

**Investigating the challenges and benefits of traditional medicine:  
Case study Tanzania**

by  
**Shaun B.A. Dunn**

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Supervisor: Prof. Claude G. Mung'ong'o

Ms. Candice Kelly

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## **Declaration**

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## **Abstract**

Traditional medicine is widely used across the world. In developing countries, it plays an integral role in the culture and way of life of both traditional communities and those living in urban settings. In developed countries, traditional medicine has renewed appeal due to discontent with western medicine. However, traditional medicine is experiencing numerous challenges. This study was conducted in Tanzania and aimed to understand the challenges to and benefits of traditional medicine in an East African setting.

A qualitative approach was taken, exploring the existing literature to understand the challenges and benefits, and then conducting empirical research via a case study, to explore the lived experiences of these challenges and benefits in Tanzania. Interviews were conducted with eleven traditional healers in Dar es Salaam and the Manyara region, as well as two experts from a university setting. These findings were thematically analysed.

This study found that traditional medicine plays a key role in the lives of Tanzanian people. It is widely used as it is more accessible than conventional healthcare; it provides livelihoods for many; retains strong links to culture, and its medicines have other benefits for the body. The sector is poorly regulated, with very little government support provided to healers. Plant resources are increasingly threatened and biopiracy already occurs. Programmes seeking to strengthen traditional medicine should focus on protecting biodiversity for future use, and finding ways to commercialise traditional medicine to take advantage of the increased global demand, while sharing benefits with those communities who developed the knowledge.

## Opsomming

Tradisionele medisyne word algemeen regoor die wêreld gebruik. In ontwikkelende lande, speel dit 'n integrale rol in die kultuur en leefwyse van beide tradisionele gemeenskappe en diegene wat in stedelike gebiede woon. In ontwikkelde lande, het tradisionele medisyne appèl hernu as gevolg van ontevredenheid met Westerse medisyne. Tradisionele medisyne ondervind egter talle uitdagings. Hierdie studie is uitgevoer in Tanzanië en is daarop gemik om die uitdagings en voordele van tradisionele medisyne in 'n Oos-Afrikaanse omgewing te verstaan.

'n Kwalitatiewe benadering is geneem wat die bestaande literatuur verken om die uitdagings en voordele te verstaan en daarna is empiriese navorsing uitgevoer deur 'n gevallestudie, om die geleefde ervarings van hierdie uitdagings en voordele in Tanzanië te verken. Onderhoude is gevoer met elf tradisionele genesers in Dar es Salaam en die streek Manyara, asook twee kundiges van 'n universiteit instelling. Hierdie bevindings is tematies ontleed.

Hierdie studie het bevind dat tradisionele medisyne 'n belangrike rol in die lewens van Tanzaniese mense speel. Dit word algemeen gebruik omdat dit meer toeganklik is as konvensionele gesondheidsorg; dit bied lewensbestaan vir baie; behou sterk bande met kultuur en die medisyne het ander voordele vir die liggaam. Die sektor word swak gereguleer met baie min regering ondersteuning aan genesers. Plant hulpbronne word toenemend bedreig en biopiracy vind reeds plaas. Programme wat tradisionele medisyne wil versterk moet fokus op die beskerming van biodiversiteit vir toekomstige gebruik, en om maniere te vind om tradisionele medisyne te kommersialiseer om voordeel te trek uit die verhoogde globale vraag, terwyl die voordele gedeel word met dié gemeenskappe wat die kennis ontwikkel het.

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## **List of acronyms and abbreviations**

CBD	Convention on Biological Diversity
CSIR	Council of Scientific and Industrial Research
GATT	General Agreement on Trade and Tariffs
ILO	International Labour Organisation
INBio	National Biodiversity Institute of Costa Rica
Merck	Merck Sharpe and Dome
Nagoya Protocol	Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation
PIC	Prior Informed Consent
PINGO's Forum	Pastoralists Indigenous Non-Governmental Organisation's Forum
TreccaAfrica	Transdisciplinary Training for Resource Efficiency and Climate Change Adaption in Africa
TRIPs	Trade Related Aspects of Intellectual Property
UN	United Nations
UNEP	United Nations Environmental Programme
URT	United Republic of Tanzania
WIPO	World Intellectual Property Organisation
WHO	World Health Organisation

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## **Chapter 1: Background and introduction**

### **1.1 Introduction**

This chapter provides a broad overview of the research topic and reasons for the selection thereof, and introduces the methodologies used to collect data. The next two sections outline the background to the choice of research topic: firstly, I explain my personal motivation for choosing this topic, and then a brief overview of relevant literature argues the case for the need for this research, within the field of sustainable development. This is followed by an explication of the specific research questions that were developed from the problem statement, and an overview of the research design and methodology applied in order to gather data for answering the research questions. Key concepts that are used in the thesis are introduced and defined, and then I outline the content of the rest of the thesis, before ending the chapter by discussing the assumptions underpinning the research and the limitations encountered.

### **1.2 Personal motivation**

Traditional medicine was an area of interest that developed later in my life. There were two major events that drew me into exploring this topic. The first was my childhood and later teen years, and issues pertaining to Zulu culture, my place in it and traditional medicine. I grew up initially in the semi-rural area of Mariannhill, which is 23km from the city of Durban, South Africa. The first event commenced with the earliest memory of my grandmother collecting vegetables from the garden. When I was about four years old, she told me that one could eat plants to heal oneself. I could not understand what that meant, but somewhere in my subconscious that meaning remained embedded. I recall her showing me a plant that I now recognise as a Geranium. She picked its leaves apart, crushed them in her hand, chewed on them and then offered me some to taste. I recall the smell was repugnant and made the connection that plants are not for eating. After this, I did not give much attention to whether she used other plants for healing. I did see her working in the garden, collecting eggs from the fowl run and baking bread in a coal stove. She had this connection to her garden because it was the thing to do. The garden sustained our family's dietary needs. Today, this way of living is referred to as 'organic' yet it was what materially poor families living in semi-rural communities did to survive back then. Later my eldest aunt informed me that my grandmother and great grandmother used herbs for healing because conventional doctors were not always available as well as many families being unable to afford the cost of a western doctor's consultation.

The practice of using plants and herbs to heal was passed onto my eldest aunt, but not to anyone of my generation. At times, members of my extended family frowned upon the use of medicinal plants for healing. My eldest aunt for example, often used plants for treating minor ailments. Some members in the family would chuckle and comment how she liked using “Zulu knowledge” or “old ways of healing”. During my early teen years I noticed that my grandfather would use herbs for treating stomach-aches or informed me that some plants could be put into the bath to relax the body. At the time I was disinterested in listening or learning about plants. Later in life, I realised the impact and effects of colonisation, neo-liberalism and globalisation on indigenous knowledge and, in particular, on traditional medicine. I felt that my family (and probably many others like us) lost touch with most of our traditional culture, as a result of being removed from our ancestral land by the infamous Group Areas Act No 41 of 1950. Anything viewed as traditional was viewed as uncivilised, backward and associated with witchcraft. No adult would want to be accused of using *muthi*, an isiZulu word meaning ‘medicine’. However, in the context used, a conclusion was made that someone using *muthi* was actually practising witchcraft. In fact, I heard about stories of what was contained in *muthi* filled bottles and what they were meant to do. They looked like small vials or very small bottles like testers given by perfume houses of samples of their newly launched range of perfume. The stories told to me were that those small vials were filled with some concoction that was to give a person for protection or, if found in your home environment without your knowledge, it was witchcraft used to bring misfortune to you or your family. These experiences led me to believe that anything related to herbal remedies was bad and it increased my belief that western medicine was better because it came from a pharmacy or doctor and was presumed to be civilised, developed and safe.

The second event that drew me back to traditional medicine was being diagnosed with a chronic lifestyle disease in 2011, hypertension. I spoke to other adults and found out that people afflicted with lifestyle diseases such as diabetes, hypertension and stress were advised to ingest chronic medication to manage these diseases. Many were accepting of the fact that they were “chronic patients” and had no option but to use this medicine for life. After two years or so of ingesting this medication, I began to query the medical explanation and wisdom given to me that this was my fate. I asked the specialist why there were no herbal or natural or traditional medicines prescribed for chronic diseases. She informed me that their efficacy is low and once on chronic medication, it was the only way a chronic disease could be managed. I was

dissatisfied with this answer and wondered if western medicine was indeed the only way to have a chronic disease treated, managed or cured.

Thus, my exploration of herbal medicine began. I sought out an alternative health practitioner (homeopath) who cautioned me against suddenly stopping the consumption of prescribed medication. I decided to use the safer option that was complementary herbal medicine. I admit, I was not brave or literate enough to have used plant material sourced from a herbalist in its raw form. I began to regularly check my condition using my blood pressure monitor, while using the herbal alternatives. This stopped my dependence on chemical medication. I believe the change of mindset and use of herbal alternatives has contributed to my improved health. Questions began to surface as I pondered and explored alternatives. Was traditional medicine deliberately made the Cinderella (or lowly step sister) of the western or conventional medical system? If so, what brought this on? Moreover, my reflection was that western medical options are given preferential treatment as an option offering palliative care for patients. However, in conversations with friends, some have told me that, having been exposed to traditional medicine during their childhood, they continue to consult traditional healers if they feel western medical approaches are not working for them. I wondered, if traditional medicine lacked efficacy, why it is being sold and practised in rural and urban areas. On any given day within the Durban city centre and Warwick Triangle, trade in medicinal products seems to be booming.

Other questions that began to surface related to economic justice issues and economic benefits of plants. There were cases reported in the media about the application for patents on certain plants. I recalled the case of the Hoodia (*Hoodia gordonii*) plant. The San tribes of Southern Africa have used Hoodia as an appetite suppressant since time immemorial. The South African Council for Scientific and Industrial Research (CSIR) discovered a part of the plant that worked as an appetite suppressant and applied for and were granted a patent (Chennills, 2012). Another example of patent application involved Nestle and their five patent applications on Rooibos and Honeybush tea without consulting the South African government or the indigenous traditional knowledge holders, the Khoi and San (Bern Declaration 2010). Other countries were not spared intellectual property rights infringements on their traditional knowledge. Application for patents on Neem, basmati rice and Turmeric was applied for in the United States of America. These products have been produced and used for centuries in India (Shiva, 2006). The idea that traditional knowledge and plants could be 'owned' by an outsider, thereby reducing or prohibiting access to the benefits thereof by the very people (and their descendants) who had

developed such knowledge over generations, upset me. I wanted to explore these issues further.

Finally, during the process of deciding on my research topic, an opportunity arose to apply for a TRECCAfrica mobility scholarship. TRECCAfrica is Transdisciplinary Training for Resource Efficiency and Climate Change Adaptation in Africa<sup>1</sup>. The scholarship allowed me to spend time doing research in one of three partner countries: Ethiopia, Ghana or Tanzania. I was keen on Tanzania because it has historical ties to South Africa. Some friends who lived there or who knew people who had been in exile in Tanzania shared stories. South Africans living in exile were supported by the Tanzanian government and directly by the people. While in Dar es Salaam, stories were shared by some friends that their families used to give a collection of money or school stationery was bought and given to the children of South African freedom fighters who lived in exile in Tanzania. Furthermore, in reading up about the country, I realised it had high levels of biodiversity and fairly significant levels of traditional medicine practice. However, I was unclear about how this topic would fit into the broader discipline of sustainable development. A brief literature survey alerted me to the fact that the bio- and green-economy, ecosystem degradation, commercialisation of biodiversity, environmental justice and acts of biopiracy were interrelated issues and very clearly linked to the achievement of sustainable development. In the following section, I will attempt to elaborate on these interrelated issues, and thereby provide some background into the research problem I identified.

### **1.3 Background to interest in traditional medicine from the literature**

#### **1.3.1 Increasing interest in traditional medicine**

Globally, there is an increasing uptake and renewed interest in traditional medicine (WHO 2013). In many developing countries, 70 to 95 percent of the population use traditional medicine for primary healthcare and in Asian countries such as China and India, traditional medicine is widely used as a complementary medicine alongside other medical modalities (Hoareau & DaSilva 1999). Within the EU there are an estimated 100 million people who rely on herbal, complementary or traditional medicine. The percentage of users of these non-conventional medicines increases to as much as 90 percent in some countries. In 2008 the global demand for

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<sup>1</sup> TRECCAFRICA provides doctoral and master's training to postgraduate students in Africa at six leading African Universities in order that academics and professionals can address challenges facing Africa's future development viz: climate change and resource depletion. See <http://www.treccafrica.com/pages/about-us.html>

traditional medicine amounted to US\$83 billion and was set to increase exponentially (Robinson & Zhang 2011). The demand for traditional medicine and herbal products is estimated to reach US\$115 billion by 2020 (Global Industry Analysts Inc. 2015). The biggest markets for these products are Europe followed by Asian-Pacific countries (WHO 2013). According to the World Health Organisation (WHO) (2013) there were two reasons cited for this increase in demand: the first was that women consumed dietary supplements and the second was due to health concerns over chemical or mainstream drugs. Other drivers included the high cost of conventional medicine, shortages of drugs and medical personnel as well as inadequate health care and affordability (WHO 2013; Kayombo et al. 2013). The awareness of the value of biodiversity and increased activism in the developed world coupled with the interest of western medicine in plants and their compounds will fuel the debate between indigenous knowledge holders and their rights and intellectual property protection (Armour & Harrison 2007).

In addition, within the developing world, traditional medicine has links to heritage and custom and is a preferred choice for healthcare (Sackey & Kasilo, 2010). Within many African countries there is a connection between traditional medicine and culture, beliefs and taboos (Kayombo et al 2013), Ninety percent of the population in Kenya for example has used traditional medicine (Njoroge et al. 2010).

The rise in traditional medicine has seen a shift in the teaching and development of curricula at tertiary institutions. For example, Asian countries such as India and China have incorporated traditional medicine into some tertiary programmes (Sackey & Kasilo 2010). Traditional medicine degrees are now offered at the Institute of Traditional Medicine at the University of Muhimbili in Tanzania (MUHAS 2013).

### **1.3.2 Global and regional benefits**

Traditional medicine has afforded potential benefits for users and providers alike. Traditional medicine has provided opportunities for private partnerships between multinational companies and indigenous communities. In Brazil for example, The Body Shop<sup>2</sup> has been involved in bioprospecting agreements with indigenous communities whereby research and development facilities were set up to develop body care products. They have developed some agreements to

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<sup>2</sup>The Body Shop is one the first cosmetics brands to prohibit testing on animals, and also the first company to introduce Fair Trade to the beauty industry. See more: <http://www.theguardian.com/fashion/fashion-blog/2011/nov/21/brief-history-of-body-shop>

return some of the benefits to the people. In the case of The Body Shop, there have been projects established in the indigenous communities to start up enterprises to process raw materials (Mugabe 1999). Mugabe (1999) does argue though that this is the exception rather than the rule. Some of these exceptions alluded to by Mugabe (1999) have given rise to challenges to traditional medicine.

### **1.3.3 Challenges to traditional medicine**

Despite the benefits of traditional medicine, there have been some challenges. The WHO has noted the importance of traditional medicine as a primary health care option and has actively promoted its usage in developing countries. However, issues pertaining to regulation of its usage among traditional healers, safety, efficacy and composition have been areas of concern (WHO 2013). As highlighted in section 1.3.1 the renewed interest and economic potential has created instances of biopiracy resulting in theft of traditional knowledge and genetic resources (Kabudi 2004), such as cases of Oloisuki, a tree found in the Manyara region of Tanzania (Laltaika 2011) and Ayahuasca in the Amazonia's of Latin America (Tupper 2009). In addition, patents have been applied for without attaining prior informed consent (PIC) and establishing benefit sharing agreements (Chennells 2013). The drive for patents has prevented communities from benefiting from their indigenous knowledge. If natural resources could be used justly, this could go a long way to decreasing poverty levels (Moshi 2005). The pursuit of finding new cures from nature has had an impact on biodiversity and is accelerating destruction of nature and indigenous people (Mugabe 1999).

### **1.4 Statement of the research problem**

Traditional medicine is still widely practised in many developing countries, and is an important part of cultural life. However, as these alternative approaches to medicine increase in popularity worldwide, there are heightened challenges that face the traditional medicine sector. One of these includes the appropriation of the benefits that could be derived from traditional medicine knowledge and products. Another includes the factors that make it harder to practise traditional medicine, like climate change, habitat loss for medicinal plants etc. A better understanding of the various benefits and challenges faced by those who practise and seek out traditional medicine in Tanzania will help ensure that traditional medicine contributes positively to sustainable development.

## 1.5 Research questions

In order to contribute to a better understanding of the research problem identified above, the following two questions were developed to provide overall focus and direction to the research endeavour.

- What are the challenges to and benefits of traditional medicine in Tanzania?
- What are the experiences of rural and urban traditional healers in Tanzania with regard to the challenges and benefits of traditional medicine?

## 1.6 Overview of research design and methodology

### 1.6.1 Research design

A qualitative approach was deemed the most appropriate to address the research questions outlined above. Qualitative research is the collection and analysis of primarily non-numerical data (words, pictures and actions) (Bryman et. al. 2014:41). Since the overall goal of this research was to better understand the lived experiences of those who practice or use traditional medicine in Tanzania, quantitative approaches like surveys would not have adequately captured the depth and diversity of people's personal experiences, nor the meaning that they attach to these.

Within the qualitative paradigm, two main research designs were identified as most appropriate to answer the two research questions. Firstly, a review of the literature was necessary for gathering existing information on the challenges to and benefits of traditional medicine, from a global to local scale as well as playing a role in "shaping and informing the research question, methodology, and analysis"(Conrad et al. 2011:83 in Kelly 2011). Secondly, a case study design was used to capture the experiences of local people in Tanzania with the use of traditional medicine. This approach was deemed appropriate as the findings were meant to help illustrate the literature review findings, or indicate where the literature may be weak in reflecting the benefits and challenges of traditional medicine on the ground(Yin 2014).

### 1.6.2 Introduction to the research area

As indicated in section 1.2, I was fortunate enough to travel to and live in Dar es Salaam as an exchange student from 1 October 2014 to 31 July 2015. While a more detailed background on Tanzania can be found in section 3.9 of Chapter 3, suffice it here to say that Tanzania is a large

country on the east coast of Africa, with a population of 44,928,923<sup>3</sup> million people, an annual Gross Domestic Product of US\$49.18 billion (2014) that rankstenth on the continent (compared to South Africa's GDP of US\$349.8 billionand ranking of second) (The World Bank Group 2015). Poverty levels are extremely high, with 12.3 million(World Population Review 2015) people living below the poverty line. The burden of disease is severe: 1.5 million people(5.3 percent of people between the ages of 15-49 years) are infected by HIV/AIDS(UN AIDS 2015). Government is too poor to provide adequate healthcare and there are only 0.7 hospital beds per 1000 people(CIA 2017). Biodiversity is extremely rich, and the country relies heavily on its tourism industry, and has one of the largest areas under conservation(United Republic of Tanzania 2009).



