

## Overview on Medicinal Plants and Traditional Medicine in Africa

### The Importance of Traditional Medicine in Africa

In all countries of the world there exists traditional knowledge related to the health of humans and animals. According to the World Health Organisation (WHO) the definition of traditional medicine may be summarized as the sum total of all the knowledge and practical, whether explicable or not, used in the diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing. Traditional medicine might also be considered as a solid amalgamation of dynamic medical known-how and ancestral experience.

The interest in traditional knowledge is more and more widely recognised in development policies, the media and scientific literature. In Africa, traditional healers and remedies made from plants play an important role in the health of millions of people. The relative ratios of traditional practitioners and university trained doctors in relation to the whole population in African countries are revealing. In Ghana, for example, in Kwahu district, for every traditional practitioner there are 224 people, against one university trained doctor for nearly 21,000 people. The same applies to Swaziland where the ratios are for every traditional healer there are 110 people while for every university trained doctor there are 10,000 people.

**Table 1**

**Ratios of doctors (practicing Western medicine and traditional medical practitioners to patients in east and southern Africa**

Country	Doctor:patient	TMP:patient	References
Botswana	-	TMPs estimated at 2,000 in 1990	Moitsidi, 1993
Eritrea	Medical doctors estimated at 120 in 1995		Government of Eritrea, 1995
Ethiopia	1:33,000		World Bank, 1993
Kenya	1:7,142 (overall)	1:987 (Urban-	World Bank, 1993

		Mathare)	
	1:833 (Urban- Mathare)	1:378 (Rural- Kilungu)	Good. 1987: Good. 1987
Lesotho		Licensed TMPs estimated at 8,579 in 1991	Scott <i>et al.</i> 1996
Madagascar	1:8,333	-	World Bank, 1993
Malawi	1:50,000	1:138	Msonthi and Seyani, 1986
Mozambique	1:50,000	1:200	Green <i>et al.</i> 1994
Namibia	-	1:1,000 (Katutura) 1:500 (Cuvelai) 1:300 (Caprivi)	Lumpkin, 1994
Somalia	1 :14,285 (Overall) 1 :2,149 (Mogadishu) 1 :54,213 (Central region) 1 :216,539 (Sanag)	-	World Bank, 1993 Elmi <i>et al.</i> 1983 Elmi <i>et al.</i> 1983 Elmi <i>et al.</i> 1983
South Africa	1:1,639 (Overall)	1:700-1,200 (Venda)	World Bank, 1993
	1:17,400 (Homeland areas)		Savage, 1985* Arnold and Gulumian, 1987*
Sudan	1:11,000	-	World Bank, 1993
Swaziland	1:10,000	1: 100	Green, 1985 Hoff and Maseko, 1986
Tanzania	1:33,000	1:350-450 in DSM	World Bank, 1993 Swantz, 1984
Uganda	1:25,000	1:708	World Bank, 1993 Amai, 1997
Zambia	1:11,000	-	World Bank, 1993
Zimbabwe	1:6,250	1:234 (urban) 1:956 (rural)	World bank, 1993 Gelfand <i>et al.</i> 1985

Note: references with an asterisk are in Cunningham, 1993.

Figures on the ration of traditional medical practitioner to patient and Western practitioner to patient are presented in table 1. It is evident that in some parts of the region, practitioners trained in Western medicine are few.

In the past, modern science has considered methods of traditional knowledge as primitive and during the colonial era traditional medical practices were often declared as illegal by the colonial authorities. Consequently doctors and health personnel have in most cases continued to shun traditional practitioners despite their contribution to meeting the basic health needs of the population, especially the rural people in developing countries. However, recent progress in the fields of environmental sciences,

immunology, medical botany and pharmacognosy have led researchers to appreciate in a new way the precise descriptive capacity and rationality of various traditional taxonomies as well as the effectiveness of the treatments employed. Developing countries have begun to realise that their current health systems are dependent upon technologies and imported medicine that end up being expensive and whose supply is erratic.

