Local Use of Traditional and Modern Medicine
A case study in Babati District, Tanzania

“For too long, ‘traditional’ and ‘modern’ medicine have followed their own separate paths in mutual antipathy. But their aims are surely identical — the improvement of human health and, hence, improvement of the quality of life.” (Halfdan Mahler, former Director General of World Health Organization)

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ABSTRACT

This study aims to identify traditional medicines which people use in Babati District, Tanzania and to find out which direction the local use and knowledge of traditional medicine is taking in comparison with modern medicine (MM). It is a case study based both on primary and secondary sources. The primary information was gathered with the help of semi-structured interviews and shorter enquiries with people of all categories that use herbal remedies or visit bone fixers and with women that are supported by traditional midwives. For simple health problems people use TM, for more complicated cases, they go to the hospital. A difference between Babati urban and rural inhabitants was noticed in the usage of traditional and modern medicine, but not between poor and rich people, opinions being slightly different. The Tanzanian government does not encourage the implementation of the TM in the modern medical system and as long as the young generation is not interested to learn the secrets of their parents' vocation, this knowledge is threatened by being forgotten. All the herbs used in TM will most likely find their way into the modern pharmacy; however because of the lack of documentation and statistics, it can take up to one hundred years. For this purpose, the gap between TM and MM has to narrow through a better collaboration between all the involved parts.

Keywords: ethnobotany, midwifery, healers, herbal remedies, indigenous knowledge
**Abbreviation Terms:**

<table>
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<th>Abbreviation</th>
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<tr>
<td>AMO</td>
<td>Assistant Medical Officer</td>
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<td>CHF</td>
<td>Community Health Fund</td>
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<td>interview person</td>
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<td>MCH</td>
<td>Mother and Children Care</td>
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<td>modern medicine</td>
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INTRODUCTION

Due to a general “brain drain” in the health care system, the African continent has only 30% of the 1.2 million doctors, midwives and nurses that it needs (Pereira, 2010). Efforts are made, but the best solutions in health care for everybody’s needs were not found yet. This is one of the reasons for which traditional treatments are used as an alternative to modern medicine.

The quotation on the front cover of this study is a call for partnership between traditional and modern medical systems for the benefit of the communities, in countries where the modern medical system is overtaken by population growth, where there is a general lack of basic drugs in the hospitals, where many people do not have access to modern health care and where the traditional medicine still exists as an alternative.

In 1978, an International Conference on Primary Health Care was held at Alma-Ata, where the World Health Assembly proposed the medical pluralism, through a wider utilization of traditional medicine practitioners (TMPs), and traditional birth attendants (TBAs), and through the incorporation of effective traditional remedies into the national drug regulations. Since 1991 thirty African states have a health policy including TM. Countries like Ghana and Mali incorporated fully the TM into their health care system, while in countries like Seychelles and Ivory Coast TMP are rejected by the official health care system. The TMP are the source of indigenous and traditional knowledge of medicinal plants, which comprise 90% of materia medica used in TM in Africa. Their information on therapies or active components of plants can help researchers and trainers in both modern and traditional health care (WHO, 2002).

Several conferences were held afterwards in Africa, the decade 2001-2010 became The Decade of African Medicine and 1st of September was proclaimed the African TM Day.

1 Lately it was noticed a changing in the trends: a “brain gain” started taking place, many skillful Africans that went to study abroad are going back to their countries, to their villages and help their communities (BBC news)
2 Traditional medicine (TM) is all knowledge used in diagnosis, prevention and elimination of physical, mental or social imbalance and it relies exclusively on practical experience and observation handed down from generation to generation, whether verbal or in writing. (WHO,1976)
3 Traditional medicine practitioner (TMP), or traditional healer is a person who is recognized by the community in which he lives as competent to provide health care by using plants, animal and mineral substances and other methods based on socio-cultural and religious background as well as the knowledge, attitudes and beliefs that are prevalent in the community regarding physical, mental and social well being and causation of diseases and disability”. (WHO, 1976)
4 Traditional birth attendants (TBA) are community based maternal care providers, few of them trained in childbirth and postnatal care, that cover over half of home deliveries, most of them working independently of the health care system. (Mbaruku et al, 2009)
5 Body of collected knowledge about the therapeutic properties of any substance used for healing (Latin term)
1.1. The Tanzanian health care – system and situation

The Tanzanian health care system is planned like a pyramid on various levels that correspond to the Tanzanian administrative structure. The lowest level, the village health service, consists of two health workers chosen by the village and short trained before providing the services. On the next level are dispensary services in each administrative ward, i.e. a group of villages, from 6000 to 10 000 people. Upper on the pyramid come the health centre services for 50 000 people, which is an administrative division, followed by district and regional hospitals, the latest having specialists in various medical fields (Tanzania.go.tz).

Tanzanian hospitals are fighting with a deficiency of qualified professionals and an incapacity of providing quality health care. Statistics from 2006 show that for every nurse and midwife there is a population of nearly 4000 and for every specialist in obstetrics and gynecology there is a population of nearly 400 000 (WHO 2006). Because the fully trained medical doctors and nurses look for better payments and working conditions in bigger towns or abroad, there is a big need of replacing them with Assistant Medical Officers (AMOs). AMOs are trained for two years in health care and at the end of the training are capable to provide preventive and curative services. They are holders of a diploma that gives them the right to practice medicine, surgery and midwifery even though they are not fully trained for these
tasks. Most district hospitals and health centers in Tanzania are staffed with AMOs that perform medical doctor tasks (Pemba, 2008).

Although the economic situation has improved over the past decade, the country is still ranking 148 out of 169 in The Human Development Index, where the health indices are very poor. The prevalence of undernourishment in the total population is 35%, the HIV/AIDS epidemic is the major problem that has spread fast all over the country, 8000 women per year – which means one mother every hour! – die in childbirth and the under-five mortality is unacceptably high: 104 per 1000 live births (UNDP, 2010). 74% of Tanzanian population lives in rural areas, where the situation is much worse due to the inequitable personnel distribution between rural and urban areas and lack of access to the hospitals, due for example to bad roads and lack of money for transportation. The problem diseases that prevail in Tanzania are parasitic diseases such as malaria, hookworms, intestinal worms, bilharzias; infectious bacterial diseases due to inadequate water supply and poor sanitary practices, e.g. diarrhea, pneumonia, tuberculosis, meningitis, cholera, typhoid fever, dysentery; communicable diseases and nutritional related health problems (Tanzanian Health Care system).

Due to the tremendous population-growth, from 15.9 millions in 1975 to 42.7 millions in 2011 (CIA Factbook), the Government of Tanzania does not have the capabilities of solving the health care issue and the system does not longer correspond to the requirements of the present situation.

1.2. Traditional medicine – an alternative to modern medicine

In Tanzania, the botanically rich forests and the traditional practitioners constitute resources with great potential (Nguma et al, 1999). The Tanzanian government adopted the Traditional and Alternative Medicine Act in 2002, “an act to make provisions for promotion, control and regulation of traditional and alternative medicine practice” (Parliament of Tanzania, 2002). In 2005 this law became operational, encouraging the cooperation between physicians and TMPs. This act replaced older colonialist laws from 1929 that forbid any cooperation between TM and conventional doctors and the Witchcraft Ordinance. TMs economic potential and its role in the conservation of the environment were recognized and groups of herbalists and other healers went under the Ministry of Health, their position being re-established.
Following the TM Act requirements, TMP began organizing themselves in associations and it is estimated that 75,000 TMP work today in Tanzania, 60% of the urban population and 80% of the rural population relying on their primary health care services (Mahunah 2002).

