magical plants as well those known to be good sources of famine foods. For example, *Boscia albitrunca*, *Sclerocarya birrea* subsp. *caffra*, *Adansonia digitata*, *Ximenia* spp., *Pleurostylia capensis*, *Brackenridgea zanguebarica*, *Milletia stuhlmanii*, *Osyris lanceolata*, *Acokanthera oppositifolia* and *Maerua angolensis* are not used for firewood mainly because they are either conserved or tabooed by traditional laws. Some families are prohibited from using certain plants as firewood by traditional practitioners who have doctored their homesteads because such plants are important ingredients of *phambas* used for this purpose. The use of *Acokanthera oppositifolia* is said to induce menorrhagia in all women of child-bearing age and branches and twigs of the plant are therefore inserted into the fences around homesteads and livestock enclosures to discourage women from using the fences as firewood. Young people who are unable to understand the magical

and medicinal values of plants, are told frightening stories to discourage them from using prohibited plants as firewood.

Some plants are used extensively for fuel simply because they are readily available and this may cause deviations from the normal trends. For instance, as the vegetation becomes sparser around heavily populated villages, and firewood becomes scarce, it is not unusual to find a person carrying a whole headload of wood from *Euphorbia tirucalli*, *Sarcostemma viminale* or *Ximenia caffra*, plants which, as far as could be ascertained, have never been used as firewood by the Vhavenda.

Two main fires are made every day by each family in summer. The afternoon fire is made for cooking the daily meals. This is usually extinguished after use to save wood. It is the evening fire that is maintained with additional wood to provide warmth. In addition, a variety of foods are cooked and roasted in the evening when women and children are gathered around the fireplace in the *tshiṱanga* (dwelling hut), listening to folktales and fables. Morning fires are common in winter when it is cold. Men may also make big morning fires in winter, but this is not common.

During extremely cold winter nights fires are kept going to keep the huts warm while people are asleep. Winter is a favourite period for most of the initiation rituals of the Vhavenda. During this period large quantities of wood are gathered for fires at the *murundu* initiation school, *domba* and *vhusha*.

Despite the fact that a large proportion of the Venda population is engaged in some form of employment and therefore spend much of their time elsewhere, the condition of the vegetation around their residential areas continues to deteriorate at an alarming rate. Much of this can be attributed to the population explosion.

Almost every year new stands are established around existing ones, occupying areas initially reserved for agriculture, grazing, sustainable utilization of natural resources, recreation and education, and general appreciation of nature. Invasion of these essential sites usually takes place without any compensation or alternatives to the people concerned. It is primarily as a result of this expansion of the settlement areas that most people find themselves in great competition for

material resources. Plants that provide good firewood are the first to disappear from the periphery of villages, followed by those with edible fruit and medicinals. Ultimately, complete denudation occurs when it becomes impossible to select and utilize plants wisely.

In a study on the use of wood for fuel and building material in Gazankulu, Liengme (1983) estimated an annual consumption of 5,4 tons per family. Unfortunately no such figures are available for the rural areas of Venda, but unless the present condition receives the serious attention of the authorities, this valuable natural resource will become completely depleted.

5.5 RUSTIC WORK

The material culture of the Vhavenda includes a host of articles or artifacts made from a variety of raw materials. The most common of these are household utensils, musical instruments, tools for agricultural production, collection and transport, weapons, and objects related to ancestor worship. Material obtained from plants make up the greatest proportion and include grasses, sedges, reeds, fibres of different types, wood and leaves. Animal products such as hides, bones and horns are also used. From the non-living world the Vhavenda obtained clay and metals such as iron ore, copper and gold. The materials obtained from plants are discussed in more detail below.

5.5.1 Fibres

Fibre has always been a raw material needed for the Vhavenda's manufacturing art. Soft (bast), hard (structural) and surface fibres are used, depending on the articles to be made. In most cases a combination of two or all of three types are used.

a) Soft or bast fibres

This is fibre grouped outside the xylem tissue of the stem, and normally includes everything from the cork to the vascular cambium. Among the

indigenous plants of Venda, the most important sources of this fibre are *Adansonia digitata*, *Terminalia sericea*, *Acacia* spp., *Obetia tenax*, *Annona senegalensis*, *Grewia* spp., *Ficus* spp., *Passerina montana*, *Peddiea africana*, *Sida cordifolia*, *Rauvolfia caffra* and many others. Fibre is gathered in autumn when it is still fresh, but already matured. Removal usually involves stripping of the bark from the woody part of young branches by pulling or beating such a branch between any two hard objects so that the bark separates from the wood in two longitudinal portions. The bark may then be used without further processing for binding, or it could be rolled into coils and stored for future use. For weaving, the outer part of the bark (including the cork tissue) is stripped off, leaving the inner fibrous material which is then beaten and soaked in water until pliable. When little fibre is needed, as in the making of ox-whips, chewing is found to be more convenient for softening if the plant is known to be non-poisonous. This method is commonly used by boys in the field. Water, dew and rain retting are other methods used to soften fibres when large quantities are involved. It may sometimes be necessary to scorch the poles or branches before removal of fibre to facilitate the process. Burning the fibre has an additional advantage of rendering it repulsive to wood-borers and termites so that it lasts longer. Immersing the fibres for long periods in water or mud is said to soften them as well as give the black colour necessary for making decorative patterns on baskets, mats and hats. It is also believed to make them stronger and more durable by removing excess sap or latex that is palatable to wood-borers.

Rolls of fibres reserved for future use are hung on roof poles all around huts and storage structures. When it becomes time to use them, they are put into a large pot with water and boiled or simply soaked. Fibres that are needed to be dyed are boiled or soaked with colouring-matter (barks or leaves), depending on the colour required. Excessive use of any plant that produces dye is normally influenced by availability. Nowadays it is common to find people obtaining dyes from synthetic plastics.

Fibres obtained and processed as described above are used for a variety of purposes. Unprocessed ones are usually preferred for cordage and binding of thatch, laths, headloads of wood, or thatch grasses. Softened

fibres are normally used for making ox-whips, strings for weaving, sewing and plating. Coloured ones are usually included in patterns on articles such as baskets, mats and hats. Soft fibres are commonly referred to as *nnzi*.

b) Hard or structural fibres and leaves

Also known as leaf or stem fibres, hard fibres include what the Vhavenda collectively call *Khumbe* (climbers), *mulala* (leaves of palms) and *maluwa* (stripped stems of *Acacia ataxacantha*). Leaves and stems of monocotyledons such as *Sansevieria* spp., various species of grasses, sedges and reeds are also some of the hard fibres used by the Vhavenda.