Relegated for a long time to a marginal place in the health planning of developing countries, traditional medicine or more appropriately, traditional systems of health care, have undergone a major revival in the last twenty years. Every region has had, at one time in its history, a form of traditional medicine. We can therefore talk of Chinese traditional medicine, Arabic traditional medicine or African traditional medicine. This medicine is traditional because it is deeply rooted in a specific socio-cultural context, which varies from one community to another. Each community has its own particular approach to health and disease even at the level of ethno-pathogenic perceptions of diseases and therapeutic behaviour. In this respect, we can argue that there are as many traditional medicines as there are communities. This gives traditional medicine its diverse and pluralist nature.

Traditional medicine has been described by the World Health Organisation (WHO) as one of the surest means to achieve total health care coverage of the world's population. In spite of the marginalisation of traditional medicine practised in the past, the attention currently given by governments to widespread health care application has given a new drive to research, investments and design of programmes in this field in several developing countries.

### **Status of the medicinal plants base resource**

Most developing countries are endowed with vast resources of medicinal and aromatic plants. These plants have been used over the millennia for human welfare in between man and his environment continues even today as a large proportion of people in developing countries still live in rural areas. Furthermore, these people are precluded from the luxury of access to modern therapy, mainly for economic reasons.

The demands of the majority of the people in developing countries for medicinal plants have been met by indiscriminate harvesting of spontaneous flora including those in forests. As a result many plant species have become extinct and some are endangered.

Numerous medicines have been derived from the knowledge of tropical forest people and clearly there will be more in the future. This alone is reason enough for any and all programmes to be concerned with the conservation, development, and protection of tropical forest regions. Human needs and

problems are a primary component of any conservation program. It is therefore necessary that systematic cultivation of medicinal plants be introduced in order to conserve biodiversity and protect threatened species. Systematic cultivation of these plants could only be initiated if there is a continuous demand for the raw materials.

This focus on human needs requires assessing the importance of regional forests in traditional systems of medicine, and it also requires provisions that allow for any activities to have minimal negative impact on the accessibility to these medical resources. The documentation of medicinal uses of African plants is becoming increasingly urgent because of the rapid loss of the natural habitat for some of these plants due to anthropogenic activities.

The continent is estimated to have about 216,634,00 ha. of closed forest areas and with a calculated annual loss of about 1% due to deforestation, many of the medicinal plants and other genetic materials become extinct before they are even documented. Africa has one of the highest rates of deforestation in the world; for example, Côte d'Ivoire and Nigeria have 6.5% and 5.0% deforestation per year, respectively, as against a global rate of 0.6%. Habitat conversion threatens not only the loss of plant resources but also traditional community life, cultural diversity, and the accompanying knowledge of the medicinal value of several endemic species. A majority of the plants found in Africa are endemic to that continent, the Republic of Malagasy having the highest rate of endemism (82%). Undoubtedly, medicinal plants and the drugs derived from them constitute great economic and strategic value for the African continent.

Africa has a long and impressive list of medicinal plants based on local knowledge. For instance *Securidaca Longepedunculata* is a tropical plant found almost everywhere in Africa. The dried bark and root are used in Tanzania as a purgative for nervous system disorders. One cup of root decoction is administered daily for two weeks. Throughout East Africa, the plant's dried leaves are used for wounds and sores, coughs, venereal disease, and snakebite. In Malawi, the leaves are used for wounds, coughs, bilharzia, venereal disease, and snakebite. The dried leaves in Malawi cure headaches. The dried leaves act on skin diseases in Nigeria. According to one pharmaceutical researcher, the root is used in "Bechuanaland" and "Rhodesia" for malaria while the same part of the plant is used for impotence in "Tanganyika". Meanwhile, in Angola, the dried root is used as both a fish poison and (in botanical testimony to the power of love) as an aphrodisiac. The same dried roots have religious significance in Guinea-Bissau and are understood to have a psychotropic effect. The root bark is used for epilepsy in Ghana.

Many plants are used for their therapeutic values and this has a twofold effect on the world's flora. On one hand, the demand for herbs, particularly in parts of Africa, has brought some plants near extinction. Even the

simplest plant may have a future importance that we cannot predict. Efforts to develop drugs from medicinal plants should address diseases and health problems seen in developing countries as well as diseases which primarily affect developed countries' population. Saving the world's plant resources calls for more protection and management, more research, and an increasing level of public awareness about our vanishing heritage.

Indigenous and local communities are concerned that the rate of knowledge erosion has never been so high as it is in the current generation, and that such knowledge erosion poses an even more serious threat to the conservation of biological diversity than resource erosion.. There is, therefore, an urgent need to formulate an array of incentive measures to ensure that members of the younger generations will want to learn, value, adapt and apply the traditional knowledge, innovations and practices of their elders.