**Figure 1: Map of Tanzania**

**Source: Maps of the World (2015)**

### 1.6.3 Research methods

For the literature review, I used a standard literature review approach whereby I searched the databases, collected relevant papers, read and analysed them and to build a picture of the state of knowledge on the benefits of and challenges to traditional medicine on a global and local level (Conrad et al. 2011). While conducting these searches I narrowed down my search to focus on the more current issues around the topic for this study.

For the case study, I relied on semi-structured interviews and observation as my main data collection tools. In terms of accessing research participants, part of the TRECCAfrica

<sup>3</sup>2012 Tanzanian National Census population estimates. The World Population review cites the population at 54,597,099 in 2015. See <http://worldpopulationreview.com/countries/tanzania-population/>

arrangement included appointing my research supervisor, Prof Claude Mung'ong'o (Institute of Resource Development), from the partner university, University of Dar es Salaam. He suggested that I visit Arusha (a smaller city 624 kilometres north of Dar es Salaam<sup>7</sup>) to locate research participants, as he felt that traditional medicine was practiced in its authentic form. In speaking to friends in Dar es Salaam, I was informed that many people who sell medicinal plants may have authentic knowledge but due to making a quick sale to meet their daily subsistence, they would sell plants and herbs irrespective of what they can treat. I was told to speak to local non-governmental organisations (NGOs) to help me with access to rural communities for my planned case study. I eventually made contact with an NGO in Arusha called The Pastoralists Indigenous Non Governmental Organizations Forum (PINGO's) Forum that works with rural pastoralists and Masai people in the region. They agreed to facilitate access to people who might be willing to speak about their own experiences of traditional medicine.

Eight semi-structured interviews were conducted with villagers in the Manyara region outside Arusha from the 15-17 July 2015. Unfortunately, due to the timing of PINGO's fieldworkers' visits, I was not able to spend more time in these places, nor do follow-up interviews. PINGO's provided a staff member who was able to translate for me during the interviews. I did not record the interviews as I was worried that the tape recorder might be misconstrued or feared by the participants. Instead, I took extensive notes during the interviews (usually while the translator was speaking). Furthermore, I would sit after each interview and fill in any more details that I recalled while they were fresh in my mind, and then check my notes with the translator.

Due to my limited access to rural participants, my supervisors and I decided that I should pursue additional research participants' insights, from other, more easily accessible locations within Dar es Salaam itself. Due to the close proximity of my home to the Institute of Traditional Medicine at Muhimbili University, I visited here on two occasions: firstly, on 6 July when I interviewed Prof. Mahunnah, and again when the second interview took place on 23 July with Dr. Kayombo. I was also able to access three traditional healers within Dar es Salaam itself, and conducted observations and semi-structured interviews with them too.

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<sup>7</sup>By road the drive is estimated to take 9 hours and 26 minutes. By air the distance is: 470.72 km. See: <http://distancecalculator.globefeed.com>

#### **1.6.4 Data analysis**

In order to analyse the data the first step taken was to search for common themes from my notes that included the following words: benefits, challenges, limitations and uses. I then tried to identify the patterns that emerged and identify the data that related to the themes. I then broke down the patterns into sub-themes. The emergence of the sub-themes helped me to identify a pattern that emerged (Aronson 1994; Crowe et al. 2015).

#### **1.7 Rationale or justification for the study**

The study is about understanding the challenges that communities are facing in practising traditional medicine as well as determining whether there are benefits they are or could be deriving from traditional medicine. The study would be useful for policymakers who wish to improve livelihoods of people within Tanzania (i.e. if they can maximise the benefits, then perhaps their livelihoods could improve). In addition, it could aid policymakers in understanding how to help overcome the challenges traditional medicine faces, as well as how to grow or support the benefits.

#### **1.8 Outline of the thesis**

This section outlines the remaining four chapters as they appear in this document. An overview of topics within each chapter is provided in order to clarify the overall structure of this research.

Chapter 2 focuses on the research strategy and methodology used to investigate the challenges to and benefits of traditional medicine in Tanzania. The outline of the design and methodology of the research as well as the research tools is included.

The literature review covered in Chapter 3 is used to broaden the understanding of the problem statement outlined in Chapter 1. The review commences with an introduction to the international literature on the challenges to and benefits of traditional medicine, followed by a national exploration of the challenges to and benefits of traditional medicine in Tanzania. The chapter then explores the international policy documents and legal frameworks that impact on traditional medicine. The chapter concludes by providing some possible solutions that can be taken into account for transcending the challenges or transforming them into potential benefits.

Chapter 4 shares the results of the research and provides a closer insight to challenges and potential benefits experienced by traditional healers in both rural and urban settings. The bulk of

this chapter is based on the information from the field interviews. It concludes with an analysis of the data gathered, which includes challenges to and potential benefits of traditional medicine.

Chapter 5 concludes the study by providing what the results of the research have been and how the research can be contribute to practice. It links the results with the understanding of the challenges and benefits found in Chapter 3.

## **1.9 Key concepts**

There are a few concepts that are used throughout this research. Within this section they are clarified and defined in order to avoid any ambiguity in the discussion in the ensuing chapters of this study.

### **Traditional health practitioners:**

They include traditional healers and traditional birth attendants(Kayombo et al. 2013). The term will also incorporate traditional bonesetters and traditional animal doctors.

### **Traditional medicine:**

“Diverse health practices, approaches, knowledge and beliefs incorporating plant, animal, and/or mineral based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness”(WHO 2005:1). The full discussion around the definition of traditional medicine and the discussion that led to the adoption of this definition can be found in section 3.2.

## **1.10 Limitations and assumptions of the study**

There are two major assumptions that I based my research on, Firstly, that, within the current challenges facing traditional medicine in Tanzania the results from this research will assist policy makers in making effective policy to transcend some of the challenges and possibly transform them into benefits. Secondly, that traditional health practitioners are not a homogenous group. They differ in ethnicity, practices and religion. Their understanding of the challenges and benefits/potential benefits will vary.

The major challenge was that, due to the late receipt of ethical clearance from the University of Stellenbosch and the University of Dar es Salaam, time became a constraint, and the number of traditional healers as well as the consultation of other stakeholder’s was limited.A wider

consultation of stakeholders would have given this study greater depth and, potentially, different results.

## Chapter 2: Research approach, design and methods

### 2.1 Introduction

This chapter outlines the overall research approach and methods used to answer the research questions detailed in the previous chapter. Firstly, the overall approach to the research is presented, followed by the two types of research designs used, as well as justification for their selection. Next, the methods and procedures used to collect the data are described, with an overview of the study area and the organisations that assisted me in accessing research participants. This chapter concludes by describing how the data were analysed and reflecting on limitations encountered while conducting the research.

### 2.2 Research approach

The two research questions being addressed in the study were identified from an initial review of the literature that revealed a gap in our understanding around these issues:

- i) What are the challenges to and benefits of traditional medicine in Tanzania?
- ii) What are the experiences of rural and urban traditional healers with regard to the challenges and benefits of traditional medicine?

Because not much had been written in the literature about Tanzanian traditional healers' experiences of these challenges and benefits, my study was to be exploratory. Qualitative research is "an approach for exploring and understanding the meaning of individuals or groups ascribed to a social or human problem" (Creswell 2014:4). This approach was therefore most suited to understanding various factors that relate to traditional medicine, as well as the opinions and experiences of traditional healers. In addition, I wanted to ascertain how benefits and challenges identified in the literature compared to the experiences of the traditional healers who practiced in specific rural and urban locations. In order to do this, a qualitative approach was the more suitable option as it is more focused on the mechanisms linking particular variables, i.e. trying to make meaning of explanations provided, for example, traditional healers giving their accounts of their experiences (Rosaline 2008). Surveys or other quantitative approaches would not adequately capture the depth and diversity of people's personal experiences, nor the meaning that they attach to these (Bryman et. al. 2014; Denzin & Lincoln 2008).

Another factor influencing my choice of a qualitative approach is related to my philosophical assumptions (Creswell 2014). Most often, philosophical ideas (or 'worldviews') remain hidden in research yet influence its practice. Therefore, prior to commencing with research, the

researcher needs to be explicit about their worldview (Creswell 2014). Worldviews are the general philosophical orientation about the world and the nature of the research that a researcher brings to the study. In deciding which approach will be used for conducting research, worldviews are usually based on the researcher's discipline, mentors' inclinations and past research experiences (Creswell 2014). According to Creswell (2014) there are four types of worldviews that are most often cited in literature: postpositivist, constructivist, transformative and pragmatic.

Postpositivists hold a deterministic view or philosophy in which cause determines effect or outcomes. Being reductionist in their approach, postpositivists reduce phenomena into smaller parts to try and understand the whole, and often develop numeric measures for studying individuals. Therefore, this type of research is aligned with the quantitative approach because the postpositivist researcher "begins with a theory, collects data that either supports or refutes the theory, and then makes the necessary revisions and conducts additional tests" (Creswell 2014:7). This worldview was not suited to the nature of the information I sought to collect; I wanted a broader insight into how people viewed their situation as traditional healers. I could not commence with theory and find answers using laboratory tests or experimental designs. I wanted a deeper understanding of the phenomena that is traditional medicine.

The transformative and pragmatic approaches were also not suited to my study. The transformative approach has at its core an agenda to bring about political or social change (Creswell 2014). Researchers engaging in this type of research believe that their research can lead to change in people's lives and are concerned with "empowerment, inequality, oppression, domination, suppression and alienation" (Creswell 2014:10). Hence the transformative worldview favours marginalised and oppressed communities. While I am sympathetic to this worldview, at this point I was trying to gain greater understanding of the challenges and benefits of traditional medicine, and changing the lives of traditional healers was not within the ambit of this study.

Pragmatists are concerned with ascertaining what works and finding solutions to problems. Thus researchers who have this worldview are not committed to one system or philosophy and will select methods, techniques and procedures of research that meet their needs (Creswell 2014). Pragmatists favour a mixed methods approach that uses both quantitative and qualitative

information. This approach was not necessary for my study, as I was not interested in quantitative measures, but rather an exploratory investigation of a phenomenon.

The worldview that best suited my research questions was the constructivist approach. Social constructivists are of the opinion that people develop subjective meanings of their experiences, and it is the researcher's task to make sense of the complexity of this meaning (Creswell 2014). What is crucial in this worldview is the importance of allowing the study participants to make sense of their world and listen to how they interpret their situation. Constructivists therefore ask questions of participants that are broad and open-ended (Creswell 2014).

Creswell (2014) adds that people's subjective meanings are developed through historical and cultural norms that operate in their lives, so researchers should focus on specific contexts in which people live and work. Constructivists recognise that their own background shapes their interpretation and they therefore "position themselves in the research to acknowledge how their interpretation flows from their personal, cultural and historical experiences" (Creswell 2014:8). Unlike postpositivists who commence their research with theory and try to prove or disprove a hypothesis, constructivists inductively develop theory or patterns of meaning (Creswell 2014:8).

In section 1.2 of Chapter 1, I outlined the motivation for conducting this study. I am classified as a Coloured male who was raised in a low socio-economic class setting. My racial classification and economic status are attributed to the racial classification system used during Apartheid that categorised people according to race. My background will affect and influence my position as a researcher as well as affect the way in which research findings will be interpreted. This position tends to align my outlook with the constructivist approach. The constructivist worldview was therefore the most appropriate philosophy with which to undertake my study, as capturing people's own interpretations of their experiences with traditional medicine was the overall goal. My field trips to the remote areas of Arusha and within the metropolitan area of Dar es Salaam afforded me the opportunity to observe the contexts in which the traditional healers live and work. My data gathering tools, which will be discussed in more detail later in this chapter, consisted of observation and semi-structured interviews, which allowed the study population to have flexibility in how they answered the questions.

After explaining the philosophical underpinnings of my research approach, I now move to detail the particular research designs that were chosen from within the qualitative, constructivist paradigm to provide an overall plan for the research.

### **2.3 Literature review design**

Because one of the main aims of this study was to get a better understanding of the challenges and benefits of the use of traditional medicine, particularly in Tanzania, a review of the existing literature was the most appropriate method for gathering this information. When choosing which type of literature review approach to adopt, I selected a traditional narrative review. Traditional narratives reviews are broader and tend to be less focussed than systematic reviews (Bryman et. al. 2014). They state further that the criteria for inclusion or exclusion are not explicit. Due to the diverse nature of the literature on this topic a more quantitative approach such as a systematic review would not have been possible. Systematic reviews combine studies with similar methods to produce combined statistical results (Vogt 2005). The literature on traditional medicine ranges from ethnographic descriptions of indigenous knowledge systems, to global health assessments (WHO 2013), to government policies (Kajuna 2014), and medical efficacy reports (Cordell, Geoffrey 2014), so a systematic approach was precluded.

### **2.4 Case study design**

To answer the second research question, I selected a case study design because I wanted to learn more about the experiences of rural and urban traditional healers from a broader perspective, i.e. understanding the context in which they live and work. A case study allows one to explore the phenomena through a multiplicity of lens, which allows for triangulation of data, and often provides more interesting insights. According to Yin (2003), the following factors make the use of a case study design appropriate:

- a) when the focus of the study is to answer “how” and “why” questions;
- b) when the behaviour of those involved in the study cannot be manipulated;
- c) when contextual conditions are to be covered because they are relevant to the phenomenon under study, and,
- d) when the boundaries are not clear between the phenomenon and context.

These factors applied to my research: the second research question is about *how* traditional healers in Tanzania experience the practising of traditional medicine, and it was not necessary or desired to manipulate their behaviour. Also, the context in which they conduct their practices

was also of vital importance to understanding their experiences, indeed, their experiences would not make sense without understanding the context.

After determining that the second research question would best be answered by using a qualitative case study design, I decided on an exploratory case study. “A case study is an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin 2009:240). He states further that case studies can be exploratory, descriptive or explanatory (Yin 2009). I selected the exploratory case study because of the need to explore and converse with the traditional healers in the rural and urban areas without focusing on a single or specific set of outcomes (Yin 2003).

## **2.5 Literature review methods and data analysis**

The first method employed in the literature review was a search of the Nexus, Scopus and EBSCOHost databases via the online Stellenbosch University Library portal. I selected the Nexus database because it includes South African dissertations and theses and contains records from various fields of science since 1919. I wanted to know whether researchers from South African institutions had published any research on the topic, mostly for my own interest, but also because South African research institutions are some of the best funded on the continent. I chose the Scopus and EBSCOHost databases as they cover more than 32000 international peer-reviewed journals with a strong focus on social and natural sciences. The Stellenbosch subject librarian who assisted me in planning my search recommended these three databases for providing the most comprehensive coverage of the research.

I used various combinations of keywords relevant to my research questions, for example:

- indigenous knowledge systems,
- medicinal plants,
- globalised intellectual property rights,
- traditional medicine,
- traditional medicinal knowledge

I scanned the search results from the databases for relevance, in deciding which to include and exclude from my analysis. I limited my search to papers after 1995 as this made the results more manageable, and I felt that any seminal papers excluded through this criterion would

become obvious through references found in the newer literature and could therefore be identified and reviewed if necessary. I read the titles, discarding those not relevant to the topic of traditional medicine, traditional knowledge, and healers in both developed and developing countries. This lowered the number of papers to about 525. I then narrowed down the search again by focussing specifically on developing countries in Africa and more specifically in Tanzania. The next step was to review the abstracts of the papers to determine which were about benefits and challenges as well as just traditional medicine and medicinal knowledge. After conducting this search, I was left with 131 papers to read through completely. There were about 60 papers that focussed on developing countries issues relating to challenges of traditional medicine. The research had not highlighted many benefits that traditional medicine provided. Within Tanzania, the trend was similar whereby the challenges affecting traditional medicine were prevalent in the literature while the benefits were fewer.

After skim reading the papers selected for inclusion in the review, I grouped them into categories like: global level issues, developing country specific issues, Africa specific issues, and Tanzania specific. I then read through the papers in each category and made notes. As I did so, I found that other potential categories or groupings of papers began to emerge. In so doing, I was intuitively using thematic analysis, beginning to find common themes in the literature (Aronson 1994; Crowe et al. 2015).

## **2.6 Case study methods and data analysis**

Within this section I will outline the case study, starting with an overview of the data collection methods used, followed by a description of the study context. Next I discuss how participants were selected and ethical consent procedures, and provide more detail on how the data collection unfolded, including the design of the interview questions and observation techniques used. Finally, I describe the process of data analysis.

### **2.6.1 Case study methods**

A case study offered the best option to have a broader scope for exploration and understanding of the real world context; and allowed me to compare the findings from the literature with the real life experiences of traditional healers in Tanzania. In order to gain the in-depth understanding of these experiences, two common case study data collection methods were used: semi-structured interviews and observation.

Observation occurs where the information can be seen directly by the researcher or heard or felt observation (Stake 2010). Being present, observing and listening to the participants allowed a deeper understanding of the participants' experiences and views to emerge. As observer of the traditional healers I interviewed, even for a short period of time, I got to experience part of their daily life first hand. During this period, I collected the data from my observations. While on location in the field, I wrote notes in my field notes diary. While living in Dar es Salaam, I had informal conversations with friends who visited traditional healers and who used traditional medicine. The casual conversations I had with a plethora of people allowed me to garner an insider view of experiences, which provided a much deeper understanding of the use of traditional medicine.

However, I do recognise that observation as a data collection tool is limited. Observations are subject to my personal subjectivity i.e. I might experience something and draw very different conclusions from another person about what is happening, or why (Stake 2010). I kept careful notes in a research journal during my time in Tanzania, most especially when in the field and visiting traditional healers. After interviews, I spent time making notes into this journal, which helped me write up my findings later.

The second data collection method used was semi-structured interviews. The main purpose for doing this was to obtain specific information about traditional medicine from practitioners. For Stake, interviews are also used to find out "a thing that researchers are unable to observe themselves" (Stake 2010: 95). I found semi-structured interviews helpful because I could decide in advance what ground I wanted to cover and decide on the main questions to be asked. By ensuring that some of the questions were open-ended, I also allowed participants to have a degree of freedom to raise issues pertinent to their situation, without being limited by a questionnaire (Creswell 2010; Drever 1995). Equally, I was able to follow trajectories in the conversations without feeling the need to be bound by the questions in the interview guide (Cohen and Crabtree 2006).

Key to case studies is the context in which the research takes place, so the following section will describe the setting, as well as the way in which I identified participants to include in the case.

## **2.6.2 Study setting and identification of study participants**

The interviews and observations to answer question two took place in the Simanjiro and Kiteto districts outside Arusha, as well as in the communities of Tegeta and Makongo and the University of Muhimbili in Dar es Salaam.

The aim of interviewing these two communities in the Manyara region was to access people who are living lives that are still quite rural and traditional, in the sense that they are practising similar livelihoods strategies to those their forefathers practised for generations. The assumption was that these groups of people would likely still be practising traditional medicine and so would be able to reflect on whether there are any particular challenges to the continued practice thereof, or new benefits being derived. This would be contrasted with interviews with traditional healers located in the urban setting of Dar es Salaam.