Flexible branches of some trees, lianas and creepers are used as wattles in the construction of roofs, thatching, for binding and mostly as foundations in braided articles. The bark is commonly removed and the wood smoothed when beautiful and braided articles such as baskets, hats and mats are woven. For articles such as winnowing baskets, lidded baskets and deep baskets used for storage, trimmed slivers of wood are required. These are mostly obtained from flexible stems of *Acacia ataxacantha*. While the flexible branches mentioned above are needed for making foundations in basketry, palm leaves are considered more suitable for weaving and plaiting of these articles. The rachis of palm leaves is also sometimes used as foundations in weaving. Palm leaves, and most other leaves used as "fibres", are popular for making beer strainers, mats and pouches of various sizes and shapes. Towards the closing of initiation schools for boys, usually one week before, senior members make costumes from palm leaves and various sedges, and masquerade as *mannḓaganana*, imaginary characters popular at these traditional institutions and meant to amuse crowds of women and children.

Sedges are preferred for sleeping and sitting mats. In this case stems or leaves of sedges are cut to one size before they are plaited together using strings made from soft or surface fibres. Two close plaits are commonly made on each side for strength, while single ones are placed in between, usually 60--80 mm apart. The distance between any two plaits is measured by the number, and as such the width, of fingers: four for the middle ones

and two or one for those at the ends. Generally the length of the leaves or stems determines the width, and not the length, of the mat. Leaves of *Cyperus latifolius* are preferred for sleeping mats, while stems of *C. sexangularis* are commonly preferred for sitting mats and decorations, usually on a temporary basis. Such mats are also used for closing entrances to huts (like doors) as well as for spreading damp mealie meal.

In places where reeds (*Phragmites* spp.) are available, after they are harvested and spread out to dry, they are plaited on the butt-end by strings of fibre to form mats used as underthatch on roofs of huts (*makhenya*, sing. *likhenya*). Reeds are also good for making temporary courtyard walls (*mipfunda*) erected to secure privacy and to protect against strong winds and dust. In this construction the reeds may be laid close together or in bundles, either vertically or horizontally, although the wattles keeping them together must be at right angles to their longitudinal axis. Courtyard walls of reeds are commonly made for the decoration of homesteads in anticipation of some special visit, gathering or celebration. Instead of wooden doors, reed doors (*masase*, sing. *sase*) have been used without shame. Wattles for this type of door are usually made of wooden sapplings or bundles of reeds. The *sase* have also been used as stretchers for carrying sick or injured people. When used for carrying corpses from the homestead to the grave site, it is left over the grave for the deceased to close his hut wherever he has gone. These "trap doors", as they are sometimes called, have also been found handy for laying slaughtered animals on.

Reeds are cut into short strips (slivers) and woven together by strings or fibres to form small mats which are wrapped around legs and hands to support bone fractures (*zwitanga*, sing. *tshitanga*). *Zwitanga* are also used for the same purpose in domestic animals. Some artists prefer to cut reeds into long strips which are smoothed and decorated with dyes for weaving garden baskets, or used as foundations for other articles. Reeds are often used for making flutes, fishing rods, beads and as medicinal pipes for blowing in enemas. A firm, thick bamboo reed was probably used as a *mukoro* pipe for brewing distilled spirits before the acquisition of metallic pipes.

The use of the culms of grasses for art has remained restricted to small and temporary amulets such as bangles, anklets and necklaces. The culms of some grasses such as *Sporobolus africanus* are cut into thin strips, plaited into strings and woven into mats and hats, with bundles of others as foundations.

Hard fibres are decorated in the same way as soft ones by immersing or soaking them in boiling water with a source of dye, or by soaking them in mud to obtain a black colour.

5.5.2 Wood as a source of art material

Among the Vhavenda, wood carving is primarily an occupation for males. They use a variety of tools such as hatchets and axes for cutting, gouges (bent blades) for hollowing out of larger objects, knives and chisels for finer finishing. Initially most of these instruments were bought or obtained as gifts from iron smelters. Types of wood used are varied, depending upon the articles to be made.

The most common articles made by the Vhavenda include household utensils such as spoons, plates, stirrers, knives, bowls, dishes, mortars, pestles, headrests, chairs, doors, troughs for cooling distilled spirits (*mikungwa*, sing. *mukungwa*), musical instruments including drums of different sizes (*Ngoma*, *thungwa* and *murumba*), drum beaters, whistles, flutes, resonated xylophones and hand pianos, as well as stringed musical bows. Tools and weapons such as hoe handles, hafts of axes, spear handles, hunting clubs, bows and arrows, yokes and their accessory parts as well as wooden boats (*zwikwekwete*) are also made from wood of different types and strengths.

As mentioned above, the article to be made determines the plant from which the wood should be obtained. Certain species are preferred for certain purposes because of their structural features. Qualities such as density, durability (i.e. ability to withstand the attacks of organisms of decay and certain insects), grain and figure, lustre, moisture content, porosity, rigidity (i.e. ability to withstand bending and distortion), strength, toughness, texture, odour and taste (which depends on volatile

compounds), cleavability and workability are considered when a choice is made. In general, plants known to be edible are preferred for making articles likely to come into contact with food. Some species are totally avoided owing to their association with magic, while others are tabooed or traditionally conserved. A permit is required for cutting wood for art from a traditionally conserved plant, and this is obtainable from a headman or chief, or, nowadays, from an office of the Department of Nature Conservation.

Decoration of articles carved from wood includes a series of grooves and ridges, especially on spoons, stirrers, mortars, pestles and many others. Branding with a hot iron over surfaces, and sometimes on grooves and ridges, adds beauty to most articles.

The use of gourds to make calabashes and vessels of various sizes for serving and holding water, beer or other foods seems to have originated with the agricultural practices of the Vhavenda. These are also variously decorated by the burning of artistic patterns on the outside, especially around the openings.