In the book *Edible plants of Tanzania*, published in 2002 by the Swedish International Development Authority and the Tanzanian Regional Land Management Unit it is stated that 60% of the Tanzanian plants are used as medicine. The propagation of medicinal plants in Tanzania was suggested already from the 1980s, when a project of planting “one tree per family” started, with focus on *Azadirachta Indica*, the tree known as *neem* (in Swahili it is called *mwarobaini*), for which the Tanzanian Wild Life Research Institute and the Ministry of Forestry provided the seedlings. Later on, groups of farmers were trained in growing and taking care of the seedlings, giving them a good source of income when they start selling the medicinal trees. (Stangeland et al, 2008) The Institute of TM medicine from Muhimbili University College of Health Sciences was opened in 1991 in Dar es Salaam and substantial research on medicinal plants covering 45% of the country was done in Tanzania, especially for the mountainous area and the east coast. The institute documented 2,500 species from the 12,000 plant species with medicinal value of Tanzania (ITM), but more studies are needed regarding plants bioactivity, safety, domestication and sustainability (Stangeland et al, 2008).

Pharmacists and biomedicine practitioners from other countries are as well interested in the active components of the trees from Tanzanian forests. As an example, Pia Fyrquist (2007) analyzed 17 tree species from miombo woodlands. She claims that *Combretum Loefl.* and *Terminalia L.* have antimicrobial, cytotoxic and antimutagenic effects, which means that through inhibiting the growth of microbes and cancer cells they can cure cancer and many of the very common African infectious diseases.

TMP provide health care mostly by using plants. Medicinal plants are available all year round and are at hand for many people who live far from health facilities or for those with a very low income level. The people’s belief that the plants have the power to bring health, improve conception, facilitate the labor and help the children grow, is another reason for which TM is often used (Rukia, 2007). Earlier studies showed that since 1993, when the cost for medication was introduced in Tanzania, the number of patients attending to modern medicine services decreased from 20 to 5 patients per day.

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6 The act does not give anybody the right to practice witchcraft or dangerous traditional health methods. The TMP has to work in clean and hygienically conditions, have an ethic conduct, respect the patients’ confidentiality, keep records and send to the hospital the difficult cases. Any TMP who abuses skills and professional privileges, denigrate his colleagues, or breaks the low of control of dangerous drugs will be interdicted from his practice (TM Act 2002:14,15,17).

7 The miombo woodlands are home to over 8,500 plant species, 3000 being trees.
1.3. Problem formulation

The modernization that has taken place in large part of the world did not include all individuals, and today there are one billion people living under a dollar per day, not having access to modern medicine. Although WHO encourages the use of TM in the less favored countries that need it, the TM knowledge and usage tend to disappear. In the developed countries this phenomenon has already taken place and it happens now in developing countries like Tanzania, even though the legislation (Traditional and Alternative Medicine Act 2002) began encouraging its use. It is then interesting and important to study in which situations TM is still used, by whom and what traditional healers, modern physicians, pharmacists and the people in Babati District, Tanzania, think about the future of TM.

1.4. Aim

The purpose of this study is to identify which traditional medicine people use in Babati District, Tanzania, and to find out which direction the local use and knowledge of traditional medicine is taking in comparison with modern medicine.

1.5. Research questions

1. Which traditional medicines are used by which categories of people and for what kind of health problems?
2. When do people chose to use TM and when MM?
3. How is the use of TM perceived by the citizens, government workers and practitioners of modern medicine?
4. How is the knowledge of TM transferred and what is done to preserve it?

1.6. Delimitations

There are different kinds of traditional practices in Tanzania, as for example: the use of herbal, animal and mineral remedies; midwifery, bone fixing, rituals, prayers and spiritualism. This study focuses on three methods only: herbal remedies, bone fixing and midwifery.
1.7. **Earlier studies**

2. THEORETICAL FRAMEWORK

2.1. Indigenous /traditional knowledge versus western knowledge

Preserving the local healing methods in less advantaged countries is important not only for biodiversity or economical reasons but, as indigenous knowledge, they are part of those countries’ tradition. In the development literature, the term indigenous represents “the culture of the original inhabitants of an area, as opposed to globalised culture. The term knowledge is meant to focus attention upon the contrast between local ways of knowing and interacting with one's environment versus the dominant understandings of economic development derived from modern understandings of development science.” (Dudgeon & Berkes 2003:75-76) It is a holistic knowledge, including values, beliefs and cultural tradition. Traditions are not static, the practices and beliefs are culturally transmitted to the next generations, they evolve and adapt to changing situations and that is why the term of indigenous knowledge can be seen as a synonym for traditional knowledge (Dudgeon & Berkes 2003:75-76, Dei 1993:105). Because of its detailed information, this knowledge endlessly brings contribution in different domains including health care, having importance for both communities and for researchers. Traditional and western knowledge have interfered with each other in the last five centuries and the two kinds of knowledge continue to differ. The traditional one has deeper roots in its context while the western knowledge “is divorced from the daily livelihoods of people and aims at a more analytical and abstract representation of the world” (Agrawal 1995:15).

Because of the lack of a common language, different perceptions of the causes and treatment of health problems, a parallelism between the modern and traditional medicine has always existed. TM is part of African – and even European – culture and the intervention of western medicine in the African health care created conflicts that should come to an end. The call of WHO from Alma Ata is maybe a beginning in bridging the gap between TM and scientists, providing “for a sustainable exploitation of TM for better health” (Mbwambo et al 2007:3), and for the preservation of the indigenous knowledge.

2.2. Colonialism, post-colonialism, modernization and development

Looking back over the past 125 years of Tanzanian history, one can see how the situation of TM evolved. Initially the Germans saw in healers a threat to their colonial ruling and labeled the
practice as witchcraft and uncivilized. However, missionaries incorporated traditional methods in their medical services, recognizing the herbal remedies as important. Military doctors also picked plants and sent them to Germany for scientific researches and by 1907 TM was part of the German East African health care system. When the British took over, they issued the Witchcraft Ordinance, but still, in communities with older traditional leaders, TMPs were allowed to operate. In 1968, after the independence and in relation with the population growth, a new ordinance was issued, recognizing the TMPs as part of the medical and dentist practitioners system, the government committing its policy in promoting TM in the year 2002, consolidating it by the Traditional and Alternative Medicine Act (Mbwambo et al 2007:3).

Rostow’s modernization theory states that a traditional society is a kind of degree zero of history corresponding to a natural state of “underdevelopment” and the shift to modernization is the main aim for it (Rist 1997:95, 96). As the take-off precondition was realized and some economic progress was noticed lately in Tanzania, the modernization process started a big change in which many of the values of the past are lost. The remaining ideas are only those that are valued today (Rist 1997:98). However, one should not forget the good parts of modernization, for example a longer life expectancy, due to proper education, better nutrition, water supply, growing prosperity and health care for those integrated into the system.

In the modernization, which is a form of westernization (Rist 2003:102), there is a big risk of losing traditional knowledge, mostly because of “cultural homogenization” and the international trade system that threatens it. (Agrawal 1995:28) If, in the attempt to modernize Africa the gap between TM and MM became big, it became even bigger in the developed Europe, where the market economy with its only value – money – and the promotion of pharmacological industry made almost impossible the recognition of natural remedies through the Directive 2004/24/EC of the European Parliament and of The Council of 31 March 2004 amending, as regards traditional herbal medicinal products, Directive 2001/83/EC on the Community code relating to medicinal products for human use. One of the directive requirements in obtaining traditional-use registration is that, the applicant has to have “bibliographical or expert evidence to the effect that the medicinal product in question or a corresponding product has been in medicinal use throughout a period of at least 30 years preceding the date of the application, including at least 15 years within the Community. A list of herbal substances and combinations is established and if a substance ceases to be included on the list, it will be revoked, unless “documents are submitted within three months” (Directive 2004/24/EC Art 16c(1), 16f(3)).
2.3. Poverty: the bottom billion

The modernization process has not included everybody. One sixth of the global population is still outside the welfare system, many people do not have a shelter, food for the day, access to clean water, sanitation and medication.

Paul Collier (2007:17-78) points out that conflicts, natural resources, bad neighbors and bad governance can be development traps for the poorest countries, meaning the countries where the per capita income levels and per capita GDP growth are the lowest. In those countries the government is not able to supply basic health, education, infrastructure, the property rights are not secure and the corruption is quite high. Tanzania, a country with resources\(^8\) but insufficient governance, a GDP growth of 6.4%, with 36% of the population living beyond poverty line (CIA Factbook) is one of the 58 fragile states that found itself in this situation.