In order to identify and access research participants, my supervisor at the University of Dar es Salaam recommended that I go to Arusha and locate an organisation that works with rural communities. It was a challenge to locate such organisations from Dar es Salaam because many had out-dated contact details on their websites (and I suspected that some may not have even had websites). Being unfamiliar with the environment and a native English speaker presented challenges to making walk-in appointments with such organisations. I did an online search of NGOs that work with rural communities. During December 2014, I located the contact information of PINGO's Forum and set up a visit to their offices in Arusha and an appointment to speak to the Director. He understood the aim of my study but mentioned that it did not fall within their scope of work as their focus was on assisting pastoralists and hunter-gather communities with land tenure issues. However, he mentioned that PINGO's would be open to assist me in conducting the field visits and interviews and would be able to locate a suitable study area. He asked that I schedule a second meeting whereby I would be introduced to the field officer who would arrange for me to accompany him on a field visit to identify participants, and act as interpreter for the interviews.

In February 2015 while awaiting ethical clearance from both the University of Stellenbosch and the University of Dar es Salaam, I made the ten-hour bus trip back to Arusha to meet the PINGO's Forum staff to finalise logistical arrangements for the proposed field visit. A tentative plan for the field trips was suggested and agreed upon. It was recommended that I speak to the communities listed below because they would have interesting perspectives that might highlight

or contradict the general understanding of traditional medicine in the literature. The communities suggested were:

- a. the Masaai, who are pastoralists, from the Kimotorok and Terrat villages in the Simanjiro District; and
- b. the Akie, hunter-gatherers, hailing from the Kimana village within the Kiteto District.

Due to the nature of these communities living in remote areas, access to them was highly dependent on PINGO's Forum and the field assistant and translator they provided to me. He would be referred to as a 'gatekeeper': an "official of the institution or the leader of the network who facilitates or allows access to the community" (Yin 2011: 115). He was invaluable to me in terms of locating research participants, introducing my research and ensuring the participants understood what I hoped to gain from speaking to them. He made it clear that there would be no payments for participation, allowing the participants to trust me and, of course, translating the interviews and providing context to many of the answers they gave.

Both the villages fall within the jurisdiction of the Manyara region. The distance between Manyara region and Arusha is 160 kilometres (Google maps 2015). The average rainfall in the Manyara region is between 450mm and 1200mm per year. There are two rainy seasons: the first one between October and December, and the second, longer one from February until May. The average temperature during the cool and dry season (June to September) is 13 degrees Celsius, while between and October and April the temperature averages 33 degrees Celsius. The primary economic activities in the Manyara region are agricultural production, livestock keeping and mining (United Republic of Tanzania 2013).



**Figure 2: Map of the Manyara region**

**Source: Google Maps (2015)**

The Simanjiro district is the one district where the interviews were conducted. It has an area of 3,814 km<sup>2</sup>, has a population of 275990 in 65 villages. The second district falling within the Manyara region is the Kiteto district. It is comprised of an area of 16,645 km<sup>2</sup>, a population of 244,669 in 58 villages (UNDP 2014). The incidence of poverty is 65.8 percent with 37.7 percent of the population experiencing severe poverty, yet the adult literacy rate is 96.1 percent with 5.6 percent of adults holding a secondary school education(UNDP 2014).

The second selected research site visited was in Dar es Salaam. Dar es Salaam is an Arabic word that means the 'harbour of peace' and is the commercial capital of Tanzania (Field interview 2015). The climate is tropical (hot and humid) with temperatures between 25 and 30 degrees Celsius. According to the Tanzanian 2012 census, the population was estimated to be 4,364,541. Dar es Salaam has a land area of 1,393 km<sup>2</sup>. Literacy levels are high at 96 percent and 64 percent of households have access to electricity (National Bureau of Statistics (NBS) 2014). The incidence of poverty in Dar es Salaam is 25.8 percent with 8.2 percent of the population falling within severe poverty. The HIV prevalence rate of the age group 15-49 years reflects a higher number as compared to women and men in the Manyara region. The figures are at 8.2 percent of women and 5.3 percent of men. The adult literacy rate is 96.1 percent with 26.8 percent of adults having a secondary school education (UNDP 2014).



**Figure 3: Map of Dar es Salaam**

**Source: Google Maps**

### **2.6.3 Recruitment of participants**

Since this was a qualitative study, the target sample size determination was based on getting to understand the phenomena, rather than representative sample size numbers as it would be in quantitative research (Morse 2000). I therefore opted to purposively select participants to understand the research question in depth; participants were chosen based on their specific characteristics (Palys 2008). The aim was to speak to all the traditional medicinal practitioners that could be accessed, and several of the elders in each community. Once the answers received in the interviews seemed to be repetitive of the previous interviews, I could then stop the process of recruiting more participants, as data saturation would have been reached in terms of new perspectives emerging (Morse 2004).

After receiving ethical clearance from the Universities of Stellenbosch and Dar es Salaam during June 2015, I returned to Arusha to commence my field interviews. At the earlier meeting in December at PINGO's, I had described the types of people I needed to interview and I was informed that participants for the interviews would be selected prior to my arrival in Arusha. The study participants were to be selected with assistance of the PINGO's Forum staff member who had been working with these communities for several years. Although not ideal that I did not have a greater say in participant selection, I was grateful for the assistance as the target population for the interviews reside in remote parts of Arusha and are indigenous communities and as a stranger it was difficult to have access to them.

Upon my arrival on the morning of 15 July 2015, I was informed that due to unforeseen circumstances, the PINGO's colleague could not accompany me to the interviews and another member of staff would replace him. The new member of staff then began the process of making contact with people. He received guidance from the PINGO's Programme Director and I about the type of participants sought for the interviews. The snow balling technique was used to locate other potential participants. Elders in the communities were sought out, as they would presumably have more knowledge of how traditional medicine was practised many decades ago, and whether there have been more recent changes. Participants who were not traditional healers or elders in the respective communities were excluded from the study. Eight traditional healers and one elder were interviewed in the Manyara region.

In the second research site in Dar es Salaam, I used various strategies to try and identify participants. I was advised by both my supervisors to visit the Institute of Traditional Medicine at

Muhimbili University. The Institute offers degrees at undergraduate and postgraduate level in Traditional Medicine, and also runs a pharmacy that sells herbal medicine and products to patients, medical staff and the public. I set up appointments to interview two experts from the Institute of Traditional Medicine at Muhimbili University in Dar es Salaam.

My first contact was with Professor Mahunnah. He obtained a PhD in Plant Taxonomy in 1995, thereafter he became assistant research professor at the Unit. He is an ethno-botanist and worked in the field for the last 38 years. Professor Mahunnah is an expert and was able to provide a background to the development of the Institute of Traditional Medicine as well as the development of traditional medicine in Tanzania.

He mentioned that the Institute of Traditional Medicine started in 1974, and he joined the unit in 1978. In 1990, his expertise led him to providing input into spearheading a policy for traditional medicine in Tanzania. The Traditional Medicine Act was promulgated in 2002 and provided for the establishment of a Traditional and Alternative Medicine Council. In 2005, the President of Tanzania appointed him to the Council, which he chaired for three terms, ending in March 2015. Professor Mahunnah suggested that I interview Dr Kayombo, his successor on the Council because his work entailed working with traditional healers.

Dr Kayombo's area of expertise is within medical anthropology. He is the current Chairman of the Traditional and Alternative Medicine Council. He succeeded Professor Mahunnah in March 2015. His research interests focus on the role of traditional health practitioners in provision of healthcare with focus on HIV/AIDS, reproductive health and initiation of collaboration between conventional and traditional medicine practitioners.

In hindsight, I should have asked the two experts for referrals to traditional healers because finding traditional healers to interview in Dar es Salaam proved a challenge. Firstly, I was a foreigner who did not speak Swahili, and secondly, I was unsure who was an authentic traditional healer and who was not. Having befriended a medical student and a *pikipiki* (public transport motorbike) driver as well as a waiter at a local coffee shop, I was guided to three traditional healers. The *pikipiki* driver introduced me to a traditional healer who used herbs to heal and texts from the Muslim holy book, known as the *Qu'ran*, as complementary tools for healing.

The second healer happened to be studying in the boardroom when I conducted the interview with Professor Mahunnah. After the interview he suggested that I could interview him at his home a few days later. He (the traditional healer) was a registered master's student at the Institute of Traditional Medicine.

The waiter mentioned above, introduced the third traditional healer to me. This healer was his uncle, who used herbal medicine as well as the *Qu'ran* and divination (spirits or *Jin*).

#### **2.6.4 Consenting procedures**

In a confidential setting in both the Simanjiro district and in Dar es Salaam, using a prepared recruitment script participants were asked if they were interested in participating in the interviews. Special care was taken to explain that participation was voluntary and that refusing to participate was also allowed.

If the participant declined to participate in the study after being approached, this was recorded. The researcher thanked the participant for his/her time and left the premises. All the participants who agreed to participate in the study were provided with a written informed consent form before participation in any study activities. After answering all questions the potential participant had pertaining to the study, the interviewer, with the assistance of the assistant, gave time to the participants if literate to read the consent form in his/her preferred language (English or Masaai/Swahili). If a subject was unable to read, the assistant read aloud all information on the full consent form. If the person wished to enrol, then the participant signed the full consent form in the presence of a witness who could read in the preferred language choice of the subject. The witness read the information to ensure its correctness before appending his signature on the full consent form. It was inappropriate for illiterate subjects to sign (or place a thumb print) on a consent form that they could not read.

The informed consent process was conducted in English, Masaai or Swahili, with a hard copy available in English and sections were verbally translated into Swahili. A copy of the consent was made available to the witness and the participant. Only the consent form had the identifier (name), and was stored and locked away in a bag that only I had access to. No electronic copies of participant names were created.

### **2.6.5 Data collection procedures**

As described earlier in this chapter, two main data collection methods were used: observation and semi-structured in-depth interviews. The interviews were conducted using semi-structured interview guides that had been developed before I entered the field. These guides helped me to ensure that I could follow interesting lines of inquiry as they presented themselves in each interview, but still ensured that I covered at least the same basic content in each. I conducted interviews with traditional healers and elders from the selected communities i.e. the Masaai, from the Kimotorok village and the Akie who are hunter-gatherers, hailing from the Naapilukunyo village. The languages spoken in these communities were Akie, Masaai and Swahili. I also conducted interviews with three healers in Dar es Salaam (with different research assistants for each, usually the friend who had introduced me to the healer) using the same interview guide. The interviews with the two officials at the Institute were conducted with different interview guides that focussed more on the general situation regarding traditional medicine in the country. In all cases, I sought a private room or space for the interview to be held.

I started each interview by explaining again the purpose of the study and what I hoped to learn from them, and how I would use the information they gave me. I also explained to participants that they did not have to answer any questions that made them uncomfortable, and that they could stop the interview at any time. I then started with questions to collect their socio-demographic information in order to help the participant feel more comfortable with the process of being interviewed. After that, we moved into the questions more closely linked to the topic of traditional medicine (see below). Due to the nature of translation, I was able to take field notes while the assistant was talking. I also made extensive notes right after each interview ended, and checked these later with the assistant.

Below are copies of the interview guides that were used for interviews with traditional healers, elders of the community and the experts at the University. Due to the nature of semi-structured interviews, not every question was posed to every participant, and often the order varied. However, I tried to ensure that, before the interview was concluded, we had addressed each of the questions to some extent.

**a) Interview guide: Traditional healers**

1. What made you become a traditional healer?
2. How long have you been practicing as a traditional healer?
3. In your practice how many people do you help per week or month?
4. When clients visit you, do they pay for your services?
5. Are you a member of the traditional healer's council?
6. Could you provide examples of the type of traditional medicine that clients are given?
7. Do you sell traditional medicinal products to people other than your clients?  
If yes, what type of medicine is sold?
8. Where do you get your plants/herbs?
9. Is it legal to pick the plants/herbs?
10. Have you experienced any difficulties in accessing plants/herbs?
11. Are people outside this community accessing traditional plants and products? If so, how is this being done?
12. Are you able to pass on your knowledge to the next generation of traditional healers?
13. What are the challenges you are facing as a traditional healer?
14. How could they be addressed?
15. From your experience, what are some of the benefits of people using traditional medicine?
16. Are local people from this enjoying the benefits from traditional medicine? If yes, how is this being done? If no, how could it be done?

**a) Interview guide: Elders**

1. How long have you lived here?
2. How many children and grandchildren do you have?
3. Did you use traditional medicine as a child?
4. Do you remember being taught about it as a child?
5. Was it taught at school or by your parents?
6. Have you ever used 'Western' medicine? Why?
7. What did you think about it? How does it compare to their traditional medicine?
8. What are some of the reasons that you will visit a traditional healer?
9. Do you always go to a traditional healer if you have a problem?
10. What kinds of traditional medicine do you use?
11. Do you pick herbal plants for personal use?
12. Compared to the past, was it easy or difficult to find herbal plants?

13. If no, what do you think are the reasons for the difficulty or scarcity?
14. What could be done to ensure they become available?
15. What are the challenges are facing traditional healers today?
16. How could they be addressed?
17. What are the opportunities for the development if traditional medicine in your community?

**c. Interview guide: Experts**

1. What is your professional background?
2. What is your connection to the Institute of Traditional Medicine?
3. Describe some of the work happening at the Institute.
4. What are some of the challenges to traditional medicine in Tanzania?
5. Identify some benefits of traditional medicine?
6. Is there a working relationship between the Institute and traditional healers (if yes explain)?
7. Are there any programmes or form of support for traditional healers?
8. Is there a system of referral between traditional healers and medical health practitioners?

**2.6.7 Case study data analysis**

While conducting interviews I listened to participants and translator and took down notes. I did not want to record the interviews because I felt that a recording device could become an impediment during the interview. The impediment would be that the interviewees would become suspicious of me recording their voices. The scope of the study limits audio recording the interviews leading to translation and transcription. I noted the most important points of what people were saying. When needing clarification, I asked the interpreter to explain certain points. Together with the help of the assistant, we would review the notes after each interview, and agree what was the essence of the interviews. Reviewing the notes with the interpreter is also a form of triangulation in verifying what was interpreted and confirming that my interpretation of what was noted was correct. I also found this helpful in terms of the issue of reflexivity. In so doing this process helped to keep the process clear of my own background clouding the interpretation of the results. The detailed notes taken during the interviews and the notes from my participant observations and from my research journal were the data sources used in my analysis.

After the interviews were completed, I coded the notes on the interviews according to a thematic analysis. According to Braun and Clarke (2006:6): “Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail... and interprets various aspects of the research topic”. Thematic analysis helped organise qualitative data of participants’ subjective experiences that were similar or different (Crowe et al. 2015). Hence the common ideas could then be grouped together. Key themes that emerged were compared within and across the emerging categories.

## **2.7 Limitations**

There were some limitations and assumptions of the study that need to be highlighted. The first limitation of the study relates to the generalizability of findings to other settings. This research cannot be applied to other settings because the participants’ historical, social and cultural backgrounds will differ. What is applicable in the Simanjiro district does not have the same applicability in Dar es Salaam. Hence, the samples are different and therefore the findings in one area cannot be applied in another setting. Participants were interviewed from two sites (urban and rural) and the experiences could be different from wider Tanzania.

Secondly, due to the late receipt of ethical clearance from the University of Stellenbosch and the University of Dar es Salaam, time and the number of traditional healers as well as other stakeholders became a constraint. A wider consultation of the stakeholders would have given this study greater depth and, possibly, different results.

## **2.8 Conclusion**

This chapter commenced with outlining the research approach, designs and methods used to collect and analyse data with which to answer the research questions. Operating from the constructivist paradigm, I used a qualitative research approach to gain a better understanding of factors relating to traditional medicine as well as deeper insight into the lives of traditional healers. The research designs selected were a literature review (for research question one) and a case study. A case study was used for research question two because it allowed for understanding the real world context of healers and traditional medicine. Participants were selected from two sites in Tanzania; the Simanjiro and Kiteto districts of the Manyara region, which is close to Arusha as well as with communities within Dar es Salaam.

The methods used to collect data were observations and semi-structured interviews using an interview guide composed of mostly open-ended questions. These questions were repeatedly asked when interviewing healers, elders and academics. Some questions were specific and others were broad to allow the participants leeway to speak freely. Notes were taken down during the interviews and triangulated. In the next chapter, the literature review will highlight the possible benefits and challenges to traditional medicine from a global perspective. Thereafter it will zoom into Tanzania as a case study, discussing how these challenges and potential benefits impact on traditional heal

## Chapter 3: Literature review

*The twenty-first century will be the century of knowledge, indeed a century of the mind. A nation's ability to convert its traditional knowledge into wealth and social good through the process of protection and promotion will determine its future and concomitantly its sustainability (Shukla2010: 150).*

### 3.1 Introduction

This chapter presents the findings of the literature review, and part of the answer to research question one on the challenges to and benefits of traditional medicine in Tanzania. It starts with a discussion that focuses our understanding of the concept of traditional medicine. Next, a brief history of traditional medicine is explored; starting with the influence of colonialism that contributed to growing unpopularity of traditional medicine, to the more recent resurgence in interest in traditional medicine that started in the final decades of the previous century. Once the historical context has been provided, I move into a discussion of the key benefits that are, and could potentially be derived from traditional medicine in general (i.e. from literature with a more global perspective), and then do the same with a discussion about the challenges to traditional medicine. I also try then to place these challenges and benefits within the context of the need for sustainable development more broadly. Finally, I zoom into the Tanzanian level, and reveal what the literature says about traditional medicine in this country.

### 3.2 Understanding the key concepts

Reading the literature in this field, as well as informal discussions with people about my topic, made me aware that there are often quite different understandings of the terms traditional medicine, traditional healers and indigenous knowledge systems. In this section, I will give an overview of the differences in understanding encountered in the literature and provide what seems to be the best consensus around definitions.

There are many terms that are often conflated with traditional medicine: indigenous medicine, herbal medicine, folklore, ethno medicine, native healing, alternative or complementary medicine. The common definition of traditional medicine provided by the WHO in their *Traditional Medicine Strategy 2014-2023* is:

*The sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the*

*maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness (WHO 2013:15).*

This can be contrasted with the WHO Strategy (2013) definition of ‘complementary medicine’ or ‘alternative medicine’ as a broad set of health care practices that are not part of that country’s own tradition or conventional medicine and are not fully integrated into the dominant health-care system. Examples of complementary or alternative medicine include anthroposophic medicine, chiropractic, homeopathy, naturopathy and osteopathy (WHO 2013). Obviously what is regarded as ‘outside’ depends on the dominant healthcare system and this might differ from country to country. In other words, the distinction is somewhat linked to context: if someone from the United States is following Chinese traditional medicine, it would be regarded as complementary or alternative medicine, whereas Chinese people practising Chinese medicine in China would be practising traditional medicine.