The art of the Vhavenda was primarily appreciated for providing articles for home use as well as for making offers to chiefs and other respected people. Some articles played important roles as measuring instruments in the sale of cereals and other crops and were also exchanged for other commodities. Their exchange, particularly vessels, pots and baskets, depended upon the type of material required. For cereals, the most popular method was to fill the article needed.

Some articles such as drums, yokes and lidded baskets could be worth a sheep or two, sometimes even an ox or bride. There is a tendency nowadays to make a variety of articles for sale to tourists and museums. Demand by tourists has led to the appearance of transitional art materials as customers demand various shapes related to their own cultures. There is a general regionalization of art as a direct consequence of availability of raw materials. Demand for certain articles most probably encourages the production of those articles whereas others appear to be rarely made.

Today there is little encouragement for the young generation to make traditional artefacts. Cultivation of this art is restricted to the primary schools, and even there, it is often not taught with care. The recent resurgence of appreciation of traditional artefacts could boost the economic position of many citizens if they are sufficiently encouraged and sponsored, providing them with an opportunity to earn a living.

5.6 UTILIZATION OF PLANTS FOR STRUCTURAL MATERIALS

The Vhavenda use a variety of plants to erect structures in and around their homesteads and fields. These include huts, storage structures, animal enclosures and fences.

The use of any particular species for such purposes depends upon a multitude of social, cultural, religious and environmental factors. The kind of structure also largely determines the type of plant that should be used. For example, certain plants are avoided as firewood because of magical beliefs associated with them. Some of these plants are, however, planted around the homestead with the belief that they would protect it against evil forces. *Mimosa pudica* is used magically in connection with prevention of witchcraft, and its planting is believed to serve the same purpose. Other plants are not used for construction purposes simply because they are tabooed. It is an offense carrying a heavy fine to fell traditionally conserved plants, especially without a permit from a headman or other authority. People therefore avoid using such traditionally conserved plants as famine food, medicines and religiously or magically valued plants. Poisonous plants are strictly avoided for obvious reasons, although some of them may be planted around the homestead as windbreaks.

The physical features of the plant, such as shape and thickness of branches, usually influence its use for construction purposes. Plants with rough bark are particularly preferred for building hut walls since the plastering mud clings easily to it. For use as laths or wattles, plants with long, flexible and tough branches are preferred. Climbers and creepers with reasonably thick stems are popular for this purpose. Thorny plants are particularly good for fencing.

Fibre is an important material in building and plants with good, strong, durable and easily removable fibre are preferred for bulk collection. It is common to find one plant being excessively used merely because it is readily available, and not because of its good qualities.

Collection of structural materials normally starts in early spring when fields have to be fenced, and continues through summer to early winter when building and art materials are collected. Branches and thorny bush are collected during clearing of fields and preparation for tilling and planting. These are used to strengthen or renovate fences around fields and animal enclosures. Poles and laths are gathered and cut to required sizes in the field where they are left in stacks exposed to periodic soaking and drying caused by rain or dew and high summer temperatures respectively. This exposure is understood to remove excess latex and sap palatable to wood-borers and other decomposers. Superficial burning before use is reported to have the same effect on durability. To restore pliability, laths are normally soaked in water for long periods before use.

Fibres, thatch grass, sedges and reeds are gathered towards the end of summer to early winter when they are mature. These are also gathered and spread in fields and along river banks, or carried home to dry inside the homestead. Fibres, stored in rolls until needed, are commonly soaked or boiled in a large pot to make them soft and pliable shortly before use.

Construction of huts and storage structures generally starts in winter for a number of reasons. Firstly, it is the period when all people have much more time than during the agricultural season. Secondly, it is difficult to build during the wet summer because of the drenching and destructive effects of rain on mud plastering. Thirdly, the Vhavenda believe in the doctoring of all newly built structures. Some magical plants may not be collected during the rainy season and may not be available in their fresh form if building was to take place at this time. Traditional practitioners who have to doctor these structures may be hard to find, or may be too busy in their fields at the time to move around and collect medicines. It also leads to insecurity and discomfort if the valuable and expensive medicines are applied to the homestead or agricultural land, only to be washed away immediately by rain.

Winter is therefore a convenient time for migrations to new settlements where building activities can then take place undisturbed.

The following examples of structures built by the Vhavenda illustrate the significance of plant materials:

5.6.1 The dwelling hut

The hut is constructed from wall poles, roof poles, laths and thatch. Fibres are used to bind both laths and thatch grass to the larger poles.

a) Wall poles

Wall poles are of two different types. One comprises the main wall poles that are cut to the size of the wall. The upper ends should preferably be Y-shaped to support the roof. Poles with rough-textured bark are favoured for this purpose in order to hold the mud plaster. The poles are anchored in the soil, forming the round shape characteristic of Venda huts. Straight poles are usually carefully chosen for this purpose. The Vhavenda call them *thokha*. The other type is called *thoredza* and are used to fill the spaces between larger poles. They should also have a rough bark but do not necessarily have to be straight or durable and may therefore be obtained from any source.

Main and subordinate wall poles are wattled together by flexible and tough branches obtained from various climbers. The wall is normally wattled at two places, at the top and the bottom, but middle wattling may sometimes be necessary for strength. Both soft and hard fibres are used for binding the poles to their wattles. When the pole wall is finished, it is plastered with mud and left to dry.

b) Roof poles and laths

The roof of Venda huts is typically conical in shape. Two types of poles are used in the construction of the roof. There are long and straight ones which form the main frame, and shorter ones which fill the spaces between the former. The long poles are bound together at the top of the roof, preferably all to one carved stump called *mutumeri*. The poles are usually fastened to the *mutumeri* by several coils of hard fibres, preferably whole stems of climbers known as *khumbe*. Both the main and subordinate poles are joined together by laths, usually not more than six centimeters thick, to produce and maintain the conical shape of the roof. Withes or laths are fastened to roof poles and to one another by soft, thin, flexible hard fibres. Wattling commonly takes place from the top of the roof to the bottom, and the spacing depends on the size of the thatch grass to be used. The roof may be constructed separately and then lifted onto the walls, or constructed directly on top of them. Two pieces of wood are placed perpendicularly to one another and fastened to opposite roof poles to provide additional support. This is usually done anywhere near the roof top.

c) Thatch

Thatching commences with the laying down of the underthatch, usually of mats made from reed or sedge, depending on which is readily available. Two overlapping layers of mats are laid down over the roof, one at the bottom, and the other towards the middle. The tips of the underthatch may face opposite directions with the top one facing down, but usually they are all laid down with the free ends upwards. Two methods of thatching are practiced by the Vhavenda.