Within the framework of the management and conservation of biological diversity, it is worthwhile noting that at the African level, no exhaustive plan of control and evaluation of the resources of medicinal plants has yet been proposed.

#### **Interest in medicinal plants and phytomedicines :**

Although the main consumers of medicinal plants in Africa have been, until recently, the local population, the field has started to attract a number of local and foreign researchers (as during the second world war) who have discovered the value of traditional healing. The first undertakings done in this field in Africa were undoubtedly of ethno-botanical nature, but since then the fields of study have expanded to include pharmacology, phytochemistry, and chemistry of natural products, organic synthesis and the usefulness of medicinal and aromatic plants.

The pharmaceutical industry has come to consider traditional medicine as a source for identification of bio-active agents that can to be used in the preparation of synthetic medicine. However, they are not looking to study the rare plant species; they want to test the most commonly-used species. The valuable medicinal plants are those with the longest track record in the most locations. Many of the more pharmacologically (commercially) interesting medicinal plant species in use around the world are employed in more than one community, and often in more than one country, for multiple uses.

The natural products industry in Europe and the United States is equally interested in traditional medicine. In Europe and in America where the phytomedicine industry is thriving, extracts from medicinal plants are sold in a purified form for the treatment and prevention of all kinds of diseases. We are at a stage where traditional medicine is considered more for its capacity to generate other medicine than for its own sake. In many cases research

undertakings and the commercial use stemming from that research have always relied on information provided by the local communities that, in many cases, have hardly benefited from the research results.

### **African Traditional Herbal Medicine and Public Health**

The majority of African countries are currently geared towards the privatisation of State corporations and government services. This includes the privatisation of large hospitals where goals of financial independence have precluded the dispensation of free care and free medicine. Analysis of various national policies related to public health and medicinal plants usage has highlighted some important issues. Among them is the failure to meet basic health conditions due mainly to the following factors: inadequate decentralisation of health services; isolation of some rural communities; and persistence of traditional beliefs regarding pathology. This has led to under-utilisation of available services in health centres and high cost of services provided by hospitals in relation to the income of the rural population.

Another issue that can be singled out is the absence of local pharmaceutical production. Purchase of pharmaceutical imports leads to a heavy loss of foreign currency, which a development policy focused on available local resources (mainly medicinal plants) would otherwise have prevented. The current trend of government policy in African countries to charge for health care shows the inability of governments to ensure provision of quality services at an affordable price to everyone and especially to the most vulnerable groups. .

In the rural areas, one sometimes travels for several days before finding the nearest dispensary and pharmacy. In addition to losing working days, transport fares and the high cost of medicine must also be taken into consideration. In the past few years, most developing countries, recognising that they did not have the means to provide comprehensive health care like some industrialised countries, have started to become more interested in traditional remedies.

In order to solve the problem in part, many health-oriented ministries are now encouraging the use of local medicinal plants. Certain countries have established departments of traditional pharmacopoeia within these ministries so as to implement this policy. Education ministries have started to introduce conservation of bio-diversity into their school programmes. The recent establishment of the Ministries of Environment and Natural Resources and Offices of Protected Areas and National Parks in various countries also demonstrates the political will of African governments towards the conservation of nature and the sustainable use of bio-diversity

The lack of health care systems in rural areas forces local people to treat themselves, either by using medicinal plants or by buying high-cost medicine in the rural markets. In the rural areas, as a whole, people begin by treating themselves before going to a traditional practitioner or a modern doctor. Medicinal plants are used at an early stage of the disease at low cost and conveniently replace the indiscriminate consumption of drugs without prescription. Recent research has shown that alternative medicine is flourishing in African society neither because users are dissatisfied with conventional medicine nor because they seek self-control over their health care decisions. The driving force of the majority of users appears to be the holistic belief that the health of body, mind and spirit are related and that this should be taken into account by whoever cares for their health.

It is important to note that even in contemporary rural Africa, there is no doubt about the efficacy of herbal medicine. Many Africans, especially rural people and the urban poor, rely on the use of herbal medicine when they are ill. In fact, many rural communities in Africa still have areas where traditional herbal medicine is the major and in some cases the only source of health care available. Thus there can be no doubt about the acceptability and efficacy of herbal remedy within African society.