Traditional medicine uses locally available plant and animal materials in the treatment of ailments (Van & Tap 2008), while at least 25 percent of allopathic (western) medicines are directly or indirectly derived from medicinal plants and in some cases this may be up to 60 percent (Robinson & Zhang 2011). Traditional and complementary products include herbs which:

*Include the leaves, flowers, roots, bark, fruit, seed, stems, or other plant parts that are usually taken in the form of teas, infusions, decoctions, and/or tablets or used as creams/ointments prepared by an herbalist [12]. The herbal materials not only comprise herbs, but also include dried ground powder, plant extracts, resins, fixed oils and essential oils. (Kakooza-Mwesige 2015:1)*

The use of medicines obtained from animals to treat human ailments is known as zootherapy (Costa-Neto 2005). Some of the animal by-products such as hooves, skins, bones, feathers and tusks are ingredients used in the preparation of, “curative, protective and preventive medicine” (Alves & Rosa 2007:1).

Globally, traditional medicine use has cultural and historical influences. Despite conventional medicine being well established in Singapore (76 percent) and the Republic of Korea (86 percent), there is still a high usage of traditional medicine by any of its citizens (WHO 2013). Similarly, within Africa, traditional medicine is intertwined with cultural and religious beliefs. The

focus in African traditional medicinal practices is more holistic in that it includes the mind, body, spirit and social aspects (Truter 2007). The African experience has a similar experience in New Zealand amongst the Maori traditional healers. The connection between Maori healing and ancient cultural knowledge is strong. Factors such as mind, body, spirit, aspects of family, and land are essential to health and wellbeing (Mark & Lyons 2010).

Traditional medicine is a component of African indigenous knowledge systems (Kaya 2007). Indigenous knowledge systems are the intricate knowledge systems accrued by a group of people (often in one specific locale) over a long period of time, passed from one generation to the next (Msuya 2007). Local or traditional knowledge is unique to every society, so the Masaai, for example from northern Tanzania, would have their own traditional knowledge such as how to graze their cattle without degrading the environment. The Samba and Ziguaa from North Eastern Tanzania are renowned for using herbs and other traditional medicine to heal people with diseases (Msuya 2007).

A traditional healer is defined by the WHO as “a person who is recognised by the community where he or she lives as someone competent to provide health care by using plant, animal and mineral substances and other methods based on social, cultural and religious practices” (WHO 2000: 11). This definition is fairly broad, and means it could include conventional medicine practitioners and health care workers who use ‘traditional techniques’ in addition to or alongside their conventional medicine.

Most countries do not have legal requirements that traditional healers undergo formal training or licensing in order to practice medicine. However, some countries have started to try and regulate the practice of traditional medicine. For example, in China, Korea, India and Vietnam, any person who practices medicine, of any type, requires a tertiary qualification and must be registered with the national government health department (WHO 2013). Furthermore, the WHO (2013) also recommends that its member States should consider their own situation, considering regulation or registration of practices. In most developing countries, traditional healers receive informal training through apprenticing with an experienced healer (i.e. oral transmission of training between generations) (Olatokun 2010).

Having provided clarity of terminology and usage of traditional medicine in terms of this study, I will now address the recent history of traditional medicine, which will give the background context needed to understand present day challenges to and benefits of traditional medicine.

### **3.3 Traditional medicine from past to present**

#### **3.3.1 Ancient history**

Indigenous communities have used traditional medicine since time immemorial for the treatment of disease and maintenance of health (Mahunnah et al. 2012). The human use of plants as medicines dates back about 60 000 years and incorporated plant use as a mean of therapy in treating disease (Fabricant & Farnsworth 2001). Evidence of herbal practice in Samaria and Babylon (ancient Mesopotamia) was found in pharmaceutical prescriptions dating back to 3000 BC (Baydoun et al. 2015).

This ancient knowledge has been transmitted over thousands of year orally (through storytelling), personal experimentation, practicing of local customs and later in written form on baked clay tablets, parchments and manuscripts, pharmacopoeias and other works (Baydoun et al. 2015; Kakooza-Mwesige 2015).

For many indigenous communities traditional medicinal knowledge, spirituality and the environment are entwined (Kipuri 2010). There is seldom a separation for where people live, how they connect to their ancestors, and the environment from which they source their medicines. The San and Khoi, for example, who inhabit various countries in Southern African, have used traditional medicine for health and spiritual means (Chennells 2013).

While steeped in the past, traditional medicine like Ayurveda, traditional Chinese medicine, Unani medicine<sup>10</sup> and acupuncture is in prominent use today (WHO 2002). These forms of traditional medicine have moved beyond their countries of origin. Ayurvedic medicine and practitioners can be found in many countries outside of India. According to a report submitted by 12 countries, 80 percent recognise the use of acupuncture (WHO 2013). However, this was not always the case. For a period of time the use of traditional medicine went through a period of decline.

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<sup>10</sup> The Unani system of medicine- sometimes referred to as Greco-Arab medicine or Unani Tibb; is based on Greek philosophy (Ahmad 2008).

### 3.3.2 Decline of traditional medicine

Within Africa as well as other developing nations, traditional medicine was negatively impacted by the arrival of colonists from Europe. As described above, traditional systems of health care that were deeply intertwined in belief systems and culture existed in many of these countries for centuries prior to the arrival of the colonists. Colonial policies had a negative effect on traditional medicine (Mbwambo et al. 2007). Colonialists often tried to restrict the religious, spiritual and cultural practices of local populations; not only due to disagreeing with their cosmologies due to their own Christian beliefs, but also as a means of controlling these populations (Abdullahi 2011). Legislation banning traditional healers was common, because they were viewed to be using supernatural forces or witchcraft in performing their tasks (Stangeland et al. 2008:290; Sackey & Kasilo 2010). In Tanzania, traditional healers were prosecuted because collective action on their part would have appeared to be a challenge to the German colonial ruler's edicts (Mahunnah et al. 2012).

In South Africa, for example, the state had a major hand in the banning of traditional medicinal usage (Truter 2007). Two Acts of parliament were passed outlawing the use of traditional medicine: the Witchcraft Suppression Act of 1957 and the Witchcraft Suppression Amendment Act of 1970. Similar to colonialists' beliefs in east Africa, in South Africa the reasons cited for the suppression of traditional medicine were that traditional medicine and treatment of 'illness' in Africa was historically embedded in 'witchcraft'. This view reflects a lack of tolerance of the broader spiritual beliefs surrounding traditional medicine, and indeed, a view of those spiritual beliefs as 'backward' or mere 'superstition', and part of why Europeans regarded Africa as the 'dark continent' (Abdullahi 2011: 117).

Linked to the decline of traditional medicine is the dominance of the western world mind-set of the importance of reductionist science (Matatiken et al. 2011). When herbal plants identified for their therapeutic effects were tested in laboratories with "standard biological screenings", they produced "disappointing results", but proponents of traditional medicine feel this may not have been the case had they been tested using more holistic methods of testing (Matatiken et al. 2011: 15).

Some believe that there was (and perhaps still is) a capitalist incentive to destabilise African traditional medical systems. According to Yankuzo (2014) (citing Navarro (1976)):

*The exploitation of Africa, Asian and Latin American countries by the core capitalist nations of Europe through colonial and non-colonial linkages like globalization is identified as the root cause of underdevelopment of health and medical care resources of those nations. Africa had its own system of health care before the advent of colonialism and the introduction of western medicine. (Yankuzo 2014: 5)*

This can be regarded too as linked to the fact that western medicine creates profit for pharmaceutical companies, while traditional medicine does not. However, some see the whole western healthcare system as part of more sinister motive to keep people ill, in order to make more money (Yankuzo 2014). Profit from medicines is more important than healing patients (Woolf & Johnson 2005; Pellegrino 1999); illness equates to profit (Yankuzo 2014).

### **3.3.3 Renewed interest in traditional medicine**

In the past decade there has been a renewed interest and uptake in the use and benefits of traditional and complementary medicine (Frass et al. 2012). The colonial and neoliberal attempts to destabilise or eradicate the use of traditional medicine were not entirely successful everywhere. In Asia and Latin America, large numbers of the population continued to use traditional medicine (Hoareau & DaSilva 1999). After independence in 1948, Sri Lanka started its revival of Ayurvedic medicine (Cunningham 1998). In Africa, due to the limited access to adequate medical care, at least 80 percent of the population depend on traditional medicine to meet their health care needs (UNCTAD 2004; Kayombo et al. 2013). In developed countries, where allopathic medicine is the preferred method of choice, there is still usage of complementary medicine or traditional medicine (i.e. practices and medicines local to the country and not mainstreamed within Western medicine)(WHO 2013).

The trade in traditional medicine has rapidly increased and is now a multibillion dollar industry (Mhame 2004). Sales of traditional medicine have increased either being bought in person or as digital transactions. During 2002, the estimated global sales of herbal products was estimated at US\$60000 million (Food and Agriculture Organisation 2008). In 2008, the spending in the USA increased to US\$14.8 billion. Between 2002 and the 2012 there was also an increase in demand for herbal plants and products by European countries, while in China and the Republic of Korea there have been increases in market sales of traditional medicine products (WHO 2013). In 2012, sales of traditional Chinese herbs were estimated to amount to US\$83.1 billion, an increase of more than 20 percent over the previous year's sales (WHO 2013)..

### 3.4 Drivers of traditional medicine uptake and usage

This section attempts to unpack some of the drivers for this more recent increase in usage of traditional medicine.

Firstly, one of the drivers has been increased promotion by the WHO, which has recognised and promoted traditional medicine as an important approach in addressing health care needs in developing countries (WHO2013). From 1975, both the United Nations' Children's Fund and the WHO began to encourage the use of local community resources to address health challenges in rural populations. The WHO conducted a global survey in 2002 on the status of traditional medicine (WHO 2002), which led to the production of a global guideline on traditional medicine. This policy recognised the importance of traditional medicine as a main component or complement of primary healthcare. More recently, the WHO has further developed this policy in a strategy document entitled *Traditional Medicine Strategy 2014-2023*. This strategy aims to give guidance for traditional medicine in the next decade as well as help countries develop policy to integrate, regulate and supervise traditional medicine in their domestic domains.

Secondly, the increased cost of health care is another factor that increased the increased use of traditional medicine. According to Deloitte's 2015 Global Health Care Outlook *Common goals, competing priorities*' health spending is estimated to have increased by 2.8 percent during 2013, to total US\$7.2 trillion or 10.6 percent of global gross domestic product. Increases in health care spending are not predicted to slow either: average increases of 5.2 percent per annum are predicted during 2014 to 2018, to US\$9.3 trillion (Deloitte 2015). Furthermore, Deloitte (2015) holds that globally, health care costs have increased as a result of increased health spending on ageing and growing populations as well as the increased incidence of chronic diseases (such as heart disease, diabetes and cancer). In addition, the report states that within developing countries, urbanisation, sedentary lifestyles, changing diets, rising obesity levels, and widespread availability of tobacco products have contributed to increased incidence of these 'lifestyle' diseases. Although not cited by the WHO (2013) as a reason for their increased support for traditional medicine, it seems likely that increased costs would incentivise both governments and individuals to seek alternatives for health care and health promotion.

Thirdly, the perceived safety of traditional medicine has contributed to renewed interest. Access to more information has resulted in citizens being aware of and concerned about the negative

side effects and toxicity of conventional chemical drugs (Abdullahi 2011). People are interested in less toxic and more holistic approaches. In an example from Australia, a 30 percent increase in visits to complementary health practitioners was reported between 1995 and 2005 (WHO 2013). Hence the perceived safety of complementary and traditional medicine is a contributing factor for the development and interest in such medicine.

Fourthly, research and development has made improvements in traditional medicine as well as its benefits more widely known. Because intellectual property rights are now so heavily governed, there is increased interest from commercial bodies who can stand to benefit from investments made into research on traditional medicine and commercialisation (WHO 2013; Rasoanaivo 2011).

Fifthly, national pride in Africa and the African Renaissance have been contributing factors to the uptake of traditional medicine. After the collapse of colonial rule there was a renewed interest in developing national pride among African nations. This recognition was extended to the elevation of traditional medicine as a primary source of health care. Within Africa, this renewal was a way of regaining African identity that included national and cultural values (Stangeland et al. 2008). While some countries like Ghana and Mali have incorporated traditional medicine into their health systems, others like Ivory Coast, Comoros, Seychelles and Cape Verde are less favourable towards TM” (Stangeland et al. 2008: 290). The reasons cited are that traditional health healers work outside their health systems and regulations are non-existent for their registration or licensing.

Having explored the various factors for the renewed interest and uptake of traditional medicine, in the next paragraph the discussion will highlight the impact of international legal instruments on traditional medicine.

### **3.5 Global legal frameworks impacting traditional medicine**

The commercialisation of traditional knowledge has created challenges and opportunities for indigenous communities and countries in the South who are the holders of this rich biological diversity. It is important to explore how international legal instruments impact on indigenous knowledge, which includes traditional medicine. The World Trade Organisation’s Trade Related Aspects of Intellectual Property Rights (TRIPS), the Convention on Biological Diversity (CBD), and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing

of Benefits Arising from their Utilisation (Nagoya Protocol) are three major global intellectual property rights' instruments that impact indigenous knowledge systems and indigenous communities. It is prudent at this stage to discuss these three international legal frameworks in order to provide a backdrop for the discussion around the potential benefits of (section 3.6) and challenges to (section 3.7) traditional medicine.

### **3.5.1 The Agreement on Trade Related Aspects of Intellectual Property Rights**

Discovery and innovation are one of the important aspects for growth of an economy and development of its people. During the past few decades some major corporations developed an interest in biotechnology. This interest and development of technology needed protection and a legal framework was necessary for protection of intellectual property (Joseph 2010).

In 1994 the General Agreement on Tariffs and Trade (GATT) was the body under which the Agreement on TRIPS was negotiated. Later, GATT was replaced by the World Trade Organisation (WTO) (Kabudi 2004). The WTO now administers and monitors the activities of TRIPS, which started off as a global patent system based on the United States' legal concept of intellectual property rights (Tedlock 2006), with the aim of fighting against piracy of western intellectual property by developing countries (Rahmatian 2009).

Later, the aim of TRIPS evolved to harmonise national intellectual property rights laws (Dhar & Anuradha 2004), which is achieved through compelling signatories (member countries) thereto, "enforce revenue collection mechanisms for the use of protected intellectual property"(Marinova& Raven 2006: 597). In addition, TRIPS has the following requirements:

- it mandates countries to provide patents for products and processes in all fields of technology, subject to the tests of novelty, inventiveness and industrial use;
- Members are allowed to make limited exclusions from patentability on the grounds of public order or morality, and in respect of protection extended to human, animal and plant life or health. It also gives States the option for protecting new plant varieties through patents or through any other effective *sui generis* system;
- it recognises as one of its objectives that the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

(Dhar& Anuradha 2004)

Today, the TRIPS agreement focuses on the following: copyright and related rights trademarks, geographical indications, industrial designs; patents, the layout-designs of integrated circuits; and undisclosed information including trade secrets and test data (WTO 2015).A patent is described as:

*A right granted for any device, substance, method or process, which is new, inventive and useful. A patent is legally enforceable and gives the owner the exclusive right to commercially exploit the invention for the life of the patent (Twardowski 2011:28).*

According to the World Intellectual Property Organisation (WIPO), there are three important requirements for the application and approval of a patent. Evidence must be shown that the invention is new or novel; there is an inventive step; and it is capable of industrial application. TRIPS allows a patent holder the right to exclude others from taking commercial and economic advantage of the patented invention for the life of the patent, usually 20 years (Timmermans 2003).

Due to the recent increased interest in traditional medicine, there has been an increased interest in indigenous plant use. Researchers from universities and multinational companies have understood the possibilities of patenting indigenous knowledge for private gain (Tedlock 2006). The United States' Patent Office issued the first patent on plant DNA on 2 December 1980. The patenting of plant life now provides plant breeders with new rights and opportunities to commercialise their innovation (Smith Hughes 2001). However, not all groups view TRIPS and its granting of patents to inventors in a positive light; detractors have concerns that include the view that exclusive rights granted by patents are in conflict with community rights of ownership (Banerjee 2003). Indigenous knowledge, contained in medicine, art, crafts, music and literature, has been viewed as having lesser value than western knowledge systems because it is not individual in nature but is concerned with collective rights of people whose owners and authorship are often unknown (Kihwelo 2009). Hence for indigenous communities, traditional medicine is part of collective ownership and no one person may lay claim to exclusive ownership of it. This is in conflict with TRIPS, which grants patent to individual entities (WTO 2015). Many indigenous communities perhaps are unaware of the commercial value of their indigenous knowledge. This leads to the second criticism that there are negative power relations enforced by TRIPS. So for example, multinational companies have as much, if not more ability to benefit from resources in developing countries (Shiva 2001; Kabudi 2003; Kihwelo 2009).

In Shiva's(2001) view,TRIPS undermines the objectives of “conservation, sustainable utilization and equitable benefit sharing” fought for by developing countries when the Convention on Biological Diversity (CBD) was drawn up (Shiva2001:102). In the next section, the CBD will be discussed.

### **3.5.2 Convention on Biological Diversity**

The CBD was one of the conventions negotiated during the United Nations Conference on Environment and Development, at Rio de Janeiro in 1992 (Dhar & Anuradha 2004). The CBD came into force in 1993 and had a membership of 196 parties (UN 1993). The CBD operationalises environmental law and is viewed by the United Nations (UN) General Assembly as the “key international instrument on biodiversity” (Harrop & Pritchard 2011: 475). This Convention was highly contested between developed countries from the North, who saw conservation of biodiversity as important, and developing countries from the South, who preferred the sustainable use of biological resources including mechanisms to “secure equitable financial and technological transfers” (Harrop & Pritchard 2011:475). After much contestation between the two groups, an agreement was reached. The United States, which was a main player in negotiating this agreement, has signed but opted not to ratify the CBD, meaning it is not bound by its rules. Blomquist (2010) gives a number of reasons for this non-ratification, including that it would not be in the interests of corporate entities because it obscures their expansion plans to explore new cures in biodiversity rich countries. This will be further explored in the subsection addressing biopiracy.

The three main objectives of the CBD are:

- I. the conservation of biological diversity;
- II. the sustainable use of components of biological diversity; and
- III. the fair and equitable sharing of benefits arising from the utilisation of genetic resources.

Previously, biodiversity was said to belong to humankind and thus open to exploitation (Timmermans 2003). At this conference, the consensus reached was that each sovereign State owned its bio-resources and they were able to decide how to use them as tradable commodities (Kartal 2006). The CBD is thus starkly in contradiction toTRIPS, which subjects biological resources to private property rights (Kihwelo 2009). The CBD provides sovereign rights over the genetic resources to States and encourages Contracting Parties to facilitate access to genetic resources for environmentally sound uses (Buck & Hamilton 2011). Another key principle of the

CBD is that, if prior informed consent (PIC) has been obtained, and bio prospecting produces some kind of benefit, this must be shared with the host country. TRIPS have no such requirement and negate the rights of the host country to demand benefit sharing.