In those countries, people are dying of HIV/AIDS, malaria and other preventable diseases which are connected to extreme poverty and in those countries the vicious circle of hunger, poverty, disease of poverty and death cannot be broken. As an example, in the African countries where malaria is highly frequent, the economic growth is 1.3% lower than in non-malaria endemic countries and scholars found out that malaria has greater impact when interacts with malnutrition: malnutrition increases malaria and malaria aggravates malnutrition, impeding in this way the prosperity of those nations (Gallup & Sachs 1998:9, www.earth.columbia.edu).

In those low income countries, there is also a 10/90 gap\(^9\) in what concerns the pharmaceutical industry investments in research and development of treatments for tropical infectious diseases, those diseases remaining neglected. (Stevens 2004:3)

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\(^8\) Tanzania possesses gold, natural gas, diamonds, coal, iron, uranium, nickel, chrome, platinum, gemstones (Tanzanite), forests, fisheries and wildlife (http://www.state.gov/r/pa/ei/bgn/2843.htm)

\(^9\) “10 per cent of global health research is devoted to conditions that account for 90 per cent of the global diseases” (Stevens 2004:3).
3. METHOD

This paper is the result of a three week visit in Babati, Manyara Region, Tanzania. As a research method, a case study was chosen because it is more than a description, relies on both qualitative and quantitative data and offers a great flexibility, giving a broad understanding of circumstances, communities, locations, people concerned and their culture, values and attitudes (www.colostate.edu).

Taking as starting point the affirmation that the most common TM method is the use of plants, at the beginning of the field work in Babati, the initial focus of this study was on the local use of plants, especially neem (mwarobaini) tree which is known for its many qualities, being called in Swahili “the tree of forty medicines”. However, during the research it was discovered that neem was used in the area mostly against malaria and as a pesticide, so the focus shifted to the local use of other different herbs in TM and other traditional health care methods in comparison with the modern medicine. A new aim was written, comprising of the identification of those traditional methods, their users in Babati and the ailments that they treat; TM future perspectives and how the TM knowledge is transmitted to the next generations and preserved became one of the research questions.

The study is based both on primary and secondary sources. The primary information was gathered mostly with the help of semi-structured interviews\(^{10}\), this flexible technique allows for follow-up questions that bring more useful information than structured interviews that exclude opportunities for discussions. The interviews were held between 1\(^{st}\) and 7\(^{th}\) of March, with a minimum of two long interviews per day with different healers, officials, pharmacists, all these people being relevant for a study about traditional and modern medicine. Thirty shorter enquiries of different categories of people regarding the use of traditional and modern medicine were made. The thirty “theoretical saturation” number of people was chosen because the bigger the quantity of information, the bigger the reliability and validity of the study of medicine methods used. 20 IP were chosen from urban and 10 from rural area, having education from seven grades – as one of the field assistants was saying: “Enough to know how to count and read” – to academics and other different professionals: taxi drivers, business men, teachers, students, technicians, secretaries, preachers, farmers. The selected

\(^{10}\) Semi-structured interviews are sets of questions that should have an open answer, asked to all IP. The informants will have then the same chance to talk about the same matter and, according to what the answer is, new questions will arise. It is a two-way communication tool, appropriate for small samples of IP. If a group of people will be interviewed with this method, the session should give a feeling of discussion, people being able to interrupt and “help out” each other. A circle miss-en-scène would be better than a line of people waiting their turn to be asked questions. The method is an efficient way of getting high validity data, people being able to talk in detail and depth about a matter but maybe not very reliable because the depth of the information is difficult to be analyzed (www.sociology.org.ukmethfi.pdf).
people were asked if they use and how they perceive the value and the future of TM. Rapid Rural Appraisal (RRA) methods for self wealth ranking were applied for finding if poor and rich people have TM amongst their medical choices.

For a good variation of people and places that could cover an area big enough of Babati urban and rural, trips to the villages of Himiti, Imbilli, Kiongozi, Mamire and in different neighborhoods of Babati town were done. Even information from more remote and traditional villages was brought for the study: Endakiso is far away from Babati, by car 90 minutes to reach this village. The visited places in Babati town were Mrara Hospital, the Masai grocery, which is a food place one can eat a soup mixed with herbal medicines, and a private mother and child care clinic. Those places were chosen because they are the most appropriate places to find information about the present health care situation, TM and modern medicine users. Observation was used as a method at the soup shop to see how many people are coming in an hour and order the medicine. Important persons to talk with were the traditional healers and to find them, besides the field assistants’ knowledge, the snowball technique\textsuperscript{11} was used. Some of the TMPs were visited at their homes or in their shops, masai vendors were found in the market or on the streets of Babati in order to discuss and find explanations and answers about the use and future of TM. The field work time was short but, used at maximum and therefore the gathered information is enough for forming a broad image of the health care situation in Babati, the usage of the modern and traditional methods and future perspectives.

While interviewing IP no recording machine was used, knowing from past experience of field works in Babati that people might hold back information, therefore brief notes and keywords were written down. This method was chosen instead of writing down the whole interview while interviewing for a good organization of the researcher’s and the IP’s time budget and for a good rhythm of the interviews. All the interviews were written down later, the same evening; in this way details were not forgotten or lost.

The field assistants were useful in finding the right IPs and translating in the cases when IP were not speaking English, meaning most of the cases. Some pieces of information might have been lost through translation.

Secondary sources were chosen carefully to be used as in-depth literature, in order to bring forth more relevant material and knowledge about TM and modern health care in Babati.

\textsuperscript{11} Technique in which the IP gives recommendations for recruiting future subjects in a research. It is used in cases in which is difficult to find the people one need to interview, like drug users or sex workers or in this study TMPs, which are “people with the specific range of skills that has been determined as being useful” (Goodman,1961)
Those sources were very useful for the background, theoretic discourse, local use of plants in Tanzania and for a careful triangulation of information that was received from different IP, as for example about primary postpartum hemorrhage (PPH), CHF, albino killings and TMPs registration. Sometimes it was the other way around, when IP confirmed that secondary sources are correct.

The difficulties in the field work were the fact that plenty of time was consumed in order to get into Mrara hospital for collecting information, more authorization papers being asked by the responsible persons; the impossibility of talking to an AMO or MM doctor and of not finding any health workers in the villages to be interviewed were also impediments for this study.

Authors of earlier studies revealed that healers asked for money in exchange for the knowledge. In this case study, the use of some Swahili phrases made the TMPs to open up and answer all the questions without reluctance and without asking for payment. Being a student they did not think about biopiracy even when answering questions about what herbs they use in curing what ailments or about the dosage. However, they said that they would not give the information to pharmacology researchers.

In terms of general difficulties, it is possible to name the fact that the author has never studied health issues, but this disadvantage was transformed in a positive characteristic, being taken as a challenge. Another problem was that sometimes people, not being experts in medical diagnostics, gave simple name to their ailments and it was difficult to understand exactly the health problems for which they go to hospital or for which they use TM. It is also very difficult to make people to talk in more statistical terms, to give numbers or percentages and to find out for example the proportion of mothers giving birth home and the ones giving birth in the hospital took a very long time.

As a critical reflection over this study, despite all the effort of triangulation some data might be unreliable, being difficult to find if the informants’ reality is the same with the general reality. Some internet sources are also not the most reliable ones, but they were used from the same reason, namely the difficulty of finding data.
4. **EMPIRICAL DATA**

In the Rift Valley, 172 km from Arusha on the way to Dodoma, one passes through Babati District. The whole district has about 300,000 inhabitants and is the administrative capital of Manyara Region. Babati town including the sub-urban area has 100,000 inhabitants. For the entire district there is one hospital and a few smaller health centers for Babati town use, the villages having sometimes health workers and in some cases, a dispensary. The health care in Babati is of low quality because of the lack of equipment, drugs and staff, some of the present personnel being under-qualified and not being always able to put the right diagnosis. The construction of the new district and regional hospitals is ready, but the two buildings are waiting for some time to be equipped and personnel to be employed.