However, in many oriental countries, traditional medicine is officially recognized. China, for example, is able to provide adequate and constantly improving health care coverage for its vast urban and rural population precisely because it harnesses the precious legacy of traditional medicine . Consequently, the inability of most African countries to develop their own legacy of traditional medicine, because it is denied official recognition, is partly responsible for the current health care crisis in Africa.

Modern health care has never been, and probably never will be, adequately and equitably provided anywhere in Africa, due to financial limitations related to rapid population growth, political instability and poor economic performance, to mention only a few. For instance the problem of ensuring the equitable distribution of modern health care has become every more serious, as the gap between supply and demand has continued to widen.

Hence, the majority of people lack access to health care, and even where it is available, the quality is largely below acceptable levels . This situation is further exacerbated by sever financial constraints, the high dept burden, a rapidly growing population, political instability, high inflation rates, declining real income and deteriorating growth rates.

## **TABLE 2.**

### **HOW THE WESTERN MEDICAL SYSTEM HAS FAILED IN AFRICA**

-Facilities are inaccessible for much of the population. In some urban areas the average waiting time at a hospital or clinic can be as much as 8 hrs.

- The staff are poorly trained and unmotivated. Many staff members believing they hold superior knowledge, treat patients inconsiderately.
- Patients are frequently not told the nature and cause of their illness.
- There are inadequate technical services leading to poor quality care.
- The treatment costs too much, even for state run hospitals and clinics.
- Governments spend a large proportion of the Per Capita gross national product on western health care.
- Treatment is divorced from the patient's culture, family and community. Patients are removed from the family and community, stripped of their identity and forced into a sterile hospital setting.
- The treatment only addresses a patient's biological manifestation of the illness and does not attempt to heal spiritual aspects of illness.

*(Adapted from Lashari 1984:175 - 177, Ojanuga 1981:407 - 410 and Yangni-Angate 1981:240 - 244)' Debie LeBeau (1998)*

### **The place and the role of traditional medical practitioners.**

In contrast with western medicine, which is technically and analytically base, traditional African medicine takes a holistic approach: good health, disease, success or misfortune are not seen as chance occurrences but are believed to arise from the actions of individuals and ancestral spirits according to the balance or imbalance between the individual and the social environment

The practitioners of traditional medicine specialize in particular areas of their profession, in the same way as orthodox medical practitioners. Thus we find some traditional medical practitioners who are experts in the use of herbs (herbalist), others who are proficient in spiritual healing, especially the use of incantations, while still others combine both. There are also traditional bonesetters and birth attendants. In some African societies, one type of healer provides several or all therapeutic services, whereas other have separate practitioners for different functions.

Traditionally, rural African communities have relied upon the spiritual and practical skills of the TMPs (traditional medicinal practitioners), whose botanical knowledge of plant species and their ecology and scarcity are invaluable. Throughout Africa, the gathering of medicinal plants was traditionally restricted to TMPs or to their trainees.

It is estimated that that the number of traditional practitioners in Tanzania is 30 000 - 40 000 in comparison with 600 medical doctors (Table 1) (MP and TMP : total population ratios were not given). Similarly, in Malawi, there is an estimated 17 000 TMPs and only 35 medical doctors in practice in the country . For this reason, there is a need to involve TMPs in national healthcare systems through training and evaluation of effective remedies, as they are a large and influential group in primary healthcare

It is difficult to characterize a 'typical' African healer, because there are many different kinds, and the cultural diversity and complexity of their practices are encyclopaedic, when considered in detail. Most African healers have in common, however, that they describe and explain illness in terms of social interaction and that they act on the belief that religion permeates every aspect of human existence. Their concepts of health and illness are more comprehensive than those of biomedical doctors, and 'health' as we know it cannot be adequately translated in many African languages.

The indigenous terms, which come closest usually, have a much wider meaning, other prominent features of traditional healers are a deep personal involvement in the healing process, the protection of therapeutic knowledge by keeping it secret, and the fact that they are rewarded for their services. The social context of the therapeutic process requires reciprocity and this payment contributes to the effectiveness of the treatment. Over the years, the types and methods of payments for traditional healing have changed. Especially in urban settings, practitioners are increasingly demanding monetary payments.