Upon ratification of the CBD countries are expected to operationalise CBD protocols into their domestic law. The CBD is regarded as an important global instrument for protecting the rights and traditional ecological knowledge of indigenous and local communities (Oviedo et. al, 2004:76). It specifically highlights the protection of indigenous knowledge and recognises the status of indigenous peoples “as both providers of knowledge and as conservers of biodiversity (Nordin et al. 2012: 12). In the past there was a lack of consultation between indigenous communities and parties seeking to use their knowledge; once information gathered from traditional healers was secured, communities did not enjoy the benefits. The CBD now requires that persons or organisations seeking access to genetic resources need PIC from the Contracting Party (the signatory government) and that it should be on mutually agreed terms.

Harrow and Pritchard (2011) indicate some challenges with the CBD that are not uncommon with other international agreements. They refer to the CBD as a soft law instrument with a framework character meaning it had the aim of developing law that would obligate parties to enforce it, but has instead become viewed as a policy document. In practical terms the CBD does not impose standards but expects a country to operationalise and establish its own legislation. Many signatory countries are still to enact legislation protecting their biodiversity (Timmermans 2003). In the event for example, where a transgression has happened that straddles two territories outside the jurisdiction of a single nation State, the right of recourse becomes difficult. So, for example, if plant material is taken from Namibia and developed in Botswana by German scientists, there is a challenge of seeking a legal remedy in either country if the enactment of national law protecting biodiversity is not in place.

However there are examples where the CBD has created space for bioprospecting to be pursued in a fair manner. In 1991 the National Biodiversity Institute of Costa Rica (INBio) and Merck Sharpe & Dome (Merck), a United States pharmaceutical company, entered into an agreement whereby INBio would provide Merck with chemical extracts from its biodiversity for Merck’s drug screening programme, in exchange for a two-year research and sampling budget of just over US\$1.35 million as well as royalties in the event that any drugs were commercialised (Dhar & Anuradha 2004). INBio agreed to make a contribution of 10 percent

towards the budget and, in the event of successful commercialisation of drugs, 50 percent of its royalties would be given to Costa Rica's National Parks towards conservation of biodiversity. Merck also agreed to assist with technical training in drug development.

Reid et al.(1996) contend that if biodiversity prospecting is done well it can have positive effects on conservation and return benefits to communities. Those who agree with this view feel that it is the role of industry to discover and develop drugs from biodiversity and to develop public-private partnerships between traditional communities and pharmaceutical companies (MacKey & Liang 2012). The opposing view is that the power differential between multinational pharmaceutical companies and communities where the biodiversity is collected is often underplayed (Shiva 1991; Svarstad 2004). In addition, if any benefit sharing agreements have been signed, very few studies indicate success stories where money reaches people in the communities where the source of the biodiversity is located (Banerjee 2003).

Neimark (2012) acknowledges that drug discovery is difficult work and bioprospecting of plants is a complex process. For many multinational pharmaceutical companies, this is expensive and generally takes more than 15 years and at a cost of between US\$50 to 400 million (Neimark 2012). Neimark (2012) shares some of the challenges he encountered in his case study in Madagascar where a bioprospecting agreement had been in place. ICBG-Madagascar, composed of private and public international organisations, companies and academia, needed to reduce research costs and access plants more rapidly. So, instead of using traditional healers who they felt could delay the process or offer resistance to sharing knowledge, they used a mechanised approach, randomly collecting plants and testing them at high speed(Neimark 2012). Before mechanisation, plants were picked over longer periods throughout the year, providing income for the local communities.

Additionally, Neimark (2012) says that local scientists have been deskilled in the process as most of the analysis and development of the drugs is carried out by their US counterparts and they have been reduced to facilitating access to plants. This bioprospecting agreement is in conflict with Article 15.6 of the CBD , which states very clearly that contracting parties should be as heavily, involved as possible in the scientific research process. One of the scientists from Madagascar who was interviewed said, "When it comes down to it, I dream of discovering new drugs because this is what I was trained in. I am just happy to contribute to scientific knowledge

because 50 years down the line you never know...But when I think of the ICBG project, I feel cheated as a Malagasy, as a scientist” (Neimark 2012: 987).

The CBD was passed to address challenges faced by communities who could not protect their biodiversity (and by extension their traditional medicine). In the next subsection I will discuss how the Nagoya Protocol was introduced to ensure that the objectives of the CBD were achieved.

### **3.5.3 The Nagoya Protocol**

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation (Nagoya Protocol) was adopted in Japan on 29 October 2010 by the contracting states to the CBD and came into effect on 12 October 2014 (UN 2014). The Nagoya Protocol is a supplementary agreement to the CBD that attempts to create a legally binding framework to achieve the third objective of the CBD related to benefit sharing (Schindel et al. 2015; UNCTAD 2011).

The Nagoya Protocol “provides a binding treaty framework promising benefit sharing not only to provider countries, but also to the indigenous and local communities situated in such countries that are holders of traditional knowledge and who are associated with the genetic resources being provided”(Chennells 2013:166). All parties are expected to enact legislation and regulations at national and domestic level in their respective countries to this effect. Article 5 “attempts to prescribe more clearly the duties of States to ensure fair and equitable benefit sharing” (Chennells 2013:169), requesting that States put into place mechanisms that ensure indigenous and local communities share in the benefits arising out of the utilisation of genetic resources based on mutually agreed terms. The Protocol also creates incentives to conserve biodiversity.

While the Nagoya Protocol is viewed as a positive development in ensuring indigenous and local communities are consulted prior to the utilisation of their genetic resources, there are some limitations and concerns. Firstly, indigenous communities and NGOs who had input into the negotiations of the Nagoya Protocol argued that their national governments who were meant to benegotiating on their behalf lacked ambition when negotiating the rights of indigenous communities over traditional knowledge associated with genetic resources (Chennells 2013). Secondly, the Protocol cannot deal with the larger ethical argument raised earlier: many

indigenous and local communities regard seeds or traditional knowledge as communally owned, and do not agree that these should be able to be accessed corporate or individual entities for commercial development (Swiderska et al. 2012). However, the main issue remains that the success or failure of the Nagoya Protocol will depend almost entirely on how governments choose to interpret it and effect it into their own national laws(Swiderska et al. 2012).

Having outlined some of the opportunities and challenges facing traditional medicine in relation to the impact of international agreements and frameworks, I will now move onto discussing the potential benefits of traditional medicine.

### **3.6. Potential benefits of traditional medicine**

Firstly, I will discuss what potential benefits are related to countries from a global perspective and then move into the how developing countries benefit from traditional medicine.

#### **3.6.1 Affordability, availability and accessibility of traditional medicine**

The affordability of medicine and healthcare in both developed and developing countries is an important aspect for consideration when people are making healthcare choices. Traditional medicine is noted for being more affordable than conventional therapies for many people in developing countries (WHO 2012). Within Africa, the rising cost of medicine has made traditional medicine more attractive as an alternative to westernmedicine (WHO 2013).Traditional healers are guided by the philosophy of *Ubuntu*<sup>25</sup>(Nkem 2006). They are expected to help their communities without concern about payment for their services (Mhame et al. 2010).

In addition to being affordable, traditional medicine is commonly used in developing countries because it is accessible and available due to the close proximity of traditional healers, and lack of western medical facilities provided by governments(WHO 2012; Moshi 2005). In rural communities especially, the practice of traditional medicine, and *Ubuntu*, providesthe community with access to and availability of health care.

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<sup>25</sup>In South Africa it is a word that is used in the Nguni languages. In isiZulu it is “Umuntu ngumuntu ngabantu”- translated meaning I am because of you.

### **3.6.2 Perceived safety and efficacy of traditional medicine**

As mentioned in the earlier section on the reasons for the recent resurgence in interest in traditional medicine, traditional and herbal medicine is often perceived as safer and less toxic than conventional medicine (WHO 2013, Moshi 2005). Studies conducted on plants in Saudi Arabia to treat liver disease found that herbal products (in addition to affordability and acceptability) were more compatible with the body and had fewer side effects (Al-asmari et al. 2014). Some patients may prefer to use traditional or herbal medications to avoid unpleasant side effects or contra-indications suffered from conventional medication (Abdullahi 2011; Fraenkel et al. 2004). In the treatment of some conditions, traditional medicine may even be regarded as more efficacious than conventional treatments (Sydara et al. 2005).

Traditional medicine is thus often used as an alternative form of treatment for chronic conditions or where conventional medicine is not able to treat diseases such as advanced cancer (Wachtel-Galor & Benzie 2011). It is noted that plant extracts have pharmacological effects on both acute and chronic conditions (WHO 2002). One can imagine a patient informed by a clinician that no further medical assistance is available to cure their disease, turning to traditional medicine as a last option.

### **3.6.3 Traditional healers and links to culture**

Another benefit of traditional medicine is that it affords access to the services of a traditional healer. Traditional healers often play a vital role in the preservation of culture and heritage of a community (Mhame et al. 2010). This is in contrast to conventional doctors who treat patients' symptoms and seldom ask about the spiritual and cultural components of their patients' lives. The goal of a traditional healer is to heal holistically, and attempt to connect patients to social and emotional equilibrium based on the community rules and relationships (Hillenbrand 2006). Ali Abdullahi (2011) in his study on the trends and challenges of traditional medicine in Africa noted the following:

- a) Traditional medicine is in accordance with socio-cultural practices and environmental conditions;
- b) Some patients find that the stigmatisation of some diseases in their communities mean these diseases are best treated with traditional medicine; and
- c) Conditions relating to supernatural causes are best treated by a traditional healer.

According to Dejong (1991), people from the higher echolons of the Ibadan society in Nigeria preferred to visit a traditional healer when supernatural causes were viewed to be the cause of a malady.

#### **3.6.4 Commercial trade in traditional medicine**

Traditional medicine can be commercialised and traded as can any other product, as mentioned in the earlier sections on the governance of intellectual property. In order to manufacture or develop a new product such as medicine, materials are usually sourced from the wild, providing another option for trade for many local communities and companies. In 2011 plant and animal products were sold on the global market for US\$2.2 billion (TRAFFIC 2015), highlighting the opportunities for commercialisation and trade in biodiversity. In forming partnerships with companies who lack biodiversity but have the technical expertise to develop products, local communities could benefit from their traditional knowledge and resources and these products can be traded locally or on the international market. This is, of course, notwithstanding the challenges faced in this commercialisation process that will be further discussed in 3.7.

In order to commercialise traditional medicine, research has to be done to find out what medicinal properties exist in the plants or animal products. Thus, bioprospecting is a necessity of this process of commercialisation of traditional medicine.

#### **3.6.5 Bioprospecting**

Bioprospecting can be defined as “the exploration of biological material for commercially valuable genetic and biochemical properties” (Rasoanaivo 2011: 10). For Beattie et al. (2011), bioprospecting is viewed in terms of searching biodiversity for new resources having social and economic value. While bioprospecting has become a contentious issue, humans have been doing it since time immemorial. In the medical field, pharmaceutical companies engage in bioprospecting in the hope that something novel may be discovered (Dutfield 2003). Often, they look at plants and animal-derived products used in traditional medicine (Svarstad 2004). It is not only the pharmaceutical industry that engages in bioprospecting, but also branches of agriculture, manufacturing, engineering and construction (Beattie *et. al.*, 2011). The discoveries made through bioprospecting could benefit many people around the world who need the medicine or products developed (Solis 2014; Beattie et al. 2011).

If done with the correct intentions and fair benefit sharing, bioprospecting could deliver certain benefits to local communities and more broadly to the country in which the prospecting takes place (Beattie et al. 2011). For example, companies that discover plants that are valuable for commercialisation could pressure the local government to protect biodiversity resources to allow sustainable harvesting (Beattie et al. 2011). Payments from these companies to local communities and local companies who assist would also raise incomes and bring in foreign exchange (Beattie et al. 2011).

### **3.7 Challenges to traditional medicine**

Due to the renewed interest in and potential commercialisation of traditional medicine, it now faces many challenges. In the next section challenges such as biopiracy, sustainability, climate change and conservation of traditional medicine will be discussed.

#### **3.7.1 Biopiracy**

The word 'biopiracy' was coined by a North American advocacy group to refer to the uncompensated commercial use of biological resources or associated traditional knowledge from developing countries, as well as the patenting by corporations of claimed inventions based on such resources or knowledge (Dutfield 2003, Shiva 2010). As mentioned in the discussion on intellectual property rights, patents are seen as key to commercialisation and benefit generation in western business (Joseph 2010), and play a major role in biopiracy. Below follows some examples of acts of biopiracy related to traditional medicine.

Brody (2010) recounts the experience of two Indian academics employed by the University of Mississippi Medical Centre, who applied for a patent on turmeric, which is used to heal wounds. The patent examiner was unaware that turmeric has been part of Indian traditional medicine for centuries and that it was not a novel invention by the applicant (Udgaonkar 1999). A request was made by the Indian Council on Scientific and Industrial Research to re-examine the patent. The Council supplied 32 references to publications indicating that turmeric was part of ancient Ayurvedic medicine to treat dermatological ailments and protect crops from fungal infections (Shukla 2010). Hence no person could apply for a patent on turmeric because it was not a novel invention. The request was acceded to on 28 March 1997 and the patent was revoked (Brody 2010).

The next example highlights an act of biopiracy in South Africa. The San people (who inhabit Botswana, Namibia and South Africa) use Hoodia (*Hoodia gordonii*) as an appetite suppressant (Chennells 2013). Knowledge of the San's use for Hoodia inspired the Council for Scientific and Industrial Research to conduct research to isolate the appetite suppressing agent, which resulted in the registration of a patent in 1996 for the active ingredient P57. A British pharmaceutical company, Phytopharm, licensed the rights to Hoodia from the CSIR and then entered into an agreement with Pfizer to market and develop the herb (Ezeanya 2013). The San challenged the patent in 2001, claiming that their rights based upon their traditional knowledge were infringed. The CSIR acknowledged that the claim was valid (Dutfield 2003) and, after mounting media pressure, the CSIR agreed to a benefit sharing agreement that was signed in 2003 with the San community. It entailed giving the San Council a six percent share of future royalties. The patent was unsuccessfully licensed first to Pfizer Inc., then in 2005 to Unilever. A new commercialisation plan of Hoodia has commenced with the San now part of the joint venture (Chennells 2013). However, this is not necessarily a happy ending: Ezanya (2013) has criticised this agreement because what the San will receive from it will pale in comparison to what profit will be derived from the sale of the products.

The CBD and Nagoya Protocol were drafted specifically to try and avoid acts of biopiracy, but it is clear that they remain fairly ineffective. The power of TRIPs remains superior, through the enforceability accorded to the World Trade Organisation. Hence biopiracy remains a challenge to holders of indigenous knowledge. The following section outlines other challenges to traditional medicine that have been identified by the WHO.

### **3.7.2 Challenges identified by the WHO**

The WHO Traditional Medicine Strategy 2014-2023 (2013) provides a global and composite overview of the challenges to traditional medicine. These include:

#### **a) National policies, law and regulation**

In the earlier sections on intellectual property rights and protection of biodiversity, it was made clear that the CBD and Nagoya Protocol have been ineffective due to the fact that they rely on individual governments creating their own national policies and laws that uphold the principles of PIC and benefit sharing. Developing national policies, laws and regulations for traditional medicine has also been identified as a challenge by the WHO, but more in relation to issues like

regulating the practice of traditional medicine. The biggest challenges WHO member countries are facing are related to a lack of research data on the best mechanisms to control and regulate traditional and complementary medicine advertising and claims, as well as the various herbal products flowing into countries (WHO 2013). Very few developing countries are able to regulate traditional medicine because experience of use is non-documented. China, India, and South Africa have been able to place some form of regulatory framework in place to address this issue (Robinson & Zhang 2011).

**b) Quality, safety and effectiveness of traditional and complementary medicine,**

Although this was also listed as a benefit in the previous section, there is not widespread agreement on these issues and some groups maintain that the safety and efficacy of traditional medicine has not been sufficiently proven (Mbwambo et al. 2007). This failure to establish efficacy, safety and quality is a concern for both the public health sector and some users of traditional medicine.

For example, while there is a perception among some users that traditional medicine is safe because products are sourced from natural sources (Robinson & Zhang 2011), there are risks associated with incorrect usage and consumer knowledge around these risks is low. There are additional risks associated with traditional medicines that include animal-derived ingredients. According to Alves and Rosa (2007) infectious diseases can be transmitted from animals to people and several animal parts could be sources of *Salmonella*, which causes illness such as diarrhoea, tuberculosis or rabies.

The WHO (2013) also has concerns around the sale and use of poor quality, adulterated or counterfeit products in the traditional medicine industry. According to a News 24 article, “there are about 155 000 untested products sold in South Africa (Health 24 2014).

**c) Risks associated with traditional and complementary medical practitioners**

Due to the lack of regulation in most countries, it is unsurprising that there are many unqualified practitioners who misdiagnose, delay diagnosis, or fail to use effective conventional treatments (Kayombo et al. 2013). The professional manner of conducting a practice or lack of it has an impact on patient care. In the current economic climate, high unemployment has resulted in a sudden increase of traditional healers as well as an increase in charlatans (Abdullahi 2011). The sudden increase in unqualified and duly accredited traditional healers can be problematic

because of the potential risks to the population. Patients trust traditional healers and there is a fiduciary duty of care that is expected of them. If unqualified to work with patients, they (charlatans) risk bringing the practise of traditional medicine into disrepute. Or, more gravely, patients could lose their lives.

#### d) **Research and development in traditional medicine and complementary medicine**

Research in the medical field is important in the pursuit of new cures and there is inadequate research into traditional medicine (WHO 2013). However, given the fact that many developing countries have limited budgets for research, the focus should perhaps be on what is currently used, like developing harvesting, production, storage and treatment practices and technology (Mander 2007). This could also help to ensure greater consistency in products, and thus reduce issues with efficacy and safety (WHO 2013).

This section has highlighted the challenges to traditional medicine that exist in the literature specifically related to traditional medicine. However, my studies in sustainable development have made me aware of a broader set of challenges that have the potential to impact negatively on traditional medicine. The following section thus provides an overview of some of the most pressing sustainability challenges and describes how these could impact traditional medicine..

### **3.8 Sustainability challenge to traditional medicine**

Sustainability can be expressed as the interrelationship and tensions between society, nature and the economy. In 1987 the World Commission on Environment and Development (WCED), published *The Brundtland Report* that contained a negotiated definition of sustainable development: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Swilling & Annecke 2012: 26). This definition has been widely adopted, but plagued by definitional debates.

Swilling and Annecke (2012) sidestep these debates by working from the starting point that the current trend of human consumption and development is unsustainable and will affect life on earth as we know it. Fundamental changes will have to be made to avert what is referred to as a polycrisis, based on Edgar Morin's definition: "a nested set of globally interactive socio-economic, ecological and cultural-institutional crises that defy reduction to a single cause" (Swilling 2013: 98). Swilling and Annecke (2012) then identify seven crises (often highlighted in a key document) that interact to make up the polycrisis: ecosystem degradation,

global warming, oil peak, inequality, urban poverty, food insecurity and material flows. These crises are described below, with a focus on the links to traditional medicine.