In the first one, dominant in the western and drier parts of Venda, all grass tips face upwards and bundles of grass are successively bound to the roof poles or wattles by thinner and flexible laths. These laths are placed near the but-end of each thatch layer in such a way that each next layer covers the previous line of laths from bottom to top, leaving only the top one

visible. The laths are fastened to roof poles and withes by fibres. An attempt is made to conceal the existence of layers of thatch grass on the roof, with the best thatch leaving the roof smooth and beautiful.

The other method, practised in the eastern and sometimes also the southern and northern regions of Venda, involves plaiting of the thatch grass into mats. The mats are then laid on the roof from the bottom to the top, and then from top to bottom with the but-end of these mats fastened to roof poles and withes. The thatch is then bound on the outside by laths that remain visible all over the roof. These are fastened to roof poles by soft or leaf fibres. This is the easiest, fastest and cheapest method of thatching and may take only one·day to complete. It is also the least beautiful and durable of the two methods. Paradoxically it is practised by people living in areas with abundant thatch grass.

In both types of thatch, a woven mat is laid around the top of the roof leaving its frills facing downwards and, in the former method, covering the last laths that bind the thatch. This mat is also bound to the roof by laths, fastened by fibres.

For decoration, the hut occupied by the head fo the family, the one known as *thondwana*, may be given pillars all around to create a structure rather like a veranda. Inside this hut, poles are placed across the top of the wall to form a platform on which a variety of articles may be placed. These include clothes, baskets, tools and weapons such as clubs, battle axes, assagais and drums of varying sizes that may also be related to the religious worship of the family. Medicines for doctoring the homestead as well as other articles that must be kept out of reach of children and outsiders may also be stored on this platform. Other features that may be visible in this hut are wooden racks plastered with mud for keeping food, wooden blocks for sitting on as well as mats, headrests and blankets. All the other huts may be furnished differently even though they are similarly built and thatched. They usually lack pillars and may not be so neatly thatched. On one side inside the cooking hut one usually finds a platform of poles placed on Y-shaped wooden blocks that are anchored on the floor. Bags of cereal and other

foods may be placed on this platform. Some kitchen implements are usually hung on the walls. It is not uncommon to find goats and sheep also accommodated in the cooking huts. The cooking hut is usually the first to be erected and is usually bigger than all the others, including the *thondwana*, and it is therefore also called *themamudi*.

5.6.2 The pounding hut

This is the hut in which all grain is pounded. It is usually termed *goha* and may also be used as a resting place. The pounding hut is built like the dwelling hut but may sometimes lack proper mud-plastered walls. When there are no walls, the roof is simply supported by thick poles. The pounding hut is rare in most homesteads as pounding may also be done in the cooking huts.

5.6.3 Storage structures

Three types of storage structures are encountered among the Vhavenda. These are *zwitatari*, granaries (*madulu*) and grain pits (*zwisiku*). All are used to keep cereals. They only differ with regard to the form in which cereals are stored inside them and their degrees of permanency.

a) *tshitatari*

This is a temporary storage structure built of wattled wall poles like a dwelling hut. Maize straws, reeds or saplings are mostly also used. No mud plastering is needed for *tshitatari* and no roof is made. The floor may be raised by laying down poles on Y-shaped stumps of wood in such a way that it is only supported by main wall poles that are anchored on the ground. Maize and millet cobs are stored in this structure before they are thrashed. The shape varies from round to irregular.

b) Granary (*dulu*)

The granary is a semi-permanent storage structure for cereals. It is used to store maize and millet which is regularly removed for use and could last for two or more seasons.

A granary is often built like a dwelling hut, except that it is smaller. Wall poles and roofing resemble that of a dwelling hut, but the wall may not be plastered. Very often the floor is raised -- being maintained in a raised position by horizontally placed poles which are supported on Y-shaped stumps anchored on the ground on two opposite sides of the walls. Maize straws and saplings are often used to fill the spaces between the larger horizontal poles. A small entrance, placed high on the wall, is made to allow removal of grain.

c) The grain pit (*tshisiku*)

One or more grain pits are built in the homestead, depending on the average annual harvest. A grain pit may be made anywhere in the homestead, but cattle kraals are commonly preferred. This is probably because the site can easily be concealed by covering it with loose kraal manure. Hiding grain stores was particularly important during the periods of the "flights" (*mishavho*), when enemies could take all livestock and food reserves.

The size of the pit depends on the amount of grain to be stored, and may be large enough to take twenty bags of maize. It is reported that one chief Mphaphuli once had a grain pit which could accommodate his whole band of Tshikona dance (Wessmann 1908). Several pits may be made in the same homestead.

The walls of the grain pit are supported by large poles and saplings, and they are often plastered. After all work inside the the pit has been completed and the grains poured, the mouth of the pit is closed by horizontally placed poles which are plastered before being covered by kraal manure. The grain pit is a relatively permanent structure and may remain closed for many years.

5.6.4 Livestock enclosures

The largest animal enclosure of the Vhavenda is a cattle kraal. This is normally erected to the side, towards the main entrance of the homestead, usually with the outer wall against that surrounding the homestead.

Large poles are placed vertically around the enclosure. These poles must have side branches to support horizontally placed ones which may be fastened to the vertical ones by means of fibres. Smaller poles, saplings and brushwood are then placed against the larger ones to close the spaces. Thorny branches are generally preferred to make the kraal impenetrable. The entrance into the kraal is often closed by large poles placed horizontally and obliquely.

A small enclosure for calves is often built against the larger one. This is usually made of smaller poles, saplings and brushwood.

Two or more cattle kraals may be built in the same homestead to allow for rainy seasons, when the one commonly used becomes too muddy. A number of thick poles are often anchored inside the kraal and used for fastening cattle when they are milked or treated against ticks or other diseases.