4.1. **Health care in Babati town**

“Until the two bigger regional and district hospitals will be ready, in Babati there is only one overloaded hospital, a health center and a dispensary that is out of function. The many NGOs present in Babati – USAID, Aid Relief, AfriCare, Engender – do more administrative work, provide trainings and workshops and the latter has built a waiting room for mothers with babies in Mrara hospital. In the hospital there is only one fully trained physician (dr. Mayala), and the rest are AMOs. Another doctor who worked here went for further studies at Dar es Salaam, and as many others, he will probably not come back. The doctors prefer bigger towns with better possibilities. Medical doctors work until 15 o’clock and then they can work in private. In Babati doctors cannot make money after work in rural areas in private clinics and that is why they move to Dar es Salaam, Arusha and Dodoma or are looking for ‘green pastures’ abroad. The under-qualified personnel in the hospital can help people to the extent of their knowledge. This is the reason why we need TMPs as an alternative.” The statement above belongs to Thomas Stanley Malle, Babati town health secretary, the only available person that could be interviewed in the hospital, since all the rest of the personnel were very busy.

In the town of Babati there are only two fully trained pharmacists that work full time and one part time. These pharmacists are the only ones that sell medicines which are kept locked and are prescribed by doctors. Dr. Wayda is one of them. All the other *Duka la Dawas*, i.e. pharmacies, have as employees health workers that can sell displayed medicines like for

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12. According to the National Bureau of Statistic Tanzania, Babati town had 97,590 inhabitants in year 2002. The whole district counted then 309,750 people (http://www.citypopulation.de/Tanzania.html)
example aspirin and pain killers. On the wall of Wayda pharmacy hangs an advertisement for a medicine called Artequick, used in curing malaria. Most of the ingredients of this medicine are natural: 62,5 artemisinin, 3,25 peperoquin. The price for this medicine is 8000 TSh. There are cheaper alternatives for poorer people that cost 2500 Tsh, but according to dr. Wayda, they are not very effective. Due to their education and the development of the last years, urban people have the tendency not to believe in TM. Dr. Wayda says that the use of modern drugs and the number of hospital visits have increased in the last years. People from urban and semi-urban areas are the typical clients of pharmacies, the ones from country side are excluded because they cannot afford to pay medicines and health services in hospitals. The existing health insurances are usually for employed people. They pay 10000 TSh per year in order to get cheaper health care services and medicines. There is as well another kind of “insurance”, CHS - Community Health Funds13, for which everybody has the right for treatment and hospitalization, paying themselves 1500 TSh on a daily base, the rest being covered by CHS. The later insurances were never advertised and people rarely know about their existence. Besides, the distribution system does not function well and until it becomes better organized, the alternative for the poorer is to use TM (Masuma & Bangser 2004:2, 5).

4.2. Health care in Babati rural

In the Mamire dispensary the personnel shows their facility with pride. The family planning room will soon become a laboratory with an employed technician. The delivery room is very poorly equipped, having only an old delivery bed in the middle and a box of gloves in a corner. Women can rest in a room for two hours after giving birth. Two modern midwives affirm that in a month there are only four births at the Mamire dispensary and ten at home. Most pregnant women go to hospital to check the fetus health state from the first month of pregnancy, but not everyone does the four recommended visits before giving birth. The dispensary does not have the antenatal care and uterotonic drugs for bleeding control, so the women have to buy them. There is no doctor in Mamire and it is not clear if there is any AMO working here. One informant says that even though there is a dispensary in the village, 90% of the population goes to TMPs, bone fixers, give birth with TBAs or have medicinal plants in their own garden.

13 The Community Health Fund (prepayment schemes for rural population) was introduced about 20 years ago in Tanzania but the enrolment is quite low, people not being able to pay the join fees and therefore they have to pay for each treatment, which is more expensive. This is the reason why the very poor cannot benefit of CHF in an equitable way (Kamuzora & Gilson 2006).
Another visit was done in the village of Imbilili, 12 km distance from center of Babati, which does not have any health facility. The health workers only come here once in a month to vaccinate people in the school building.

The second visit was to Kiongozi village, which has the privilege of a tarmac road to Babati, a dispensary, an AMO and a nurse. The nurse went to Dareda nursing school only for one year; it is not clear if she abandoned the school because she did not pass the exams and could not go to next level of education, or if she had other reasons. She affirms that: “The number of people using modern medicine has maybe increased, but since people have to pay for medical care, not everybody can afford to use it. Often, when people cannot afford to pay, they ask the village chairman to write a document for hospital to help them get medical care without payment. Many families send their sons to work on richer people’s farms in weekends and the daughters as maids in town, in order to get money that the parents can use for medical treatments.” According to another informant, “because the personnel are under-qualified, the dispensary can only be used as a kind of first aid help. Sometimes, to get even this help, one has to bribe the staff, which anyway fails to give the right treatment. That is why the next step is to use TM”. Kiongozi has only one health worker, present every day in the small dispensary, the same person who is employed as mother and children care staff (MCH). The dispensary does not provide medicines and there is no duka la dawa in Kiongozi. From time to time the health care worker brings vaccines for people of all ages and some medicines for MCH from Babati.

In the mountainous village Himiti, 10 km outside Babati town, there is no dispensary and the roads to town are incredibly bad, mostly because of soil erosion. The village has started a process of modernization, people are now grouped in a business organization called “Tumaini”, working together and helping each other. According to one of the more prosperous women in the village, “five years ago TM remedies as mwarobaini were still used for treating malaria, but nowadays people go to the hospital because of the bigger variety of diseases. Even the poorer people prefer to sell a goat or a cow to get money and be cured in the hospital”. (X5)

Endakiso is a small masai village where the people live very traditionally. The village has a female “witch” doctor that is spiritualist, herbalist and traditional midwife. The inhabitants of this village seldom go to modern doctors, women give birth at home and only in case of complications they go to hospital.
4.3. The growth and use of medicinal trees in Babati

At Babati District Council, the Forest Officer Josian Uforosia Maanga gave details about the medicinal tree planting program from the 1980s, stating that “the operation continued with training the farmers in nursery and in the year 1994, when they could take care of their own seedlings and sell them to other farmers the governmental program got to an end.” According to Anatoly Rwiza, the Environment Management Officer of Babati District, today almost 80% of the population in Babati has mwarobaini (*Azadirachta Indica*) in the garden, people using it as mosquito repellent through burning the leaves or for keeping away the insects in their storage places mixing in the cereals dry leaves or leaf powder of mwarobaini.

Two farmers that sell seedlings in Babati town confirmed that they get a sound income from their tree production.¹⁴ In Himiti, the villagers have nurseries, grow mwarobaini amongst other tree seedlings and sell them in order to get funds for their organization and to pay the school fees for their children and the modern medical care when needed. They were curious about which other uses than malaria medicine mwarobaini has and when they were told about crop and seeds storage they wanted to know more about the method.

¹⁴ For a female tree, which is used for medical purpose, the seedling farmers charge between 500 and 1000 TSh and for a male tree that people plant for timber they get 300 TSh. In the good years, they sell around 500 mwarobaini seedlings.
A field assistant’s father, who is a farmer, planted mwarobaini after getting the seedlings from the forest management program back in 1990’s. Now he has two trees 15 m high, which they use as medicine together with mlonge (*Moringa Oleifera* - Photo 3), another tree present in his yard. The family use mwarobaini for timber as well, and this clarifies why the two trees have branches 6-7 meters above the ground.

![Photo 3 – Mlonge, the horseradish tree (*Moringa Oleifera*)](image)

Four masai herbalists use mwarobaini mostly in malaria treatment and when mixed with other herbs, against chicken pox, ulcer and typhoid. All the interviewed herbalists use one or more of the tree medicines listed in Table 1, and some of them even *Combretum* and, *Terminalia*, the trees analyzed by Fyrhquist (2007).