### **3.8.1 Ecosystem degradation**

The Millennium Ecosystem Assessment (MEA) (2005) was the first global assessment of the status of the ecosystems that support human well being. The report found that 60 percent of ecosystems are degraded; non linear changes in ecosystems are occurring that affect human well being, and that the harmful effects of ecosystem degradation are borne by the poor and could be a driver in exacerbating poverty (MEA 2005).

Ecosystem services are the benefits provided by ecosystems: provisioning services (e.g. food, water), regulating services (e.g. climate regulation), cultural services (e.g. spiritual or religious aspects) and supporting services (e.g. pollination) (MEA 2005). Traditional medicine relies on both provisioning and ecosystem services, so the sustainability of these services are vital to people who rely on biodiversity for health promotion, livelihoods, and links to their spiritual or cultural practices, as well as further medicine research and development. The extensive degradation found by the MEA (2005) thus impacts negatively on these aspects (e.g. access to medicines) and could potentially create a health crisis in communities who rely on traditional medicine as a primary health care tool.

However, traditional medicine has also contributed to this degradation. The global demand for traditional medicine and its products, as well as increasing demand from commercialisation, has led to over harvesting and placed pressure on ecosystems that could lead to valuable plants and animals becoming extinct (Wynberg 2000). The sustainable use, preservation and conservation of biodiversity are therefore paramount in ensuring that traditional medicine is available for society now and in future. In order to sustain traditional medicine, the focus needs to be on conservation, regulation and sustainable use of biodiversity (Timmermans 2003).

A distinction needs to be made between conservation efforts that place restrictions on traditional medicine access and usage for industry as compared to usage by communities and healers. The restriction placed on industry demand could aid in conservation providing effective regulation in place. However, traditional medicine usage by communities and healers could encourage preservation of traditional medicine while denying access could erode knowledge and ultimately lead to extinction of traditional knowledge and plants (Timmermans 2003).

Based on the above, the wellbeing of communities who rely on traditional medicine as a primary source of medicine or livelihood may find themselves most affected by the degrading ecosystems.

### **3.8.2 Climate change**

The second global crisis is climate change. Climate change refers to changes to global climate that are outside of natural variations, caused by anthropocentric actions like the burning of fossil fuels (IPCC 2013), Climate change will result in rising average temperatures, extreme weather conditions (more floods and droughts), changes in rainfall patterns etc. (IPCC 2001). These changes will have largely negative consequences for ecosystems, like reduced water resources, desertification, habitat destruction and species extinctions (IPCC 2001).

The poorest of society, who are the ones most closely reliant on ecosystems, will feel the impacts most severely (IPCC 2013). As mentioned earlier, the poor often cannot afford or access health care. With climate change, plant and animal species are and will continue to be rapidly lost and “will lead to changed ecosystems, and an overall poorer natural environment. This will then affect what plants people can use around them” (Saslis-Lagoudakis et al. 2014). Traditional medicine will suffer as the natural resources that have been relied on for centuries are no longer available. The IPCC encourages policy makers and planners to prepare adaptation strategies for the poor are most vulnerable to climate change (IPCC 2013).

### **3.8.3 Oil peak**

Oil accounts for 60 percent of the global economy’s needs (Swilling 2012), so rising oil prices translate into rising prices for many other commodities and inputs required in our daily lives. And oil prices are expected to continue to increase over the long term, as the International Energy Agency has stated that the ‘end of cheap oil’ has arrived with no new oil fields being discovered (Swilling and Annecke 2012). The dependence of the global economy on cheap oil is an extreme risk and we require a change of mindset in our outlook and planning to survive the coming scarcity. If we think of this crisis in terms of medicine and healthcare, the cost of inputs for making medicine will rise, impacting the price the consumer will have to pay. The production of medicines uses oil and its by-products and these products then have to be transported around the globe. The oil peak crisis could thus have a negative impact on health, although perhaps more locally produced plant-based medicines could be seen to have a potential competitive advantage in this situation.

### **3.8.4 Inequality**

The United Nations Human Development Report (1998) concluded that inequality has increased. Twenty percent of the global population who live in the richest countries account for 86 percent of total private consumption expenditure while the poorest 20 percent of the population account for just 1.3 percent (Swilling 2012). These high levels of inequality are often seen as a driver eroding the social fabric of society. Reducing inequality should be a global imperative, and also a clear motivation for ensuring that poor communities in developing countries are able to benefit from any profits made from their genetic resources.

### **3.8.5 Urban poverty**

A UN report entitled *The Challenge of the Slums* (2003) highlighted the rising urban poverty problem: there are nearly one billion people living in slums, i.e. one-third of the population who reside in urban areas are slum dwellers. Given the massive urbanisation wave currently engulfing developing countries in particular, (just over half of the world's population lived in urban areas by 2007) (Swilling & Annecke 2013), it is clear that the number of slum dwellers is growing and will continue to increase. This has severe consequences for healthcare in these countries, as governments struggle to provide adequate services in slums, and slum dwellers lose the access to affordable traditional medicine they may have had in rural areas.

### **3.8.6 Food insecurity**

A report provided by the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) (2009) highlighted the various challenges affecting agriculture, that have resulted in the shocking levels of food insecurity globally, and increased concerns around how the world can produce enough food to feed the growing global population in light of resource limits. Some of the challenges they mention include that 23 percent of all land is degraded to some degree; that current farming methods are highly damaging to ecosystems and water resources; and that there is an increase in chronic diseases that are partially a consequence of poor nutrition and poor food quality as well as food safety. The IAASTD (2009) concluded that smallholder farmers and sustainable production methods (like agro ecology) need to be better promoted. The poor outcomes of the current food system are possibly also one of the contributing factors to the rise in traditional medicine, as people faced with health problems from poor diets seek healthcare. However, traditional medicine is likely to

face challenges in terms of competing access to resources as agricultural production expands in the coming decades.

### **3.8.7 Material flows**

According to Swilling (2012), a report released in 2011 by the International Resource Panel stated that by 2005 the global economy depended on 500 exajoules of energy and 60 billion tonnes of primary resources (biomass, fossil fuels, metals and industrial and construction minerals). The usage of these resources amounted to a 36 percent increase since 1980. At this rate the consumption is unsustainable and we will run out of resources with which to run our planet.

### **3.8.8 Summary**

The above discussion highlighted the crises we need to solve to secure a sustainable future for humanity. The continual exponential growth in population size and resource usage in a finite environment will halt economic growth and development (Brown et al. 2014). But, more importantly, the rural and urban poor are often the worst affected. Traditional medicine needs to be sustained for its multiple uses and benefits that are needed particularly by these populations.

Thus far in the literature review, a global view of traditional medicine has been explored. There are various benefits that are derived from using and commercialising traditional medicine and ensuring that it is complementary to the health service of many nations. There are also challenges that impede the potential of traditional medicine being realised by all sectors of the world but, more so, the rural and urban poor in developing countries. In the next section, the focus shifts to understanding the potential benefits of and challenges to traditional medicine in Tanzania.

## **3.9 Case study: Traditional medicine in Tanzania**

### **3.9.1 The national context**

The former German colony of Tanganyika and Zanzibar merged to form the United Republic of Tanzania in 1964 (CIA, 2014). Tanzania is situated in East Africa and shares borders with Burundi, Democratic Republic of the Congo, Kenya, Malawi, Mozambique, Rwanda, Uganda and Zambia. It has a land surface of 947303 square kilometres. According to Tanzanian

National Bureau of Statistics 2012 census, the population is just below 45 million people; with the Mainland (excluding Zanzibar) having a predominantly rural population (70.9 percent)(National Bureau of Statistics (NBS) 2014). The youth literacy rate (15-24 years) is 85.9 percent. Tanzania's economy is based on agriculture, which contributes to almost half of its gross domestic product(National Bureau of Statistics 2014). Tanzania is a country with a widely noted rich and varied biodiversity, which is an important source of medicinal value (Kayombo et al. 2013).



**Figure4: Map of Tanzania**  
**Source: Maps of World (2015)**

### 3.9.2 Status of traditional medicine and health care in Tanzania

Traditional medicine would have been practiced within Tanzanian society since its settlement by humans. According to Chirangi (2003) Arab traders who arrived along the East African shores would have brought new influences to the local traditional medicine from their Islamic religion and Arabic medicine. The British succeeded the German colonisers and introduced a Witchcraft Ordinance in 1929 that forbade the use of witchcraft (Stangeland et al. 2008). Post-independence, the Health Ministry issued the Medical Practitioners and Dentists Ordinance of 1968 that sought to give support and recognition to traditional healers and their right to practice in Tanzania(Mbwambo et al. 2007). Furtherdemonstrating its commitment to traditional medicine, the government passed the Traditional and Alternative Medicine Act No. 23 of 2002.

The Act elevated the status of traditional healers and birth attendants (Chirangi 2013), and encouraged co-operation between conventional health care practitioners and traditional healers. Traditional medicine is now regulated by the Health Ministry (Stangeland et al. 2008). The 1<sup>st</sup> of September is celebrated as Traditional Medicine Day in Tanzania since 2003. Hence, traditional medicine is recognised by the government (Kayombo et al, 2007; Kayombo et al., 2012).

Moreover, the government in realising the need to foster the development of traditional medicine into the conventional health system established the Traditional Medicine Research Unit at the University of Dar es Salaam in 1974. It was later succeeded by the Institute of Traditional Medicine (ITM) in 1991 (Mbwambo et al. 2007). The purpose of the Institute was to provide research into traditional healing systems, identify plant material for development into drugs and to improve human health (MUHAS 2013).

It is estimated that there are over 80 000 traditional healers in Tanzania (Chirangi 2013; Augustino et al. 2014) in various fields such as, “traditional medical practitioners, including traditional healers, herbalists, traditional birth attendants and midwives, circumcisers, bone setters fortune tellers and predictors and soothsayers” (Chirangi 2013: 120). Traditional medicine is used to treat a variety of physical, sociologically and spiritually related issues.

Traditional medicine usage ranges between 60 and 70 percent as a source of primary in health care in Tanzania (Kayombo et al 2012). Reasons given for selecting traditional medicine as a health care option included insufficient funds to pay for conventional medicinal drugs, facilities and medical personnel and that conventional health facilities were limited or lacking in most rural areas and urban slums (Kayombo et al 2012). Later research supported this finding, with the ratio of traditional healers to the general population being 1:500 as compared to a medical doctor, which is 1:25000. The usage of medicinal plants for self-care is a common practice in Tanzania (Augustino et al. 2014).

### **3.10 The potential benefits of traditional medicine in Tanzania**

#### **3.10.1 Access to traditional medicine**

Access to western health care is a challenge for many urban poor and rural populations in Tanzania, and reflected in the high usage of traditional medicine in Tanzania (between 60 and 70 percent) (Kayombo et al. 2012).

### **3.10.2 Trade in traditional medicine**

During 1997-1999 the export of Tanzanian medicinal flora and fauna expanded (Mbwambo et al. 2007). In terms of domestic and international trade of traditional medicine in Tanzania, the country appears to mirror the global trends in increasing trade and interest in traditional medicine. In their more recent study, Kayombo et al. (2013) note that Tanzania is an importer of plant derived pharmaceuticals from Korea and India despite the high demand for locally grown products such as *Prunus africana*, *Moringa oleifera* and *Withania somnifera*. Their assertion is that the plant extracts currently being sold internationally could also be sold to the domestic market. The sale of traditional medicine products in local markets has the potential to improve livelihoods and thereby address issues such as poverty.

### **3.10.3 Multiple uses of traditional medicine**

Conventional medicine often treats symptoms of a disease. Kayombo et al. (2013) found that traditional medicine afforded patients additional benefits such as being used as a preventative option as well as food supplements. For communities faced with a shortage of conventional medicines and general medical resources, multiple uses of traditional medicine provide an affordable option in preventing disease. Kayombo et al. (2013) further revealed that interwoven with the traditional medicine was the traditional healers' knowledge of how health care could be used to address other socio-economic factors such as improved health care, animal husbandry amongst others.

## **3.11 Challenges facing traditional medicine in Tanzania**

Various stakeholders in the population as well as local and global socio-economic factors bring about challenges to traditional medicine. In the next section I will outline how the international protocols have impacted on traditional medicine in Tanzania. As will be discussed, there are some laws in place to protect traditional medicine, while others offer no protection and have not been developed. Thereafter I will discuss how local factors are challenges to traditional medicine.

### **3.11.1 International intellectual property rights instruments**

A study conducted by Wekunda (2012) in eight countries (Ethiopia, Kenya, Malawi, Mozambique, Lesotho, Swaziland, Tanzania and Uganda) found that Kenya was the only

country that had a policy on traditional knowledge. All others have limited legal and policy frameworks for traditional knowledge. While Tanzania has legislation on traditional and alternative medicine under the Ministry of Health, as mentioned earlier, current legislation does not protect traditional knowledge holders from the consequences of globalisation and its intellectual property rights enforcement.

Tanzania is a signatory to the global frameworks discussed earlier in this chapter: TRIPS, the CBD, and the Nagoya Protocol. As a Contracting Party to these international protocols, Tanzanian law should harmonise or develop legislation in line with these frameworks. This can create tension because, on the one hand the country is bound to recognise the intellectual property rights framework, while enacting legislation at national level to operationalise the CBD. While I cannot provide a legal analysis of the adequacy or inadequacy of Tanzanian law, I can highlight various opinions from the literature on the legislation that currently affects the protection or lack thereof of traditional medicine.

The Tanzanian government has enacted legislation that maybe an attempt to operationalise the CBD. It enacted the Environmental Management Act of 2004 that contains a legal and institutional framework for sustainable management of the environment (United Republic of Tanzania 2009). The Act aims to protect biodiversity and creates different environmental protection, conservation and management plans. It was not clear to me however whether this Act does enough to protect biodiversity, nor how much input there was from traditional communities. Later on, I will highlight some examples of biopiracy in Tanzania, which would seem to indicate that perhaps not enough has been done to effect the provisions of the CBD.

Tanzania is a signatory to TRIPS and patents related to traditional medicine are clearly in use in Tanzania. The Institute of Traditional Medicine at Muhimbili University, for example, has been able to secure patents for products they have created from medicinal plants: Morizela Juice (Patent number: TZ/P/07/00150) and Ravo cream (Patent number: TZ/P/07/00151). A clinical trial on Prucan capsules has been successfully passed (Magadula; Joseph 2009). While the awarding of the two patents was a success in recognising the intellectual property rights of developers, there have been instances where these rights have been disregarded. I will outline an example where an act of biopiracy has been committed.

### 3.11.2 Biopiracy

The example of biopiracy in Tanzania in this section shows that the government has failed to enact the protections encouraged in the CBD and the Nagoya protocol. I will outline an example of a case of biopiracy that occurred in a remote part of Arusha involving the Oloisuki tree (*Zanthoxylumchalybeum*)(Laltaika 2011). In 1998 a Swiss botanist, who worked as a researcher for the Swiss government, arrived in Tanzania. He lived among the local Masaai people in a village called Loiborsoit about 10km south of Arusha. For a period spanning more than ten years he conducted research on this yellow-barked tree renowned to reach up to 12 meters tall and characterised with sharp thorns (known in Kiswahili as “manundunundu”). The Oloisuki tree has many medicinal uses among the Masaai: it is used to treat malaria, stomachache and fever. Masaai herders are known to use the tree for treating livestock afflicted with intestinal infections. The figures below show the tree and its seeds.



**Figure 5: Oloisuki Tree**



**Figure 6: Oloisuki Seeds**

During the time that he lived in the village, he established an NGO to address poverty in the area as well as conservation of biodiversity. He also used this time to collect samples of Oloisuki and send them to Switzerland for examination. He also used 45 village women to pick Oloisuki, for which they were paid approximately US\$40 per kilogramme. Later, Oloisuki products began to appear for sale in the village, imported from Switzerland: tablets, syrup, toothpaste, soap, soft drinks and lotion.

This is regarded by Laltaika (2011) as an act of biopiracy because this all happened when the CBD was in operation. The requirement of the CBD is that there should “the fair and equitable sharing of the benefits arising out of the utilization of genetic resources” (UN 1993). In this case, there was no prior informed consent (PIC) obtained from any governmental institution<sup>43</sup> or the villagers. Secondly, there were no benefit sharing agreements put into place.

Tanzania as a signatory to the CBD and Nagoya Protocol is expected to have legislation in place to address issues pertaining to benefit sharing and utilisation of genetic resources. There is clearly a need for the Tanzanian legislature to address the gaps in law affecting traditional medicinal knowledge. Indigenous communities look to their leaders to provide a legislative framework to ensure that they are protected and their knowledge is preserved.

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<sup>43</sup>In his report (Laltaika 2011) mentions that during the interview it was established that the Swiss national operated as a tourist without a permit. Permits are issued by the Tanzania Commission for Science and Technology (COSTECH). There were no agreements documenting PIC, Mutually Agreed Terms and the sharing of benefits arising from utilisation of Oloisuki.

### **3.11.3 Attitude of conventional medicine**

Despite extremely high use of traditional medicine in the general population, it has its detractors who often cite unethical practices among healers (Kayombo et al. 2013). These include when healers delay the referral of patients to conventional health care centres, when they demand exorbitantly high prices from patients, when they disrespect patient confidentiality by conducting consultations in public settings and when they deliberately provide inadequate doses of medication in order to force patients to return for future visits. In addition, Kayombo et al. (2013) state that many doctors within the conventional medical fraternity, continue to shun traditional medicine. Despite the efforts by the Tanzanian government in having passed the Traditional and Alternative Medicine Control Act, 2002, to bring traditional medicine and conventional medicine under one body, this stigma still exists.

### **3.11.4 Climate change**

Climate change has an impact on development in Tanzania. During the last thirty to fifty years there has been a steady increase in temperature, which has had an effect on most economic sectors in Tanzania, and Tanzania's development goals are being threatened by climate change (Mboera et al. 2011). Tanzania has targets set for economic growth but climate change could make these almost impossible to achieve through changes to the natural systems and resources, which will have an impact on labour and infrastructure (Mboera et al. 2011). Ultimately, it is the poor who will feel this impact.

Recent studies on climate change in Tanzania show that there will be an increase in extreme weather events (URT, 2003). The extreme weather events in Tanzania are associated with flooding, droughts, cyclones, tropical storms, all of which are likely to be more intense, frequent and unpredictable (Shemsanga et al. 2010). Mount Kilimanjaro, for example, is rapidly shedding most of its glacial top, with the prediction that within the next ten to 20 years, the summit will be bare. For those communities who rely on water from this mountain, it could prove to be catastrophic. Agriculture and animal lives will be impacted by this loss (Mboera et al. 2011) and, I would add, potentially the plants used in traditional medicine.