The enclosures for sheep and goats are made of thin vertical poles and saplings, usually wattled together to form a rounded or irregularly shaped structure. Saplings, reeds, grass or both may be placed on top for shade.

5.6.5 Fencing

A large number of poles are required for the fence around homesteads and fields. These are used in the same way as for the cattle kraal. Saplings and brushwood are often used to make these fences impenetrable.

People in the eastern and northern parts of Venda have a habit of building courtyard walls of wattled poles and saplings, commonly known as *mipfunda*. Various plants are used for this purpose, including among others, *Bridelia* spp.,

Dichrostachys cinerea, *Annona senegalensis*, *Faurea galpinii*, *Combretum* spp., *Pappea capensis*, *Terminalia sericea*, *Grewia* spp., *Rothmania capensis*, *Tabernaemontana elegans* and *Bauhinia galpinii*. It seems as if most of these plants are selected only for their shape and not for durability. This is not surprising as these walls are usually temporary structures which are periodically renewed.

In general the plants required for fencing posts and wall poles of semi-permanent structures such as huts are *Androstachys johnsonii*, *Parinari curatellifolia*, *Combretum glomeruliflorum*, *C. imberbe*, *C. hereroense*, *C. apiculatum*, *C. erythrophyllum*, *C. collinum*, *Terminalia sericea*, *Colophospermum mopane*, *Tarchonanthus* spp. and many others. *Syzygium* spp., *Cussonia* spp., *Afzelia guanzensis* and some of those species mentioned above are most preferred for roof poles. Nowadays there is a tendency to use commercially available poles and wattles, especially in areas where there is access to supplies from plantations.

The use of most of the species mentioned above has also been noted by Liengme (1983) and Malan & Owen-Smith (1974) in their studies on the use of wood by the Tsonga people of Gazankulu and the ethnobotany of Kaokoland respectively. The method used by the Tsonga for constructing huts and storage structures is not different from that used by the Vhavenda. This is not surprising as these two groups are neighbours, and even lived together before ethnic separation.

5.7 NAMING AND CLASSIFICATION OF PLANTS

Most plants known to the Vhavenda have Venda names. These vernacular names were derived in a number of ways, some of which are mentioned below:

a) Names based on functional significance

Such names are usually related to the utlization of the plants by people inhabiting some or all regions of Venda. The name may indicate the purpose for which the plant is used, e.g. *muvhambangoma* (*Albizia versicolor*), *gumululo* (*Elephantorrhiza burkei*), *lukandululo* (*Cissampelos torulosa*), *mufhaṱa* (*Brachylaena discolor*), *mutibammela* (*Maesa lanceolata*), *bopha*

(*Adenia gummifera*), *muluwa* (*Acacia ataxacantha*) and *mualigatsibi* (*Idigofera arecta*), the taste or effect when used, e.g. *mukuvhazwivhi*(*Cassine transvaalensis*) and *gokodzalulimi*, the name of the disease for which it is used in medicine, e.g. *vhulungwane* (*Equisetum ramosissmum*) and *mafa-vuka* (*Myrothamnus flabelifolius*), or the method of medicinal or magical application, e.g. *murumelelwa* (*Pleurostylia capensis*) and *mutambapfunda* (*Albizia versicolor*). As a result of this method of naming, some plants with similar uses have the same vernacular name. For instance, the name *muhatu* is used for boths *Tabernaemontana elegans* and *Rauvolfia caffra*, *mukundandou* for *Mundulea sericea* and *Ormocarpum tricocarpum*.

b) Names derived from morphological and anatomical features

Examples include, *muelela* and *muhashaphande* (spreading branches), *museri* (in woven stands of wood), *mudzwiri* and *muvundambado* (very hard), *munnamutswu* (black colour of roots), *delele* and *mupupuma* (leaf texture).

c) Names based on the morphological, utilitarian, behavioural or nutritional relationship of the plant with others or with animals

Examples include *Muangasese* (leaves similar to those of *Peltophorum africanum*, known as *musese*), *tshitoni* (flower head appears like the hair on the body of a hedgehog) and *mulanotshi* (always swarmed by bees when in flower).

d) Names based on the chemistry of the plant

Names are often derived from the presence of aromatic compounds in the plant, e.g. *munukhatshilongwe*.

e) Names based on the response of the plant to environmental factors or touch

Examples include *mulambatshipalo* (never loses all its leaves at the same time), *tshiteaḓuvha* (follows the direction of sun rays) and *munalu* (it is shy, for *Mimosa pudica*).

f) Names based on the habitat

Examples include *muendanathavha* (grows on mountain sides), *mutumadi* (grows along river banks or in moist places) and *musalamarubini* (it remains growing in abandoned settlements).

g) Names with an onomatopoeic derivation

Examples include *muunga* (sound made by wind against its bark), *muthethenyua* (breaks crackingly when dry), *murera-vhusiku* (rustling sound of leaves, especially during the night when blown by wind) and *mushushaphombwe* (the rustling sound of leaves frightens adulterers during the night).

The classification of plants by the Vhavenda is both utilitarian and natural. Utilitarian systems tend to classify plants into food plants (e.g. vegetables or potherbs, famine foods, beverage plants and fruit plants), medicinal plants (e.g. medicines for venereal diseases, medicines related to pregnancy, treatments for colds and fevers, medicines for children's diseases, magical mixtures and mixtures for ritual purposes) and plants that are utilized for building purposes, firewood or fibres, among other things.

In the natural system of the Vhavenda one can sometimes deduce some relationship with the genus concept of modern classifications, since plants that are closely related are mostly called by the same name -- the only distinction being the addition of an adjective or adverb that explains the minor differences between any two or more species. Generally such minor differences include stem and leaf size or shape, colour of bark, size or colour of ripe fruit, robustness and thickness of stem or root bark and habitat. For instance, species of *Euclea* are all known as *muṱangule* but a distinction is made between *muṱangule-thavha* (growing on

mountains and hills), *mutangule-musekene* (stem and leaves are thin), *dangula* (the largest species with thick stem and broad leaves). Similarly, *Tribulus zeyheri* has been given the name *tseto* whereas *Tribulus terrestris* is called *tsetwana*.