Other trees with healing properties used in Babati: 1) ndulele (*Spirostachys africana*) from which the leaves are used in Babati for ear problems, the juice from the fruits for pneumonia and the roots for stomach ache; 2) mlonge (*Moringa Oleifera*), used against intestinal worms and as disease prevention medicine; 3) Olmukutan (*Albiza anthelmintica*) – the seeds are used against intestinal worms and the bark and root in a medicinal soup; 4) sokonoi (*Warburgia salutaris*) against mouth sores and spots in the lungs; 5) Mlungulungu (*Zanthoxylum chalybeum*) for asthma, heart burns and headaches; 6) Aloe Vera for malaria, typhoid and all kind of problems with intestines.
Table 1. Local use of plant remedies. Source: Kitula, R.A. (2007)

<table>
<thead>
<tr>
<th>Complication cured</th>
<th>Species name</th>
<th>Local names</th>
<th>Part(s) used</th>
<th>Process</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart burn, pneumonia, Irregular menstruation period and</td>
<td>Embelia schimperi</td>
<td>Mnyainyai</td>
<td>Leaves, root</td>
<td>Chew, boil</td>
<td>Swallow, drink</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Cyphostema sp.</td>
<td>Mtogonigo</td>
<td>Leaves</td>
<td>Pound, boil</td>
<td>Drink</td>
</tr>
<tr>
<td>Worm infestation</td>
<td>Cyphostema sp.</td>
<td>Mtogonigo</td>
<td>Root</td>
<td>Boil</td>
<td>Drink</td>
</tr>
<tr>
<td>Headache</td>
<td>Zanha africana</td>
<td>Kiwangaduma</td>
<td>Root</td>
<td>Boil, pound</td>
<td>Drink, sniff</td>
</tr>
<tr>
<td>Convulsions</td>
<td>Zanha africana</td>
<td>Kiwangaduma</td>
<td>Root</td>
<td>Boil, pound</td>
<td>Drink, sniff</td>
</tr>
<tr>
<td>Convulsions</td>
<td>Zanha africana</td>
<td>Kiwangaduma</td>
<td>Leaves</td>
<td>Pound</td>
<td>Drink and apply the whole body</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>Solanum incanum</td>
<td>Ndulandula</td>
<td>Fruit</td>
<td>Cut, squeeze, boil</td>
<td>Insert to the anus</td>
</tr>
<tr>
<td>Snake bite</td>
<td>Citrus aurantiolia</td>
<td>Mdimu</td>
<td>Fruit, leaves</td>
<td>Cut, boil</td>
<td>Drink</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>Bersama abyssinica</td>
<td>Mnyatoma</td>
<td>Leaves</td>
<td>Pond</td>
<td>Drink and apply the whole body</td>
</tr>
<tr>
<td>Measles and epilepsy</td>
<td>Sonchus schweinfurthii</td>
<td>Sungasunga</td>
<td>Leaves</td>
<td>Pound</td>
<td>Apply to the whole body</td>
</tr>
</tbody>
</table>

4.4. TMPs – herbalists and bone fixers

Said Juma, 85 years old, learned the secrets of TM from his ancestors. When asked “why is mwarobaini called the tree of forty treatments and village pharmacy” he answered: “It is just a name. I made my research on different medicinal trees that are more useful”. He used mwarobaini successfully in curing rheumatism and for this he gave the best example of himself: “I suffer of rheumatism, and some years ago, being really sick, I collapsed and my family took me to the hospital, where I stayed for 45 days without any improvement. I asked the permission to go home and as soon as I got back I took mwarobaini mixed with two other herbs. In four days I could treat what the modern medicine could not in one and a half month”. However, he says that one of the disadvantages of taking medicinal herbs is that sometimes one has to take them for long periods before they give results.

Isaack Mollel, of chagga ethnicity, opened a shop where people go and drink a medicinal soup. He uses a mixture of 26 traditional herbs, which he boils for two hours, used in curing diseases like gouty arthritis, malaria, tonsils problems, headaches, fatigue, heart burns, hormonal disorders, typhoid or as preventive means. He pours a big spoon of this “cocktail” in a bowl, always the same size, and fill the bowl with soup because, due to its strength, the medicine cannot be taken without being diluted. He has clients of both sexes, men prevailing. He uses for men and women two different kinds of medicine. He learned the recipes from his

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15 Gout, a disease most common in men, causes attacks of pain, swelling, and stiffness in a joint, harming over time the tissues, tendons and joints. It is caused by uric acid in blood that can form crystals in the joints especially for people that are overweight; alcohol or high chemicals polluted fish consumers (www.webmd.com).
grandfather and he passed the knowledge to one of his two sons. He worked as a policeman and whenever his work colleagues got sick, they asked him to prepare the medicinal soup. In those cases he was taking a day off from work to go to the forest to pick plants and cook his medicine. He did not want publicity but the news spread and more and more people were coming to him asking for help. When he retired he decided to open his “Massai grocery”, and now, every morning 40-50 people are serving the herb breakfast at his shop. He explains that a complete cure is 5 days/once a day or 3 days/twice per day. The price for one soup is 2500 TSh. According to his statement, the clients are of all kinds: hospital doctors, government workers, educated as well as uneducated people from rural and urban area. He does not believe in MM because of the side effects.

The Traditional healers and midwives union of Tanzania leader for Babati, Adam Issuja, of burunga ethnicity, did not learn from his forefathers the secrets of plants. “I have got this ability of dreaming which herbs to pick to cure ailments like malaria, pneumonia, stomach ache, typhoid, asthma and cancer.” His clients are mostly the poor ones. He always sends them to the hospital to make blood tests. Depending on the disease and the length of treatment, he charges between 5000 and 20 000 TSh for a cure. “This is cheaper than the fee they have to pay if they must stay in the hospital, to buy modern medicine and to travel to the hospital”. Sometimes people come to him when the disease reached its climax and then it is too late. If these people die, the MM doctors blame him. He is very disappointed of people that say that TM are not scientific, as they are in India and China, where the TM systems are thousands of years old and many of the herbs used are now part of modern medicine. About the government encouraging or discouraging TM, Issuja says: “The law changes often. Sometimes the government forbids us, especially when hospitals lose patients because of the fees charged. When the hospitals have too many sick people and their capacity is not enough to treat them, we are again asked to help”. According to Issuja, there are about 200 traditional healers and midwives in Babati District. The organization has 60 members, including some of the TMPs contacted during this study. The government in cooperation with different NGOs organizes once in a while workshops to teach the registered TMPs how to keep their medicine in hygienic conditions and to give them other practical advice.

Iddi Hewassi, of gorowa ethnicity, needed seven years of apprenticeship to learn from his father how to fix bones 28 years back. He has three to ten patients per week and his clients are people of all categories. “In hospital they put wet plaster on broken limbs and when it dries it deforms the bones.” Sometimes he has to break the hospital fixed bones again and let them grow together naturally in the right position, just with two sticks bandaged around the fracture for about six weeks. He would like to collaborate more with the doctors, but the modern medical care system does not encourage this cooperation.
The bone fixers in Mamire could not be interviewed during the field work, since they were busy with their work. The field assistant explained that people with broken bones form different parts of Tanzania come to Mamire to seek help. One of the informants talks not only about the efficacy of the method, but also about the price: “The traditional bone fixing costs about 1000 Tsh while the hospital might charge up to 300 000 TSh. This information was confirmed by another informant: “When I broke my arm, from the first visit to the removal of plaster in total it costed me 50 000 TSh, Where I live it is cheaper because there are more dispensaries in that area. It is as the market economy: the fewer demands, the more expensive. I can say I was lucky to pay only 50000 and not 300000.” (field assistant)

4.5. Traditional and modern midwifery

Elisabeth Raymond, of warangi ethnicity, 80 years old, does not make a living from being an herbalist and midwife, because she, as many other old healers, does not ask for money, she only accept gifts: “People like my visitor today give me food for many weeks.” She states that she stopped assisting births since the government did not allow this practice many years ago, but women continue to see her to be examined. She sends the women to give birth in the hospital, but she admits that sometimes she gives them herbs for an easy delivery 16. She does not see any connection between the herbs and hemorrhage and is ready “to swear in front of her Christian God” that none of those women was in danger: “The women do not become weaker because of the herbs, they are already weak, because of the lack of iron in their nutrition or anemia due to malaria”. She has assisted 20 births, all children survived and their mother’s lives were safe. “In those years of practicing, three of ten women were dying in the hospital while for those assisted by TBAs the ratio was one of ten. She does not know the situation today but she is aware that there are more dangerous diseases than when she was younger and this is the reason of more childbirth deaths.