Another impact of climate change will be on health. According to an earlier Intergovernmental Panel on Climate Change report (Bernstein et al. 2007), when temperatures are extreme, they can lead directly to loss of life. When ecosystems are disturbed by climate-related events,

infectious diseases can spread. Infectious diseases such as cholera, diarrhoea and typhoid, all of which are climate sensitive, have wider socio-economic consequences for Tanzanians (Shemsanga et al. 2010). Warmer temperatures have the potential to increase water and air pollution (Bernstein et al. 2007). While traditional medicine may prove helpful in treating some of these diseases, the very weather events that cause an increase in infectious diseases may also cause an associated reduction in availability of the necessary plant resources. Increases in infectious diseases would mean more medicine (and hence plant material) would need to be available to cure patients (Christian 2014). Within Tanzania, if traditional healers cannot access material to make medicine, it could lead to a health crisis.

### **3.11.5 Biodiversity loss**

Human socio-economic activities in accessing and using Tanzania's resources have put pressure on the biodiversity (Kayombo et al. 2013). These include encroachment on forests due to population growth. Although there used to be a strong cultural prohibition on destroying forests, as more land is needed to settle the increasing numbers of the population, forests are being cleared for this purpose. Forests are also negatively affected by rural communities and others cutting down trees for lumber. Forests house medicinal plants and in the process of clearing land, biodiversity is affected. In Tanzania the rate of depletion of forests is estimated to be between 300000 to 400000 hectares per year.

Unsustainable harvesting of traditional medicine has also contributed to the aggregated loss of biodiversity. Poverty and high unemployment in rural areas are viewed as the main causes of unsustainable harvesting of traditional medicine (Augustino et al. 2014).

### **3.11.6 Research and development**

Research and development of traditional medicine is important for the development of new medicines. However, very little government funding is directed to these activities and there is a heavy reliance on donor funding, which Kayombo et al (2013) feel does not always serve best domestic interests in traditional medicine.

### **3.11.7 Inadequate access to medicinal plants**

There are conflicting policies and by-laws pertaining to how people can access medicinal plants. Different government departments work in a silo method. There is often no collaboration or planning between the various agencies. So for instance, some medicinal plants are useful as

timber products in the manufacture of utensils or building poles and are prohibited from being accessed and used by traditional communities because of their economical value (Kayombo et al. 2013). The lack of co-operation between the policy makers and policy implementers has placed traditional communities in difficult predicaments because they are unable to access traditional medicine. The inability to access traditional medicine has the potential to affect delivery of health service for people in rural areas and the urban poor.

### **3.11.8 Loss of traditional knowledge**

An overall loss of traditional knowledge more broadly in Tanzania results in challenges to traditional medicine. This loss in traditional knowledge is being driven by the urbanisation challenge mentioned earlier. Because traditional knowledge is orally transmitted from one generation to the next, older traditional healers need mentees to work with them so they can receive the knowledge. However, Tanzania is facing a large migration of youth to towns and cities for study and/or looking for any possible job even if the probability is very uncertain (Kira & Komba 2012). With the movement of people to the cities, and children to schools, a vacuum has been created that increases the chances of loss of knowledge and traditional medicine has the potential for dying out. Traditional healers are custodians of knowledge and culture in communities. In the event that their presence is diminished, a space is created for 'quacks' or 'charlatans' to emerge (Kayombo et al. 2013). The loss of traditional medicine has also been exacerbated by the introduction of complementary and alternative medicines. These new medicinal options place a challenge to traditional medicine because more options become available to patients and traditional medicine loses its prominence (Kayombo et al. 2013). Thus the loss of traditional knowledge is a threat not just to traditional communities but also for the society at large.

Linked to the oral tradition, the loss of traditional medicinal knowledge is threatened by the lack of written documentation. The transmission of traditional medicinal knowledge on preparation on plants, their usage and preparation of medicine is passed on orally in a secretive way usually from one healer to another. This indigenous knowledge is not stored in any recording system or database to capture indigenous knowledge. This creates difficulty for new healers who rely on memory for the practice of this modality (Chirangi 2013). According to Chirangi (2013), there have been some efforts made to document the knowledge yet these efforts are still too minimal. Moreover, despite studies done in medicinal, aromatic and cosmetic plants at the National

Institute of Medical Research and the Institute of Traditional Medicine at the University of Muhimbili, updated information in medicinal, aromatic and cosmetic plants is lacking.

### **3.12 Conclusion**

The chapter commenced by providing a workable concept of traditional medicine and then addressed its history, decline and recent upsurge in popularity. The key benefits of and challenges to traditional medicine were discussed from a global perspective and placed in the context of the need for sustainable development more broadly. Lastly, I addressed what the literature highlights about traditional medicine in Tanzania. In the next chapter, I will explore the findings from my empirical research on the experiences of traditional healers and experts in relation to the benefits and challenges in rural and urban settings.

## **Chapter 4: Empirical findings**

### **4.1 Introduction**

This chapter presents the empirical information gathered from 12 field interviews with two experts, ten traditional healers including one having a dual role as an elder. They resided in Dar es Salaam and the districts of Kiteto and Simanjiro, respectively. It also includes information gathered from my observations of traditional medicine practice while living in Tanzania for ten months between October 2014 and July 2015. While Chapter 3 presented the findings from the first research question, which was to understand what the literature says about the challenges to and benefits of traditional medicine in Tanzania, the present chapter reflects the learning from the empirical component, which aimed to better understand the experiences of rural and urban traditional healers in Tanzania with regard to the challenges and benefits of traditional medicine.

The chapter starts with a reminder of the research setting in which I conducted the research, before providing insights from my observations of the setting gathered through living in Dar es Salaam for ten months. This is followed by a general description of each interviewee, as this allows more observations and insights to emerge, before the main themes and findings from the interviews are presented.

### **4.2 Research setting**

A detailed description of the study area was provided in subsection 2.6.2 of Chapter 2. Very briefly, I remind the reader of the sites where the study took place. In Dar es Salaam, two experts were interviewed at the Institute of Traditional Medicine at the University of Muhimbili and three healers were interviewed from the communities of Makongo, Kimara and Tegeta. In Arusha, PINGO'S Forum facilitated interviews in the Manyara region, which includes the Simanjiro and Kiteto districts. Within this setting seven healers of which one was also an elder were interviewed. In the section below, I present insight into the places I visited and observations made during my interviews that reflect cultural and traditional experiences of those practising traditional medicine.

### **4.3 Observations while living in Dar es Salaam**

I lived in Survey, which is a suburb within 15-20 minutes walking distance to the University of Dar es Salaam. My peers informed me that it is an upmarket suburb and it did appear to have better infrastructure than some of the communities where I conducted the interviews. For

example, in the compound where I resided, there were back-up generators to address the constant interruption of the electricity and water supply. The owner was a retired professor who previously worked at the University of Dar es Salaam. On an almost weekly basis he rented out his rooms to visiting academics that usually came from countries outside Tanzania.

I could walk to Mlimani City mall, which houses national, regional and international retail stores like Nakumatt (Kenya), Game, Mr Price (South Africa), KFC and Samsung (international). The mall also had a pharmacy, so there was fairly easy to access western medicine in this area, with another pharmacy 500 metres from where I lived. I did wonder if this medicine was affordable to all sectors of society.

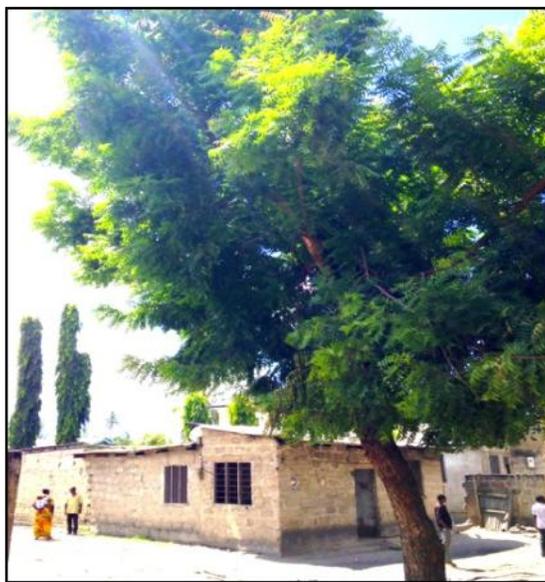
I was exposed to traditional medicine during my time living in the city without specifically looking for it. On one occasion while at the University campus, a Masaai man was walking around, moving from table to table at the student cafeteria. He was selling an assortment of plants and cut up branches. He said that his products boost immunity and male sexual performance. The conversation around safety and efficacy of his products arose and a Tanzanian student attested that the herbal medicine was efficacious and safe.

On another occasion, I noticed that on a Sunday the local restaurant where I purchased food during the week was closed. It is in a fairly open space where people could use the tables and chairs to be seated. While walking by, I noticed traditional medicine for sale being displayed on tables. Most of the medicine was composed of plant material that included dried cut up branches and bark. I did not spot any animal parts. These were the only two occasions I saw traditional medicine being sold in or near Survey.

Just when I thought that perhaps traditional medicine was not very popular in my area, I went to *posta* (the city centre) and Kariakoo and noticed several Masaai men and women in different places selling traditional medicine. From my cursory glance, I was too far to notice whether their medicine included animal parts. Most of the medicine for sale looked as if it was composed of plant material.

Several people I met in Dar es Salaam and had casual conversations with, both young and old told me that they grew certain plants and herbs at home for self-medication purposes. Many said that aloe Vera was a popular plant that was used for treating many illnesses. Another

popular tree I noticed growing in the city was the Neem tree (figure 7), which I often saw growing outside people's homes.



**Figure 7: Example of Neem tree**

One of my guides informed me that the Neem tree is well known and is said to heal 40 diseases, including malaria. In Swahili it is referred to as '*marubaini*'. If bitten by mosquitoes, people boil the leaves and drink the liquid. This tree and many other trees around Dar es Salaam have a connection to people and their culture. Often local people I had conversations with could point out a tree and explain its uses or the tree's cultural significance. This information was passed down from one generation to the next. Most people I spoke to informed me that traditional medicine is something their parents or grandparents used. Based on this experience, they did not need to visit a conventional western doctor. From these conversations, most would visit a western doctor if the traditional medicine did not work. I was also warned about many traditional healers who were 'charlatans'. They said these people could offer medicines that could treat diseases, yet their primary focus was to make money.

#### **4.4 General description of interviews**

The interviews took place during the last two weeks of July 2015. Of the 12 interviewees, two were female and the rest of the participants were male. The median age of the traditional

healers, experts and elder was 62. The eldest interviewed participant was 95 years old and the youngest 25 years old. Three traditional healers and two experts were from Dar es Salaam. Four healers including one having a dual role as an elder were from Simanjiro district and three healers were from Kiteto district. I opted to interview him as a traditional healer, while allowing him to move beyond the questions asked to provide additional information on his role as an animal doctor.

#### **4.4.1 Expert interviews conducted at Institute of Traditional Medicine, Dar es Salaam**

A post-doctoral fellow at the University of Dar es Salaam referred me to Professor Mahunna, who was head of the Institute of Traditional Medicine (ITM) at Muhimbili University. After our interview, Professor Mahunna suggested that I contact his colleague, Dr. Kayombo, a medical anthropologist and current chairperson of the Traditional and Alternative Medicine Council, a government agency. Both experts were accommodating to meeting my request and offered much insight into their work as well as the work of the ITM and the Council. I will combine the findings from the interviews because they were similar in content.

Professor Mahunna related how difficult it was to be involved initially with traditional medicine because people regarded it negatively and as less worthwhile than western medicine. Nowadays traditional medicine seems to have a higher standing within Tanzanian society. Dr. Kayombo confirmed this assertion by providing some examples of closer institutional ties that existed between the ITM and the academic institutions. The ITM has developed a curriculum and currently offers courses in traditional medicine at both undergraduate and postgraduate levels. The ITM hopes to later introduce this curriculum into other tertiary institutions.

Product development is another focus at the ITM; herbal medicines are produced and sold from the pharmacy to professional medical staff, patients and the public at large. These products are researched and developed at the ITM using scientific protocols. The raw materials are either sourced locally or produced on land owned by the ITM; Figure 8 shows some raw materials waiting to be processed at ITM. Patents on two products have been granted.



**Figure 8: Raw materials for manufacture of medicine**

The photograph (figure 9) was taken at the pharmacy at the ITM. It shows some of the medicinal products for sale. I made a note of some of the products on offer: Morizella juice (stabilises blood pressure, anxiety, controls diabetes), Prucan capsules (treats impotence and urinary tract infections in males), anti-asthma syrup and Mangifera capsules (prevent disease progression or increase quality of life in patients with gastric and dermatological disorders).



**Figure 9: Medicine and supplements for sale to the public**

Both interviewees were forthcoming about the shortcomings of the legislation protecting traditional medicine. They both recognised that more outreach work was needed to educate the traditional healers about the need for belonging to the Traditional and Alternative Medicine Council. So, for example, being a member of the Council ensures that one could legitimately practise as a healer. More detail pertaining to challenges faced by the Council will be provided under the section 4.5.6 describing the challenges of traditional medicine.

This concludes the interviews with the experts. Next, I describe the three interviews that were conducted with healers in different communities in Dar es Salaam. All three interviews with the traditional healers took place indoors and are detailed below. In terms of the period for conducting interviews, not all were conducted sequentially as reflected.

#### **4.4.2 Healer no.1, male, 45 years old, Makongo, Dar es Salaam**

The *pikipiki* (motorbike) driver who ran his business along the street where I lived introduced me to the first healer I interviewed. He consulted this healer on various occasions and recommended I speak to him. An appointment was set up to meet this healer at his consulting rooms in Makongo, Dar es Salaam. This was my first interview with a healer and I was escorted by my friend, a medical student, who would act as translator. The *pikipiki* driver, was my guide.

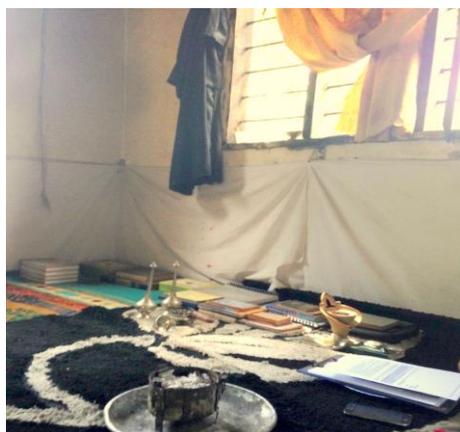
Makongo is about 16 kilometres from the city of Dar es Salaam, off the main Old Bagomayo road, which runs along the coast towards Kenya. Once we turned into Makongo, I noticed informal shops along the way, many of which appeared to be operated from people's homes. There were numerous places of worship like mosques and churches as well as schools. The terrain was rugged and steep. Eventually we had to alight from the motorbike and walk while the driver pushed his motorbike down the bank and headed as close as was possible towards the healers home. At some point along the way, the motorbike was parked off and we descended into an area with fewer houses. While walking, people from the community greeted the guide, making me think the community is close knit.

When we arrived, there was a queue of mostly Muslim ladies waiting to see the healer. The healer's consulting rooms were separate from his house, which had plants growing around it. My guide advised that some plants were used for medicinal purposes. He identified one saying that if people had chest complications, they could pick the plants, steam and then inhale them, to treat the ailment. The driver alerted the healer that we had arrived.

The consulting room was the size of a South African government-built, 'RDP' two-roomed house. I was asked to remove my shoes upon entering and invited to sit on the carpeted floor. I could smell incense that was being burned. My guide informed me that this was a process to remove bad spirits from the environment.

The healer informed me that he has been in practice for 20 years, in the coastal cities of east Africa in Kenya and Tanzania. He treated diseases that both men and women were afflicted by, such as infertility, male impotence and hypertension. He could not give a specific number of people he treated per week or month, but he did say that his patient numbers decreased during Ramadan (the Muslim holy month). The healer's approach was based on the Islamic Holy book, the Qu'ran. He uses herbs and prayer for healing. He sources plants from the wild but if unavailable, he would buy plants in town. His preference is to source wild plants because the plants sold in often town lacked potency for healing. He said that his 'gift' was inherited from his elders. He noticed that the students who are working with him also had family who were healers. Upon meeting him either due to illness or due to a social visit, their interest in traditional medicine was revived. The healer stated that the cleansing of spirits from possessed people formed a part of his traditional practice. When asked if he used witchcraft as a form of healing, he stated that he did not as he regarded it as 'not good' because it can be used to harm people. He said that he is a man who believes in Allah and his faith prohibits using witchcraft.

In Figure 10 below, the room had white sheets surrounding the walls and one over the window. I noticed that there were various books and incense on the floor. During a moment when the healer answered his cell phone, I asked the translator, who was also Muslim, about the relevance of the sheets. He informed me that the white sheets were important in the traditional healer's practice because it allowed him to see the *Jins* or spirits. I was informed that a *Jin* is from Arabic and is a spirit or entity that has a link to the ancestors and operates in the spirit world. There could be one or more *Jins* who enter the body of the traditional healer. Their use can be for good or evil.



**Figure 10: Traditional healer's consulting room, Makongo, Dar es Salaam**

The traditional healer was interested in knowing my reasons for this study. I informed him about my childhood and the influence of my grandmother with regard to plants and healing. At the end of our meeting, he offered me a medicinal herbal book but said because it was in Arabic it would not be of help to me. I did not take the book because I would not be able to have read it.

#### **4.4.3 Healer no. 2, male, 38 years old, Kimara, Dar es Salaam**

I met healer no. 2 while interviewing the expert interviewees at the Institute of Traditional Medicine at the University of Muhimbili. He suggested that I visit him at his home and we could conduct the interview. He resided in Kimara, which is about 25km from my residence in Survey. I went alone on this visit because the participant was conversant in English and there was no need for a translator.

Kimara is densely populated and parallel to the Mgorogoro highway, which moves traffic from the south into the north as far as Arusha. The healer met me along the highway and we took his motorbike to his house. The area was very green, with many coconut palm trees scattered along the way. His house was gated and had an array of plants around the yard, where chickens, ducks and peacocks roamed freely. He gave me a tour of his property and pointed out plants he uses to make herbal medicine.

This healer said that he had practised as a herbalist for four years and attended to about five to six clients per week. His skill was learned from his mother. While growing up he noticed that many people around him contracted malaria, typhoid and other infectious diseases but had no access to a pharmacy. He learnt that plants had specific uses and people could be healed. The major diseases he treats are peptic ulcers, infertility and male erectile dysfunction.