Names such as *tshisesana* (*Elephantorrhiza elephantina*) and *muangasese* (*Mimosa pudica*) have been derived from *musese* (*Peltophorum africanum*) and appears to have been based on the possession of compound leaves by all these species. Names that differentiate species by describing their habitats are, among others, *damba*, as compared to *Damba-la-mulamboni* (the latter being described as one that prefers to grow along river banks and valleys), *mukundandouthavha* for *Mundulea sericea* (growing on hills and mountains) and *mukundandou-wa-fhasi* for *Ormocarpum trichocarpum* (growing in the valleys), both of which are legumes and also have the same medicinal use. Another example is *nduhu* (*Arachis hypogea*, the peanut) and *nduhushango* (*Crotalaria* sp.); the name *nduhushango* indicates that the latter species is considered to be a wild peanut plant. In some cases two species given the same vernacular name are distinguished from one another by treating one of them as male and the other as female. For instance, *Salacia rehmannii* and *Maytenus tenuispina* are both known as *ntsatshilambe* and used medicinally for the same purpose, but the former is considered to be female because it has a thicker and more robust root bark, than the latter which is treated as male.

Fruit-bearing is another feature that is used for classifying closely related species as male and female. Even though these are vernacular names, the whole system of naming and classifying plants (ethnosystematics), by virtue of its practice of giving a plant a name plus a description of its other features or habitat (similar to the specific epithet), shows some similarity to the binomial (or older polynomial) system that had long been used by earlier botanists such as Linnaeus. Some names even reflect "phylogenetic" relationships, e.g. *makhulu-wa-mutudo* (from *makhulu* = grandparent + *wa* = of + *mutudo* = the herb *Sida cordifolia*), *makhulu-wa-mutangule* (*Vepris lanceolata*) treated as a grandparent to *mutangule* (*Euclea* spp.).

Indigenous plants are also classified according to habit in which case a distinction is made between trees (*miri*) shrubs (*zwitaka*), grasses (*hatsi*) and vines (*khumbe*). There is no Venda term that relates to herbs. The distinction between

plants of different habit is achieved by putting the names in different noun classes, such as *mu-* (*mi-*) for trees, *tshi-* (*zwi-*) for shrubs, *lu-* (*vhu-*) for grasses and *n-* (*dzi-*) or *lu-*(*vhu-*) for vines. There is no prefix for the names of herbs, and these may fall under any of the mentioned groups depending on their uses, for example, when used as vegetables herbs take the prefix *mu-* for *muroho*.

The classification of vegetation types is very general and loose. A distinction is made between *ḓaka* (forest), *vuvhu* (a field lying fallow and overgrown by a few shrubs and abundant grass), *bulu* (a forest on sandy soil with isolated patches of grass and undershrubs), *dzunga* (dominated by sedges, reeds and grass, especially *Sporobolus* spp., on clayey, salty soils with poor drainage), *tshifhale* (with dark, clayey and salty soils usually dominated by prostrately growing grasses such as *Cynodon dactylon*, and palms as well as a characteristic type of locust generally known as *nzie-tshafhale*), *tshikhwa* (with thorny shrubs and trees on dry and rocky soils).

It should be emphasized, however, that the naming and classification of plants as described above is usually of local significance. A plant known by a specific vernacular name in one region may be called by a different name in another. For instance, plants called *murabva* (*Grewia flava*), *murodololo* or *muvuṋḓambaḓo* (*Papea capensis*) and *mulimakhoḓa* (*Canthium* spp.) in Nzhelele, are called *muhwana*, *muborane* or *muṱhoḓoli* and *muokhwane* respectively, in the Nthabalala/Mpofu areas of Venda. *Albizia versicolor*, which is known as *muṱambapfunda* in Nzhelele, is called *muvhambangoma* in areas of Sibasa. Traditional practitioners also have a tendency to give plants names that are known only between them, and reflect their uses or methods of medicinal preparation and application. For instance, the plant commonly known as *mupharatsheni* (*Grewia occidentalis*) is known as *mizwilaminzhi* among traditional practitioners to indicate the multitude of its medicinal uses. Similarly, the name *mavhelematshena* (white cereal grains) and *mukuvhazwivhi* (cleanser of dirt) is used in the place of the popular names of *muṱangauma* (*Securinega virosa*) and *mulumaṋamana* (*Cassine transvaalensis*) respectively.

5.8 CONSERVATION OF INDIGENOUS PLANTS

5.8.1 Conservation methods

In Venda there is a traditional conservation system which is enforced by chiefs and headmen. This system was primarily aimed at protection and preservation of those plants that are important as sources of food or medicine, but certain species are more strictly protected than others. Most of these are important sources of famine food and beverage and have reputedly saved the nation during periods of drought and food scarcity, e.g. *Sclerocarya birrea* subsp. *caffra*(marula), *Parinari curatellifolia*, *Adansonia digitata*, *Strychnos* spp. and *Boscia albitrunca*.

The protection of the marula has been the most popular in most regions of Venda, probably because of its significance as a source of food, beverage, medicine, shade and also its wide range of distribution in Venda. It has, for a long time, been an offence to fell a marula tree, and the maximum fine could be as much as an ox. The chiefs delegate the powers to control the use of protected plants to their headmen who, in turn, allocate the marula trees in their villages (a headman must know all the marula trees in his village) to heads of homesteads to guard and use. From these trees they obtain beer and medicine and the trees provide shade in and around their homesteads and in their fields. As the wood of the marula is also used for wood-carving, permission is needed from the relevant headman or chief, who usually gives permission to use those plants that do not produce fruit (males). A sound reason is needed to obtain permission to fell a tree for its wood. Acceptable reasons, for example, would be to carve a drum for use at initiation schools such as *domba*, *vhusha*, for religious ceremonies as well as for carving mortars. All marula trees are doctored before the fruiting season in order to increase the crop. The responsibility of headmen for the protection of marula trees has led to their popularity as *zwilindamifula* (guardians of marula trees).