Another herbalist involved in midwifery, Hawa, of wrangi ethnicity, so old that she “forgot when she was born”, cannot tell the number of the births that she attended. She learned from her grandmother and she is still practicing, traveling to different villages when people ask for help. She charges 3000 for a delivery, but sometimes, if the women are very poor she might ask them to give her just a soap or gloves for protection against HIV. She found out that in Dodoma the TBAs are paid salaries and she is disappointed of this discrimination between the regions.

16 It was not possible to find out from any informant the name of the plants used to stimulate the contractions and dilate the cervix in order to have easier deliveries. Secondary sources state that Beth Root or Birth Root (Trillium erectum) is used safe in Peru in combination with Blue Cohosh (Caulophyllum thalictroides), Golden Seal (Hydrastis canadensis) and Squaw Vine (Mitchella repens) for this purpose.
Clementina Daniel Tanero, is a member of PRINMAT (Private nurses and midwives association of Tanzania), organization that, according to the slogan on her t-shirt, endeavors for “healthy mothers, healthy children, healthy community”. In 1997 she opened a hairdresser's salon and a health care center for women and babies in Babati town. In this facility there are two qualified midwives, one full time and one part time and also an AMO working part-time as a doctor. The strategy to promote birth-giving in modern facilities is to encourage the TBAs to bring or send the women to their private clinic, the clinic offering to those TBAs 5000 Tsh as a sign of goodwill. The clinic offers rooms for rest after delivery for 24 hours, in comparison with the Mamire dispensary, where the time for rest is only two hours. The clinic offers family planning information, HIV/AIDS tests and examination of the general state of health for both parents. During the interview, the place was empty. A young mother passed by just to weight her child. Tanero explains that there are one to three deliveries per week. Sometimes three-four weeks pass without a birth but she is not worried: “Nowadays there are more women going to the hospital or coming here to give birth instead of delivering home.”

4.6. The position of MM representatives regarding TM

Thomas Malle, the Town Council Health Secretary, believes that the traditional healers need more recognition from government: “There is a section in the Ministry of Health that works on this issue, but it seems that this is just politics. We here support the TMPs, we started a plan of action in July 2010 and we intend until June 2011 with the help of their leader to map and facilitate two-day meetings for registration and certification of 45 healers. To be certified they need a recommendation from their ward officers. If TMPs are registered it is easier to control a wrong treatment and to keep away fake healers and witchcraft practitioners.”

Regarding the positive and negative aspects with TM, Malle believes that: “The good thing with TM is that is cheap and can cure effectively. The only negative aspect is that women with long labors are visited in the hospital by family members that bring herbs to facilitate the delivery and this might provoke PPH. “Due to the raise in the number of death because of PPH, a long meeting in the obstetric and gynecology section of Mrara hospital took place today.”

According the private nurse Tanero, “TBAs are a threat for maternal care. In 2002 the government trained them, but soon the number of childbirth deaths increased, because they did not sterilize and know how to use the instruments, and the government forbade this practice. TBAs do not make HIV tests, by this not controlling the transmission of HIV from mother to child. Women die of PPH, since TBAs do not administrate Misoprostol tablets as
antenatal care and Oxytocin, ergometrine or any other uterotonic drugs as we do here\(^\text{17}\) and if there are any complications, they do not send the women to Mrara Hospital."

Other aspects were mentioned by the pharmacist Dr. Wayda: the fake and dangerous witch doctors and albinos killings. “Witches or spiritualists should not have the right to exercise their practices. In their ignorance, superstitious people trust them. Witch doctors have taught them to kill albino people and take a finger or an organ from them, saying that this will bring them luck and they will become rich.” He believes that TMPs should be only the ones that give medicine to sick people to drink or apply on the skin. He has also a good opinion about the bone fixers: “They are really competent and the hospital should cooperate more with them”.

4.7. Health behavior patterns

People of different categories, ages and professions were interviewed. From the sample of 30 people, 10 were from rural area and 20 from urban area. From 30 subjects 25 used at least once TM remedies or went to bone fixers; 9 of the 25 that use TM have higher education; the others went to school up to 7th grade. Although one of the reasons of using TM in Babati is the poverty, there are also rich people that refer to TM. Four out of thirty consider themselves as wealthy. All four have their TMP advisor in Babati or in other regions, traveling hundreds of km to get their TM “elixirs”. Five out of thirty had never used TM and in contrast, many of the 25 that use TM never went to hospital or used modern drugs. Six said that they take TM remedies in easier cases like flu, skin rush, headaches, in malaria prevention purpose, but for more complicated health problems they go to the hospital. Many of the TM users said that they go to hospital only to test their blood “because of the existence of many other diseases than malaria nowadays. One should go to hospital, because there blood tests are made and a diagnosis is established”, explained a young informant. Among the interviewed women, one gave birth two times in the hospital and once at home, and another younger woman had two births at home and one at hospital. They were pleased with the TBAs services, affirming that “they worked hygienically, wearing gloves”. One man said that his wife gave birth only at home, but this was long time ago, now because of HIV spreading he would send her to the hospital.”

\(^{17}\) 25% of maternal deaths are caused worldwide by PPH. Earlier studies concluded that in Tanzanian hospitals there is a poor knowledge in how to administrate correctly these drugs and this is a hinder in reducing the maternal mortality rate by 75%, which is the MGD for 2015. (Mfinanga et al, 2009)
Table 2. IPs about their positive experiences with TM

<table>
<thead>
<tr>
<th>IP</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thomas Malle, the town health secretary, whose grand-grandfather was a bone fixer</td>
<td>“When I was eight years old, having a bad cough, my grandmother brought home a medicine that cured me very fast. If children of ages between 3 and 10 take it, they will never get asthma.”</td>
</tr>
<tr>
<td>Muslim school in Babati town, two students and a teacher</td>
<td>They have mwarobaini at home, which they use as medicine. All the other students said that at least once in their life they used TM remedies with good results, usually against malaria.</td>
</tr>
<tr>
<td>X3, farmer, 67 years</td>
<td>Often takes mlungulungu (Zanthoxylum chalybeum) that he picks in the forest; he drinks the soup in Babati when he has fatigue and then he feels “fresh.”</td>
</tr>
<tr>
<td>X8, teacher (Five other informants agreed with this statement and some recognized that they go to hospital just to make blood test. When they know what the problem is, they use TM.)</td>
<td>“I myself take TM remedies, I forgot when I took last time modern drugs for malaria but if my children get sick I go with them to the hospital. If modern medicine does not cure them, then I might use TM. It is both ways.”</td>
</tr>
<tr>
<td>X12: business man, 48 years</td>
<td>“I have never been to the hospital since I had typhoid ten years ago and the treatment I got there did not help. I have diabetes and the soup-medicine is the only thing that can control the sugar level in my body and the high blood pressure.”</td>
</tr>
<tr>
<td>X24, teacher, 25 years</td>
<td>“My grandmother was a herbalist, she died last year when she was 120 years old and transmitted her knowledge to one of her daughters, my aunt, who is 70 and never in her life went to hospital. This aunt taught me to pick herbs good against malaria, diarrhea, head and stomachache which I still use sometimes.”</td>
</tr>
<tr>
<td>X28, farmer, has 7 children, all were born in hospital, was a security guard and because of his eyes problem had to retire; never got retirement pension</td>
<td>“I use modern medicine but I cannot afford an ophthalmologic control and to buy glasses. The glasses only will cost me 40000 Tsh”.</td>
</tr>
<tr>
<td>X29, academic, came to Babati for his mother’s cancer</td>
<td>“Chemotherapy kills people in no time and only the TM that the medicine woman gives stops cancer cells’ spreading and help the tumor to reabsorb.”</td>
</tr>
<tr>
<td>X30, enough rich to afford modern medicine remedies, has chronic malaria (His 5 years old daughter was helped by the bone fixer.)</td>
<td>“You get some valium in the hospital for blood pressure but the problem is not eliminated and the relief is slow. That’s why I take everyday half spoon of ‘magic potion’ prepared by a herbalist: I can see the difference.”</td>
</tr>
</tbody>
</table>

Some negative opinions were also gathered: “It is difficult to measure the dose and this might be wrong. If one takes too little, his state of health would not improve and if the dose is too strong people might get much worse”; “Some herbs are very bitter”; “It takes long time to cure with herbs.” “One cannot use herbs for all the diseases”; “It is a matter of education.”