Some healers have learnt their trade by undergoing treatment as a patient. Upon their recovery, they decided to become practitioners themselves. Another avenue is through spiritual calling, in which case the healer's diagnoses and treatments are strictly determined by the supernatural. A third route is through informal learning from a close family member, such as a father or uncle (or a mother or aunt in the case of a female healer). A fourth possibility is through a long formal apprenticeship under an established practitioner. The trainees pay their tutor a basic fee as well as a fee for each step of advancement.

The magical inclination of African traditional medicine takes nothing away from the fact that many healers are experienced and skilled in biomedical components of their profession. They have an array of biomedical methods at their disposal, ranging from fasting and dieting to herbal therapies and from bathing and massage to surgical procedures.

There has been a tendency in Western medical journals to play down this expertise of African healers by predominantly presenting the iatrogenic risks of their traditional therapies. It cannot be denied, of course, that sometimes there is genuine cause for concern. It would be unfair, however, to pass judgement of the biomedical merits of African traditional medicine on the basis of its worst outcomes. Instead, African healing should be considered with a sympathetic eye and with emphasis on its best biomedical manifestations.

Urbanization has increasingly concentrated large numbers of Africans in an environment, where there is stronger competition from Western medicine, because it is generally more near than in rural areas. Traditional healing is also flourishing in such urban settings, however, because it adapts itself to these new surroundings. In other words, African traditional medicine is more than a static and inflexible institution, which cannot survive the test of time.

African healing is an inextricable part of African religion and the act of healing is therefore a religious act. When an African patient is taking a herbal infusion, he expects to benefit from the life force of its ingredients and from the power of his ancestors or any other spirits which may have been invoked. This spiritual significance is more important than the bioactive properties of the remedy.

As soon as the religious framework of African healing is understood, it no longer appears as an incoherent collection of rational and irrational acts but as a condensed expression of basic beliefs concerning life, good and evil, and the etiology of illness. In this respect, there is an obvious parallel with alternative medicine in Western countries.

The women healers generally have specialised knowledge of medicine used during prenatal and post-natal delivery for the care of women and children. In urban areas, women healers still make use of traditional medicine to meet primary health needs or who depend on the provision of these services or the sale of products from medicinal plants for their livelihood

### Traditional systems challenged

In many African societies both traditional and modern health systems exist. Normally people consult both systems, though for different reasons and during different stages of the disease. Certain diseases are believed to be better treated by one of these systems; In spite of increased interest in the technical aspects of traditional health care, forms of true co-operation between the two systems are rare. Traditional healers may refer to modern medicine, but the reverse is rarely the case.

As described in de Smet (p.26) there is a tendency in the Western oriented biomedical tradition to focus on the risks and pay down traditional African medicine and the expertise of traditional healers. We cannot deny the drawbacks of traditional medicine, which include incorrect diagnosis, imprecise dosage, low hygiene standards, the secrecy of some healing methods and the absence of written records about the patients.

Though there is certainly cause for concern, it is unfair to pass judgement on African healing systems on the basis of their worst outcomes; concerns about romanticising the traditional practices have to be taken serious, however.

**Constraints relating to the development of traditional medicine can be summarised as follows:**

- **Lack institutional support for production and dissemination of key species for Cultivation;**
- **The low prices paid for traditional medicinal plants by herbal medicine traders and urban herbalists**
- **Lack of appropriate technology for post harvest and pre-processing purposes adapted productively and effectively**
- **Insufficient documentation and scientific experimentation for verification of the herbalist's claims**
- **Lack of preservation of medicinal extracts for extended shelf life.**

### **CONCLUSION:**

**Governments should establish the necessary institutional and financial support to promote the potential role of herbal medicine in primary health care delivery. Priority should be given to the development of herbal medicine by means of the following measures:**

**-inventorying and documenting the various medicinal plants and herbs which are used to treat common diseases in each country;**

**-establishing local botanical gardens for the preservation of essential medicinal herbal plants in different parts of each country, in order to ensure a sustainable supply of safe, effective and affordable medicinal herbs;**

**-setting up testing laboratories with adequate facilities for the assessment of the efficacy of medicinal herbs, and establishing dosage norms for the most efficacious use of herbal extracts, whether in tablet, capsule, powder, syrup, liquid or other form.**

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