Important medicinal and magical plants are also protected, and permission from the headman is required, especially when medicines have to be collected in an area under another headman's jurisdiction. Such plants include *Milletia stuhlmannii*, *Salacia rehmannii* and *Brackenridgea zanguebarica*. Some plants remain protected because their use is tabooed. Such plants have been known as prohibited for a

long time and people simply continue to avoid using them for construction and firewood purposes. Among these are plants that are tabooed by the whole nation because they are used to doctor the country to protect it against invasion by other tribes and against natural disasters. Some plants are tabooed by some families for the same reason with respect to their homesteads. Plants such as *Celtis africana*, *Acokanthera oppositifolia*, *Maerua angolensis*, *Ximenia* spp., *Bolusanthus speciosus* and *Osyris lanceolata* are generally tabooed.

Some plants escape use by humans because of their morphological and biochemical properties. Such plants may remain untouched for long periods even if they are not tabooed. These include thorny plants, plants with milky latex which are considered poisonous, those that cause irritation of eyes or nose when burnt as firewood, plants giving too much smoke when used as firewood, unpleasant smelling plants (for wood-carving), those suspected to have magical powers, and some important medicinal plants that people simply feel should be preserved. Species reported to cause problems when used as firewood include *Boscia albitrunca*, *Sarcostemma viminale*, *Synadenium cupulare*, *Jatropa* sp. (all cause eye irritation), *Androstachys johnsonii* (too much bad-smelling smoke), *Acacia* spp., *.Ziziphus mucronata*, some *Combretum* spp. (thorny and difficult to collect), *Acokanthera* spp., *Trichilia* spp. (medicinal plants with undesirable effects when burnt).

The consevation of plants which used to be under the sole control of chiefs and headmen has now largely been taken over by the Division of Nature Conservation of the Department of Agriculture and Forestry in Venda. The policy of this Division includes restrictions on the collection of live wood, indiscriminate felling of trees, gathering of any live animals (including catching and trapping of birds, game hunting and trapping, but excluding collection of insects). Provision has been made for the issuing of a permit to collect firewood and hedges for fencing. People in need of a constant supply of wood, such as for wood-carving or sale of firewood, can obtain a licence from either a local tribal authority office or the offices of the Division of Nature Conservation. At present there is no specific regulations controlling the gathering of wild-growing vegetables, locusts or other insects. A paid permit can also be obtained for fishing in certain dams, e.g. Nzhelele. No fishing is allowed in local rivers and irrigation dams.

At present there is no provision for citizens of Venda to obtain a permit to hunt and trap game as a source of food, for heroism or as a sport. Hunting permission is, however, granted to trophy hunters, most of whom come from outside Venda. Tribal authority policemen are the most conspicuous people enforcing the nature conservation regulations in the rural areas. As a result of this they have been given the name *vha ha ṋama a i ḽiwi*, which means that they are hand in glove with those people who forbid others to eat meat. There is currently no system to expose the greater part of the rural population to appreciation of the aims of nature conservation. They are merely informed, through their authority offices, of what they should not do.

5.8.2 Effects of plant utilization on the natural environment

No quantitative study of the effects of the interaction between the people and their natural environment has been done, but evidence based on visual observation indicates that there is an urgent need for such a study. These effects are more conspicuous in the drier areas of the western regions of the country, especially in the highly populated settlement areas of Nzhelele, Sinthumele and Kutama. Personal experience and historical evidence indicates that there has been a rapid deterioration of the vegetation in these areas.

The originally dense and floristically rich forests were first subjected to deforestation through clearing for new settlements and agriculture when people changed from their original settlement patterns to the new patterns of blocks of stands, which were started during the late nineteen fifties and sixties. During this period large trees were felled to obtain fencing posts, with only a few left for shade. This created large open spaces which allowed, among other things, high surface wind speeds and rapid drying of the soil surface.

As more people were brought to these settlement areas from neighbouring white farms and other regions that were either declared white areas or development sites, competition for firewood and other natural resources ensued, and continued to grow. This decreased land areas available for grazing, agriculture and general gathering of natural materials. It is the gathering of firewood that appears to have

contributed more to the present environmental degradation than any other factor. In most villages there is a total removal of all woody material from the area, this becoming more intensive closer to the villages. The areas around most villages are not only devoid of dead trees, but all the fallen branches and brushwood have also been removed from the soil surface. It is common to find people carrying dishes and baskets to collect whatever small fragment of wood that may still be available (called *thasana*) -- this includes bark and uprooted stumps of trees and shrubs that would otherwise resprout if given the opportunity As Malan & Owen-Smith (1974) also pointed out, this has an effect of exposing even the young seedlings and perennial grasses to browsing animals, to such an extent that they fail to grow and reach a stage where they can withstand browsing and trampling. This total removal accelerates soil erosion as there is nothing left to hold the soil and debris during rainy seasons, especially the during first rains after a dry period.

The resurgence of interest in traditional art, particularly wood-carving and basketry, with the resultant establishment of small business industries for this purpose, may threaten large trees and fibre plants such as palms. While there is a great encouragement for growth and development in the field of art, there are clearly insufficient measures aimed at controlling the harvest on a sustainable basis, or improving the production of the raw materials needed. As these industries and markets grow, there is certainly going to be increasing competition for the resources. In fact, there are already complaints about the scarcity of palms needed for basketry, as a result of the increasing demand for baskets, both in traditional and transitional craft industries.

It appears that the gathering of food and medicine from the veld does not have serious negative effects on the local vegetation. Gathering of vegetables is usually restricted to the soft and tender leaves, and this practice, according to Malan & Owen-Smith (1974), may stimulate development of new growth in the species affected, with having beneficial consequences. Accidental or purposeful gathering of seeds with vegetable leaves is responsible for the abundance of most vegetable plants around homesteads and dumping sites. This obviously has an important beneficial effect, not only in promoting seed dispersal, but also in widening the distribution range of the species concerned. This also applies to the wild fruit plants, the fruits of some of which are gathered far from the villages.