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18 It is not to forget that the Islamic medicine used in Tanzania is unani, a more that 2000 years old system, based on the ancient Greek ideas about hygiene, diet, virtuous life, which Hippocrates and Galen left as heritage to the medical world, mixed with people beliefs.
4.8. Traditional knowledge: quo vadis

“The local knowledge will collapse if the next generation is not interested to learn the secrets. This is just because the young people westernized and got new beliefs.” (Kalasinga, traditional leader, 72 years, of gorowa ethnicity)

The town health director T.S. Malle and the town council director K.R. Mungo have the common opinion that “the government should encourage and take stronger measures to keep the TM knowledge alive, since the need of TM as an alternative to modern medicine is quite big in Babati.”

One of the TMPs explains that she passes the knowledge to her daughter, but she noticed that “the girl is too lazy to go up on the mountain to pick herbs. This laziness characterizes the whole young generation.” The much older and experienced herbalists are very disappointed and do not trust the younger ones: “The really good traditional mganga19 passed away. The young healers might sell the right medicine but they do not tell people how to take it, so the dose might be wrong”, or: “The ambulant herbalists have a numbered list of treatments for different ailments. People buy from them ‘cure number 5’ and in two-three weeks, if they do not see any improvement of their health, they go to talk to these masai vendors, but they are not there any longer, they moved to other towns.” The soup-medicine provider is more optimistic. He started to work with TM only after retirement from his police job and he already taught his two children his medicine “formula”. They are now students and will have other jobs, but later, when people will ask their help, “for sure they will go back to TM practice, the same as I did.” A masai medicine shop owner believes in his son who is twelve years old and knows already a lot about herbs. He is optimistic and hopes that one day he and his colleagues will find a cure for HIV/AIDS. Only one of seven TMPs believes that the TM will dominate in the future.

First TBA confesses with sadness that “being a midwife is a hard job, for which my daughter could not qualify, so I stopped teaching her”. The second one says the opposite, is easy to learn and she teaches her daughter, besides she knows that many other TBAs in the villages train young girls for this vocation.

First modern, private midwife interviewed thinks that in a near future the traditional midwifery will disappear: “Slowly-slowly, when ignorance will be eliminated by education and when people will have a better financial situation there will be no need of TBAs any longer.”

19 doctor (Swahili)
The interviewed bone fixer said that he taught five people his knowledge, but four of them— who were not even related to him—did not stay too long as apprentices. “Since in our modern times money is the most valuable for many people, the young bone healers do not appreciate the small gifts they get, they want to be well paid. Older TMPs do not charge money being pleased with whatever presents the clients give them.” Of the five people only his son was eager to learn and now he is skilled enough to be sent to repair bones, while the old bone fixer is busy with other persons in needs, in other villages or in Babati town. He is an optimist and keeps alive the hope that in his turn, his son will pass this knowledge to one of his children.

A taxi driver noticed that there are more people who seek modern medical care than some years ago and maybe over time nobody will go any longer to traditional healers. “I sometimes drive people from Sigino, a village which is located 6 km outside town and from Himiti. But still, few pregnant women take the taxi to the hospital, maybe one or two per week.” A farmer and a secretary believe that the use of TM will increase and prevail in the future. A young teacher sustains that the traditional knowledge will vanish in time and other informant, a volunteer in Dareda hospital believes that “TM is already lost; nowadays people find relief at modern facilities and with doctors”.

5. ANALYSIS

**Beliefs, income, education and modernization**

As this study showed, from 30 informants, 25 use or had used TM at least once in their life. A few informants sustain that it is the non-affordability of MM that makes people from rural area to go to traditional *mgangas*. They have no other choice. Many people go to bone fixers because it is much cheaper and because they are competent. There are also richer inhabitants in Babati that use traditional methods as per their conviction and not because of economic reasons. Thus, “the bottom million” health behavior is confirmed only partly by the empirical data. The more fortunate people see in herbal remedies a panacea for all their health problems, believing that: “Herbs are better than hospital.” They do not trust the hospital personnel because of their under-qualification and failure in establishing the right diagnosis: “Hospitals fail in curing people.” Other people go to hospital to check their health state or if they get sick, to find out exactly what disease they are affected of. Then depending on their beliefs, resources or education, they chose if they will use TM or MM remedies. However, it was difficult to determine if people go more often to the hospital than to pick plants to cure themselves or the opposite.

Even in places where there is a dispensary, women have more births home, due to more confidence in TBAs that live in the village than the in under-qualified modern midwives and AMOs working in the dispensary. Sometimes women are just “afraid of knife”, they do not want to give birth through Cesarean section and sometimes the families are the ones who decide for young pregnant women how and where they will give birth. Usually, the elder people in the families prefer the traditional methods. And not the last, as one of the IP said, the preference to chose TBAs depends also on the economic status: “It is cheaper to give a gift to traditional midwives instead of paying the transport to the hospital, buying the medicines that the hospitals most of the time do not provide for and sometimes bribing the health care personnel”.

In the process of modernization many villages changed their preferences from TM to MM, but still, the usage differs from place to place. Remote villages like Endakiso, continue to live in a very traditional way, using only their witch doctor’s services while villages like Himiti prefer the modern health care services, even though there are still poor people in the village and the roads to the hospital are in a very bad state. The situation in Himiti can be interpreted as a sign of development that changed the trends in only five years. In Kiongozi, even though the road to town is good and there is a dispensary in the village, there are still many people using TM.
It is maybe a question of old and new generation? More people live in Babati town today and the towns are more modern in thinking than the villages. TM and MM are at a cross-road and the question is which way people from villages as for example Endakiso, where TM is still preserved will go.

Even in the urban area there are differences between groups of people. It is somehow a paradox if one compares the opinion of old people from the high elevated village of Himiti with the statement of the young students in the Muslim school from a central area of Babati town about their families using more traditional remedies than modern medicine. It is maybe because the Muslims are a more traditional, wherever they dwell, in towns or in villages.

Future perspectives

The TM, still exists, after thousands of years of practice, even though its use was suppressed in colonial times. In the process of development of the last century, it did not disappear totally across the globe. But, as one of the informants said, this knowledge depends on the future generations: if they are not interested to learn the secrets, the loss will be even bigger, endangering with the disappearance of many other vocations that existed in the past. The changes that modernization and globalization brings along are decisive for the future of TM.

There are pros and cons regarding TM and TMPs. TBAs are controversial and traditional healers are considered by people to be not only herbalists and bone fixers, but also spiritualists and the "ritualists", in other words witchcraft practitioners. The last ones are not accepted in the healers’ organizations and are prohibited in Tanzania by the Traditional and Alternative Medicine Act, mostly because of the reported cases of death in the past. Over the past decades, even the herbalists’ work was banned sometimes, until the TM Act was issued. Herbs are the base ingredients of many modern medicines and the herbalists possess the secrets of those active components. Therefore, to preserve those natural methods of healing people and cure diseases, for the future of medicine and pharmacy, is important. The result of this study shows that many of the traditional healers have no one to pass the knowledge to for the next generations. In this case, the trends showing a big loss in indigenous and traditional knowledge are confirmed by the empirical data and even by other theories, as for example Agrawal (1995:28), who affirms that the skillful herbalists are “fated to disappear and their knowledge certainly cannot be saved in an archive if they themselves disappear”.