Under normal conditions of habitation by a traditional Vhavenda society, the collection of plant medicines is unlikely to upset the natural environment for a number of reasons. Firstly, few people are engaged in medicinal practice and, in most cases, only enough for immediate use is collected at a time. Secondly, the traditional norms are such that only horizontally growing roots are taken, after which the exposed parts of the plant have to be covered again. The fact that most Venda traditional practitioners believe that killing the plant from which the medicine has been obtained, has negative effects on the use of the medicine, may discourage them from harvesting all the roots of a plant. It is also for this reason that most collectors prefer not to take their medicines from roots that display signs of having previously been dug. Thirdly, various traditional practitioners generally do not depend on the same plants for their medicines, even for treatment of similar diseases, so that any particular species is only used by a few people at a time. As mentioned before, the extraction of medicine from the bark involves removal of portions of bark from opposite sides of the trunk. This usually affects the lower part of the trunk which is within reach and, consequently, continued use of one or a few trees may lead to complete girdling of the trunk, ultimately resulting in the death of the tree. It is the sale of traditional medicines in newly established herbal shops as well as competition resulting from growing rural populations that may demand closer attention in the immediate future.

As a result of the disappearance of most predators, improved supply of watering points and veterinary services, the numbers of livestock are likely to grow considerably. This increase, coupled with the stabilization of territorial boundaries which restrict nomadic movements, would intensify the impact of domestic animals on natural vegetation.

CHAPTER 6

SUMMARY AND CONCLUSIONS

It is evident from the information recorded in this study that the Vhavenda depended, and still depend, on indigenous plants for most of their material requirements. Apart from the significance of indigenous plants as sources of food, medicine, firewood and material for art and building, they are also considered useful for shade, fencing, shelter against winds, as sources of oils, and dyes, and as ornamentals.

The dependence of the Vhavenda on their natural environment is typical of a pre-industrial society where the relationship is governed by such cultural factors as magical beliefs, superstition, myths, taboos, and religion. The ethnobotany of the Vhavenda, is therefore intertwined with and hardly separable from their cultural norms and values.

For the purpose of communication, plants are given names and classified into groups. Most names are related to the functional significance of the respective plants, while others are derived from morphology, anatomy, habitat relations, presence of chemical substances, or responses to natural factors. Plants are Occasionally named after the sounds they produce, especially those caused by blowing wind and falling or fallen leaves. It would also appear that only those plants with some cultural significance are given names. A utilitarian system of classification of plants is the most important in the ethnosystematics of the Vhavenda, and plants are classified into groups of plants with related uses: food plants, beverage plants, medicinals, sources of fibre, firewood, dyes, oils, building materials, wood-carving and basketry. Within each of these groups, plants are divided further into subgroups. For instance, the medicinal group comprises purgatives, carminatives, those for adult diseases, children's diseases, pregnancy, coughs and fevers, sexually transmitted diseases and magicals. Other features such as morphology, anatomy or presumed evolutionary relationships are also used in classification. Furthermore, plants are arbitrarily recognized as trees, shrubs, climbers and grasses. There is a broad classification of groups of plants into vegetation types.

A traditional system of conservation exists among the Vhavenda. A study of this system indicates that it was primarily intended to protect the most important plants such as food plants, medicinals, and shade plants against indiscriminate use as firewood, art and building materials, and against other cultural practices. The conservation of plants takes the form of restrictions by chiefs and their headmen, taboos and other cultural prohibitions.

During the course of this research a number of other features of the ethnobotany of the Vhavenda were identified. One of the most important is that the cultural significance of indigenous plants is largely localized. Certain species that are considered to be indispensable in some areas of Venda, are virtually unused in other parts of the country. It is also common to find the same species being used for totally different, and perhaps even unrelated, purposes. This regional significance of plants also affects other aspects of the ethnobotany of the people, including nomenclature, classification and conservation. For instance, it would be culturally unsound to make an effort to give a name to, or conserve, a plant that is not important in any way.

Another feature is that when subcultural groups move from one region to another, they tend to find substitutes for plants that do not occur in their new area, or for practices that are not popular or feasible under the changed circumstances. This similarly applies to contacts with other cultural groups, introduction of new regulations, environmental changes brought about by population explosions, competition, droughts or over-abundance. According to Malan & Owen-Smith (1974), "the exploitation of natural resources results in a process of reciprocity, or dialogue, between cultures and environments", and according to Sahlins (1968), "there is an interchange between culture and environment, perhaps continuous dialectic interchange, if in adapting the culture transforms its landscape and so must respond anew to changes that it had set in motion". In view of this, future studies should not be confined to the recording of ethnobotanical information and the effects of cultural views, but should also take cognisance of regional differences and changes brought about by population changes, civilization in the form of industrialization, religion, introduction of new systems of nomenclature and conservation, medical development and resettlements, for example.

Although still far from being complete, this information on the uses of plants by the Vhavenda, is a good starting point for a multitude of scientific research programmes aimed at improving and developing the positive aspects of their ethnobotany, and removing the negative ones. Furthermore, there is great uncertainty regarding the value and efficacy of most plants used as food and medicines, while at the same time the African continent is rich in indigenous plants, both in abundance of individuals and variety of species. It is an established fact that most medicines used by the Vhavenda in particular, and by traditional medicinal practitioners in general, have positive physiological effects. Some of them have proved to be more effective than their equivalents in modern medicine and, in most cases, are far cheaper to acquire. Also, most plants used by traditional practitioners as food plants of medicinal value, or as medicines for serious diseases, can easily be cultivated and, therefore, become available for experimentation.

Properly planned and well co-ordinated research projects may not only boost the food and medical industries, but may also make provision for other material needs, particularly firewood, among people who cannot afford alternative sources of energy such as electricity, in a way that blends well with the cultural backgrounds, aspirations, and associated changes among the various groups of people.

Lastly, it is recommended that future ethnobotanical studies should also concentrate on obtaining the appropriate cultural interpretations of the relevant people. For instance, there is evidence to suggest that concepts such as *dambi*, *ṅanga*, *pfuko*, *midzimu*, *ḓuxwane*, and many others, are likely to have been misinterpreted by previous researchers and missionaries who worked among the Vhavenda, possibly as a result of difficulty in communication, ethnocentricity, or both. These concepts were interpreted or translated, as magic, witch-doctor, cancerous ulcer, gods, and zombi respectively. However, their original meanings do not always convey the same message as their vernacular equivalents. It could well be that the use of these terms was not intended specifically for the Venda concepts as mentioned above, but for other African concepts considered to convey similar meanings. Also, even if they were used for some Venda terms, it is doubtful whether dialectical differences have been sufficiently considered. In view of this, it is not be surprising that most African cultural practices have been, and continue to be, dismissed as superstition by most research workers.