Another theory is also confirmed by the study. As long as the knowledge is transmitted orally, the inexistence of documentation makes difficult the pouring of old wine in new bottles and
the herbal remedies’ road to modern medicine will be longer than it should. If the two kinds of medicinal knowledge – traditional and modern – will not cooperate, the divide will continue to exist for both developed and undeveloped countries. The herbal combinations and substances like the Ayurvedic medicines that were used for thousands of years in India and developed over time according the needs of the day and circumstances, get hindrance in the western world through different European laws that are enlarging the gap. As a paradox, in the undeveloped countries where the bottom billion people try to survive the diseases of poverty, the modern pharmacy industry does not invest in research for developing drugs and, at the same time, the TM is not encouraged either by the government.
6. DISCUSSION

Modern times

Times have changed, money is the exchange currency for everything and everywhere across the world and small gifts are not as appreciated as before. Not everybody affords to pay money for their health and TMPs need to make a living from their work in our days, as everybody else. Usually they do the healer work as a secondary activity, some of the TMPs and TBAs informants being farmers, tailors or retired from different paid jobs. Maybe an informal market for services exchange is a solution for the TMPs to have a fairer and more appropriate payment. From this point of view, modernization and the money issue weight heavily in the disappearance of TM. One of the informants said that back in colonial times, the leaders of a traditional community took care that skillful people like healers have their needs met, so they did not have to charge the sick people when they came for help. Today, this community help is not practiced any longer and by comparison with modern doctors that get paid in salaries and sometimes even bribes, the TMPs have to struggle very hard for their existence. In these conditions it is clear that the young generation is not interested in learning to work with TM, a fact that can lead to the loss of this knowledge.

Official and “unofficial” payments

Since the introduction of payment for health care in 2004, many poor households faced a big burden, a big amount of households not being able to pay for the treatments of their members’ health problems. With the exception of pregnant women and children under five years old and people over 65 years, everyone has to pay officially the fees for consultations, the cost of drugs, transportation and supply. But through sophisticated methods, like for example not pretending that there is a shortage of drugs, or for reducing the waiting time, bribes are still often required by personnel and health workers for both payers and non-payers of health care (Maestad & Mwsingo, 2011). According to the Economic and Social Research Foundation, the second most corrupt area in Tanzania is the health care sector (The President’s Emergency Plan for AIDS Relief 2008 Country Profile: Tanzania, 2009). Older surveys (REPOA & Afrobarometer) show that 15% of the population had a personal experience with corruption, having to pay bribes in order to get medical assistance. “What you give is what you get” is how the system works, if you give a good bribe you get good service and the opposite (Maestad & Mwsingo, 2011).
**Standard conditions in hospitals, dispensaries and private clinics in Babati**

From the field visits it was noticed and confirmed what was already known from earlier studies, that the health care facilities in both urban and rural areas are inadequate, understaffed and sometimes totally inexistent. A low level of health care is offered also at district level, there being only one fully trained doctor in Mrara Hospital. The equipment is old and derisory and therefore it is sometimes impossible to set the right diagnosis. Babati is waiting for the new district and regional hospitals to be finished and opened for health seekers. The circumstances in the private clinics of Babati are even worse, the mother and care dispensary “Prinmat” equipment and rooms being much below the standards in Mrara hospital. One cannot say that the facility provides better services than most TBAs. The owner of the clinic, at the end of the visit wanted to show more of her possessions, and opened her next-door hairdresser’s salon, where everything was fashionable, new and looking quite expensive. The question that arises is if she cares more about the clinic or about the salon?

**Good intentions**

As any other traditional knowledge, TM is not static, its practice was always transmitted to the next generations, evolving and adapting to the new prevailing health problems. In nowadays Africa, TMPs use their knowledge in curing cancer, diabetes and an increasing number of healers are even trying to develop a cure for HIV/AIDS, the most devastating disease on the continent. This work continues also in Babati, where all the interviewed TMPs said they try to find a cure for HIV/AIDS. People living with AIDS get their help with natural medicines that break the evolution of the disease. The healers here usually work by themselves and a good idea for better results would be for them to join together in their work. Tanzania has more than 1.4 millions people suffering from HIV/AIDS. The Tanzanian Institute of Traditional Medicine is part of a network that tries to find plant-based affordable remedies. This African healers’ organization is called PROMETRA, and it defines itself as “an international organization for the preservation and restoration of the ancient arts of traditional medicine”. Their work is beneficial because not all the people living with HIV/AIDS in Africa have the accessibility to modern medicine (www.idrc.ca).

**TM in medical schools**

In Europe as in Tanzania, not many specialized in health care colleges have courses of natural medicine; traditional healing methods being taught only in private schools or popular
universities. The vision of a sustainable development, meaning the development with all its three dimensions – economic, social and ecologic – includes the idea that traditional knowledge should be preserved and the gap between it and the modern and western science should be narrowed. This old knowledge can and should be introduced and made known in more medical schools across the world.

**Basic needs for all …**

The question that is rising is if there is any hope for the poor ones in Tanzania, as for all the bottom-billion people of this world. Will they ever get a better economic status, as the private nurse Tanero affirmed with certitude, that state in which everybody will meet their basic needs including accessibility to health care and in which sooner or later there will be no need of TBAs and TMPs? In the new paradigms of development, not only the gap between science and traditional knowledge is getting bigger, but also the gap between poor and rich. Will we one day find a solution for all those people on the planet who are living at the margins of society to have a better life? These people will not disappear over night. Even though some nations and people get better, an economic crisis as the current one can come anytime and pull back everything, and in such a situation, people have to go back to TM, if this alternative is still available…
7. CONCLUSIONS

One of the conclusion of this study is that a majority of people from both Babati urban and rural areas, of different ethnicities, ages, education and professions use or have used at least once TM remedies for ailments of all kinds: malaria, diarrhea, stomachache, headache, diabetes and even cancer. They also go to bone fixers for fractures and almost 50% of the female population gives birth at home, assisted by traditional midwives. People use MM services for blood testing, for serious problems, operations, or in cases in which TM does not cure them. Sometime is the other way around, if the MM fails to cure, they refer to TM.

In Babati herbal remedies are the most used from all the TMs. Not only healers use or recommend them, but also an impressive number of people have in their gardens medicinal trees, mwarobaini being well known by everybody and used very often successfully against malaria.

The town council health secretary and governmental workers, as for example the town Director, have a positive attitude regarding TM and even modern pharmacists think that traditional healers are competent in some fields. There are not many positive opinions though amongst MM practitioners about midwifery and easy delivery herbs.

But still, the gap between TM and MM is big and more effort should be put in dismantling the divide between “we”, the western modern medical doctors “them”, the traditional mganga. When we recognize how these two types of knowledge are similar, we can begin a “productive dialogue that safeguards the interests of those who are disadvantaged” (Agrawal 1995:31). If in Tanzania the governmental work regarding traditional medicine “is only politics”, there is no chance to bridge this gap.

According to the pharmacist Wayda, worldwide, in the long run, all the traditional herbs that have active components will find their way in the modern medicine. There is no other way, but it takes time to make researches regarding the identification of materia medica. The herbalists die without revealing these secrets outside their family circle. Sometimes, if they see that their children are not able to qualify as TMPs, they stop teaching them and the knowledge is getting lost, there is nobody to continue it. To standardize a new medicine one has to come with the exact active components, the exact dose, statistics about how successful these herbs were used, and such statistics and documentation do not exist. The TM Research Institute and pharmacy university from Dar es Salam encourages the farmers to cultivate medicinal trees for researches. From the 12 000 plant species in Tanzania over 4000 have medicinal qualities. Many are recognized already by the modern pharmacy, but
much more studies have to be done. Researches are made only where there is potential for success and besides, there is a lack of funds and professionals in Tanzania, so the researches are not really seriously done.

Therefore, to preserve TM in Tanzania and all the “bottom billion” countries as an alternative at hand for all the less fortunate people that do not have access to modern health care, it is very important.
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