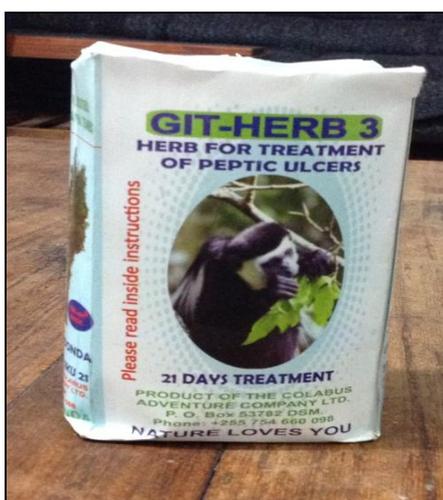
While conducting the interview, I was shown a package written in English (Figure 12) of medicine that he produces, packages and sells to clients who need to have peptic ulcers treated. He said that he had suffered from peptic ulcers since 1996. He explored what plants could treat this condition and found three. He identified one of the plants after observing the *colabus* monkey; his background in wildlife led him to explore what this monkey ate and it was by accident that he made this discovery. Because of this observation, he decided to try assessing its properties by doing some basic tests in the laboratory. His finding was that this ingredient, if mixed with the other two plants, could heal ulcers. He asked people to try the ingredients and his claim was that within three weeks there were visible results. He then

decided to package the ingredients and sells one packet for US\$ 25 (which at the time of the interview amounted to R320). His plan was to market this product and he was looking for support to do this.

Figure 11 shows a machine he invented from scrap metal to grind bark as well as avocado pips. He stressed that hygiene and safety relating to keeping the products sterile and clean was important and often lacking among many traditional healers in Dar es Salaam.



**Figure 11: Grinding machine invented by Healer 2**



**Figure 12: Herbal medicine locally manufactured by healer No. 2**

#### **4.4.4 Healer no. 3, male, 25 years old, Tegeta, Dar es Salaam**

I met healer no. 3 through a waiter who worked at the local coffee shop at Mlimani City Mall. He told me that this healer was his uncle and he could make the introduction. The interview took

place in Tegeta, which is 28km outside Dar es Salaam. The waiter, who was served as my guide and translator, accompanied me on this visit. In comparison to the first two visits, the distance was much longer and further away from the city. We used a *tuk-tuk*<sup>46</sup> to take us to this venue.

Tegeta seemed like a thriving community. We arrived and waited at a bar until my guide's uncle was ready to see us. Once we received the phone call to proceed, we walked past many houses with visible Neem trees along the way. We arrived at his practice, which was situated in a double story house. His consulting rooms were on the first floor. I was introduced to the healer who seemed very young. In fact, I did not know he was the healer until my guide informed me that it was his uncle. My guide looked older than the healer did. We were escorted to his consulting rooms, and I was asked to remove my shoes at the entrance to the room and to sit on a grass mat on the floor. In the room was a lady who was introduced as the translator. I was surprised because I thought that my guide would be the translator.

As I was seated, I observed that there were masks, beads, powders and jugs filled with water in the room. I saw black ash, bones, feathers and amulets placed on the floor in front of a wooden seat. There was a curtain and what seemed to be an office behind the curtain.

Healer no. 3 has five years of experience and helped about 20 clients per day. He received his gift (of healing) from his grandparents. He said that the spirit of his grandparents is a part of his spirit and that their spirits help him practise his craft. In addition to herbs and the *Qu'ran*, he also uses the ancestral spirits or *Jins*.

He said that four *Jins* who were his ancestors possessed his body during consultations with clients. These *Jins* come from the coastal areas of East Africa, on the Tanzanian mainland, and include a Masaai, an Arab, a Somali and a Bantu *Jin*. The interpreter informed me that, before commencing the interview, the healer had to ask the owner of the witchcraft (*Jin*) for permission to conduct the interview. The healer then placed a multi-coloured beaded mask over his head. He then picked up two shells resembling a calabash, which were filled with sand or rice and used as shakers. He shook the shells and chanted, swaying his body rhythmically while seated.

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<sup>46</sup>*Tuk tuk* is a three-wheeled, enclosed vehicle used as public transport in Tanzania. It is capable of carrying three passengers.

The interpreter informed me that he had now made contact with the *Jin*. As his chanting became louder, his voice began to change. His voice quivered and transformed into what sounded like that of an elderly man of about 70 to 80 years of age. Once the spirit had settled into his body, the interpreter informed me that it wanted to meet me and that I should shake the traditional healer's hand. I was startled and reluctantly held out my hand. For about a minute or so, the healer held my hand. I got the sense that the healer or the spirit was 'reading' my intentions for conducting the interview. The interpreter told me that the spirit also verifies that I do not come with 'bad spirits to bring harm'. I was then informed that the interview could proceed because the *Jin* was happy with my presence. In order to commence with the interview, the traditional healer chanted yet again, in returning to the trance-like state, the spirits left his body and he returned to the pre-trance like state. My observation was that this process seemed to have left him very exhausted. It was only after this introduction to the spirits that we could proceed with the interview.

He informed me that he uses herbs, incense and witchcraft to heal people. By witchcraft, he said he was referring to calling on the *Jins* for assistance. He treats ailments that affect the stomach, joints and those of a spiritual nature. This healer was registered with the Tanzanian Traditional Medicine Research for Chronic, Epidemic and Aids Association. He showed me his certificate. He treated conditions such as asthma, diabetes, hypertension and Aids-related diseases.

This concludes the first set of interviews. What follows below is an introduction to the context of my interviews in the Manyara region. I was introduced to the person from PINGO's who was to be my guide and translator. We set off with a driver for the field visits. We headed south out of Arusha towards the Manyara region where we visited the two districts of Simanjiro and Kiteto. The drive to first village was long. We road along gravel roads and passed by dried up lakes. At times we passed Masaai pastoralists grazing their hundreds of cattle. My guide told me that it was the work of boys to take the cattle out to graze each morning.

#### **4.4.5 Healer No. 4, male, 90 years old, Terat village, Simanjiro district**

The distance between Arusha and Terat village is about 82km and, based on Google Maps; it should have taken one hour and fifty minutes to drive there. In reality, it took much longer as we took about three hours to arrive in Terat village to see healer number four. Houses constructed out of mud and bricks occupied the village. Some roofs were constructed with straw and others

with corrugated iron. Along the way people from the village greeted us. Upon our arrival, we had to make contact with either the village chairperson or village elder. The guide and driver informed them of the reasons for our visit. We were then allowed to proceed.

We met healer no. 4 outside his house. I had to wait in the car while the guide and the driver approached him. One of the elders from the village also was present. Unlike the approach we have in the business or formal sectors in South Africa, I realised that an interview does not just start with asking questions. There is etiquette or unwritten protocol that outsiders do not know of that must be followed; one arrives and conversation starts around family, animals, and village news and then only can the interview begin.

The interview commenced and the healer gave long explanations in response to my questions. The translation seemed shorter, but my assistant explained that he was able to place what was said in Masai into context so that I could understand what was being said. I was impressed with the openness with which the questions were answered. The elderly man related how he was called to become a traditional healer. Having spent time with his grandfather, he was taught the practice. Before his grandfather passed away, he told the village that his grandson would take over the role as traditional healer. Failure to accept the role results in one being cursed, he said. It appeared that immaterial of what one's desire was, if the ancestors choose an individual to follow in the tradition of past healers, she or he has to accept the call. He was neither resentful nor sad at being selected to carry on with the calling to be a healer. For him, this was part of his culture and it was important to respect one's elders. At the time of the interview, he was training his grandson to take over the role as village traditional healer.

In 1988 while living in Arusha, he commenced working as a healer. He practises as an herbalist as well as a traditional bonesetter. During his youth, he was a warrior; his primary tasks were to protect his homestead, look for food and play. He found himself also having to help other warriors who were injured by resetting broken bones and applying herbs and animal parts to heal the wounds. When he became older, he remembered the ways of his grandfather and began to practise as a healer. He treated about 30 to 40 people a week, mostly for stomach discomfort, diarrhoea, fever and nausea. In Figure 13 is an example of treatment given to clients composed of dry bark and twigs. Clients are meant to add water to the dried ingredients and drink it or they could chew on it.

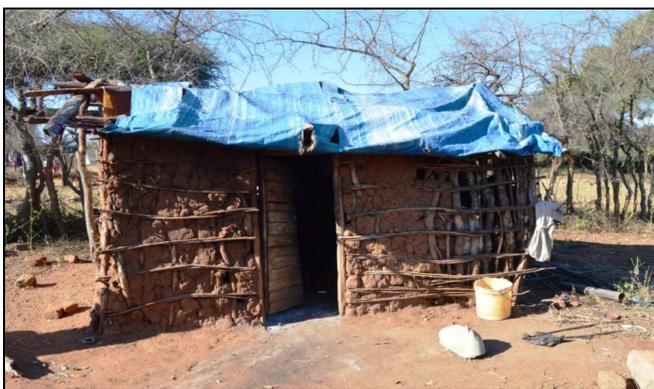


**Figure 13: Raw materials for the manufacture of medicine**

#### **4.4.6 Healer No. 5, female, 82 years old, Terat village, Simanjiro district**

This healer lived close to healer no. 4. The village elder we had met when we first arrived in the village and who I later learned was the village chairperson, returned to accompany us to healer no. 5 because he had to make the introduction. This was following some form of protocol because I was an outsider coming into the village. My guide informed me that he knew of her because he purchased her herbal products in the past. The 82-year-old female healer was the only elderly female traditional healer I interviewed in this community.

We were invited into her dwelling (see figure 14) to conduct the interview.



**Figure 14: Dwelling of traditional healer**

She gave us estimations of her and her husband's ages. I was surprised that she used two political figures as examples to indicate her husband's age, saying he was older than President

Mugabe and the late President Mandela. The interview was conducted while she sat on her bed. I did not ask if she was bedridden or if she preferred to work from her bed, which could have been a place of comfort. She had over 60 years of experience as a healer and referred to herself as a herbalist; this term arose because of probing into the description of what her practice entailed. She referred to her practice as a God-given talent. The way in which she came to be a healer was through the fact that she felt herself being led to certain herbs whenever she felt ill. She did not announce that she was a healer. People began asking her for herbs when they were sick; they approached her and that is how her practice grew.

I wondered why she lived in such a basic dwelling (figure14). I asked to visit the bathroom. Her grandson led me to a house that was befitting an urban setting. The house had electricity and water tanks that provided running water. When I returned to her dwelling, I asked her grandson to whom the bigger house belonged. He said that it belonged to his father who works in Dodoma (the capital of Tanzania<sup>47</sup>). During some weekends and during the annual vacation, he returned home and lived in the house. I asked the healer why she did not move into the house. She said that she preferred to live in her dwelling for sentimental reasons; she had lived in it for many years and some of her children were born in the house. It was also what she was used to and liked.

She seemed to enjoy talking about the benefit of herbs. She said that traditional medicine could be used as preventative medicine, as well as a food supplement. While conducting the interview, she offered my guide, the village chairperson and I a taste of her herbal remedy. This was the first interview where I was offered herbs to taste (Figure 15). The remedy contained about six types of herbs and the healer promised that it would boost our immune systems as well as address any stomach discomfort. I had been experiencing stomach discomfort and, while hesitant to drink the herbal mixture, I was also curious. We all drank it and it had a sweet taste, which made it more drinkable. My guide informed me that he usually buys five kilograms of this mixture, which lasts for almost a year. He used it as an immune booster and it keeps him feeling healthy.

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<sup>47</sup>Dar es Salaam was the former capital of Tanzania. In 1973, the then government decided to move to Dodoma because it was more central to the country.



**Figure 15:** Herbal medicines given to clients

The healer could not give an exact number of how many clients she attended to per day. When she was younger, she helped between six and ten people a day. She said that she is old now and feels tired so she cannot see many people, helping maybe one or two per day. Her approach is to use herbs for treating fever, backache and headaches.

#### **4.4.7 Healer No. 6, male, 57 years old, Simanjiro district**

Before we left Arusha, my guide told me that he wanted me to meet this particular healer but was unable to contact him. On the morning of the second day of interviews, while driving out of Terat village, he made some calls to see if he could locate him, but was unsuccessful. While driving along the road, we encountered three men. The driver stopped to ask about the healer we were looking for, who neither my guide nor driver had ever met themselves, and one of the men introduced him to us as healer no. 6 (he is pictured trying to shake my hand while I fumble with my notebook in Figure 16). We were all surprised at how this event played out.

I cannot ascertain which village this healer is from because we met him along the side of the road and conducted the interview under a tree in the open landscape. He lived in the nearby village but worked in and around Arusha and Moshi (Kilimanjaro area). He was a traditional bonesetter and herbalist who began practising during the 1970s. His practice commenced when he was a youth and an experienced traditional bonesetter had taught him. He said that, in the past, there was no transport to take people to a clinic or hospital for medical assistance. His interest in becoming a bonesetter happened because of helping children who had injured bones. The skills were further developed by nature; by this, he meant there was something within him that guided him. As he helped more people, he learned more skills and his improvement as a bonesetter continued.

He was happy to share his experiences of being a healer. He said that if a person is younger than 60 years old and breaks a bone in their limb, it is easy to have the bone reset. If older than 60 years, it becomes difficult for him to reset it. He resets jaws, backs, legs, arms, and pelvises. Healing is usually complete within a two-week period. Although not asked directly about it, the healer mentioned that he could not re-attach severed tongues or penises. I found this comment amusing because I had not asked him what body parts he could not heal.

He explained that in order to help a person deal with pain, he slaughters either a cow or a goat. The injured limb was to be inserted into the animal's stomach or the stomach wrapped around the limb for 24 hours. Within this time, the blood starts moving in the person's system and creates some type of fluidity. When the limb or injured part of the body is 'fluid', he is able to reset the dislocated or broken limb. When a person is taken to a hospital, the broken limb was fixed with plaster of Paris. In the healer's opinion, the problem was that the limb was secured when swollen. Once the swelling diminished the plaster of Paris does not adequately secure the injured limb. He said that within three weeks, in using his method, results emerged.



**Figure 16: Traditional bone-setter**

#### **4.4.8 Healer No. 7, 80 years old, Male, Kimotorok village, Simanjiro district**

The interview took place in a Masaai homestead. There were between six and ten bomas in this village. The boma resembles a kraal. Refer to figure 17 below. The terrain was very dry and part of the land looked parched. The interview took place outdoors under acacia trees.

In this village, we met an 80-year-old grandfather, traditional healer and animal doctor (pictured on the right in figure 17). He is also a village elder and had six wives and more than 81 grandchildren and over 120 great-grandchildren. The lady on the left hand side is his first wife.



**Figure 17: Masai traditional animal doctor and village elder with his first wife**

This interview was different from the others. Village residents including children sat in on the interview as observers. Some questions on the interview guide were not asked or followed because it took more than an hour just to begin going through the interview questions. We could not initially lead the discussion because we were in the home of the elder who was in control of the village. The village chairperson<sup>48</sup> at some stage arrived on a motorbike and enquired what was happening. He appeared to be curious about our presence. After the chairperson had talked to my guide and the healer, we were allowed to proceed with the interview. The duration of this interview was about three hours long. This was the longest time spent in comparison to the previous interviews.

His skills were learned from other people and experience; when he was younger, he observed what they did and then practised it. His answers to questions asked about diseases he treated were mixed. He said that he treats both humans and animals. The animal diseases treated were malaria, tsetse fly, skin cancers, and difficult pregnancy in cows. He said that when women are having a difficult birth a certain medicine is given to them, which the same medicine is given to cows. He said that he has medicines that are specific to humans, and others used to treat specific diseases in cows. He gave an example where he had saved a cow's foetus from death; an abortion was about to happen but he was able to return the foetus into the cow's body. If the foetus is not properly situated, he was able to readjust it.

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<sup>48</sup>This chairperson was from a different village and not the same person who accompanied us to healers no 4 & 5.

He also treats people experiencing stomach difficulties. Some medicine that he prescribes can treat more than 40 illnesses. He also says that he treats specific illnesses. He does not self-medicate. When he had a problem with his leg, he asked another healer for assistance. The majority of the interview time was spent discussing the challenges to and benefits of traditional medicine, so is discussed in sections 4.5.4 and 4.5.5.

#### **4.4.9 Akie Healers, Healers no. 8, 9 and 10, Kimana village, Kiteto district**

For the last round of interviews, we headed towards the Kimana village Kiteto district to meet traditional healers from the Akie tribe. My guide informed me that this group faced marginalisation from the government and were not considered an indigenous group. He said that they consume excessive alcohol, which was made from honey. Had we arrived later in the day, we may have found many under the influence of alcohol. I was informed that the Akie use clicks in their language and that they claim ethnic links to the San of southern Africa. Similarly to the San, the Akie are hunter-gatherers and use the bow and arrow to hunt and source food from the forest..

From my observation, this group appeared to be living a traditional lifestyle. Their homesteads and animal enclosures were built with straw and encased with some type of wire that kept animals from straying outside. The construction of their dwellings was different from those of the Masaai. The Masaai dwellings appeared to be more structured and sturdy. I cannot comment that all Masaai villages are the same, but the structures of homes in Terat and Kimotorok villages appeared similar. The possession of many cattle also gave me an indication that the Masaai were more affluent. My guide informed me that the Akie numbered about 300 people and felt as if they were a forgotten tribe. I will highlight this concern under the findings in the next section because the marginalisation and potential displacement has an effect on traditional medicine.

The interview with the Akie was supposed to be with one traditional healer. Before entering a village, we had to have the approval of the chairperson to conduct the interview. In the Kiteto district, for example, we experienced resistance from a traditional healer to our request for an interview. Her reason for initial refusal to the interview was because, previously, white people (*wazugungu*) from Europe and America had visited the area and sought an interview. They collected samples of plants and bark, but never returned. She therefore assumed we were present to exploit her. Because PINGO's Forum had a good reputation of working with

marginalised communities, the village chairperson acted on our behalf to speak to her. She was then convinced of our intentions and conceded in granting the interview.

#### **4.4.10 Healer no 8, 62 years old, Female, Kimana village, Kiteto district**

We met the healer outside her dwelling and sat under a tree. Other members of the community, including the village chairperson, joined us. I felt that despite the agreement to granting the interview, there was some initial reluctance on her part to share any information.

This healer identified herself as an herbalist and traditional midwife with 30 year's experience. When she was younger, she realised that she had this gift. Pregnant ladies used to ask her to massage their bellies. Based on her technique of massaging the pregnant belly, she was able to predict the birth of the baby. She said closer to the birth of the baby, the foetus' position would change to a bridge position and move into the uterus. She also offered basic paediatric services to children: she treated fevers using herbs and if children experienced intestinal diseases or constipation, she prescribed herbs for them to drink. She mentioned that the medicine she gave to children would help the intestine shift into position. The healer said she has knowledge of how to treat sexually transmitted diseases and certain cancers. She was teaching two ladies in her family to continue the practise and one is the "co-wife" of her husband.

During the interview, two elderly men who had returned from the forest joined in the circle and participated in the discussions (see Figure 18). It must have been about two hours later after chatting to the female traditional healer, when they revealed that they too were traditional healers and we could conduct an interview with them too. I sensed that their reason for revealing the information at that time was because our intentions had been vetted; our presence was perhaps not a threat to them. In this setting, two further interviews were conducted. While I tried to keep the interviews separate, it appeared as though this meeting was becoming more like a focus group discussion.

Having three interviewees present at one time meant that all of them shared information and conversed with each other, and I sensed that sometimes it was outside the scope of the questions being asked. My lack of understanding of the language became a frustration because I could not fully participate in the discussions, and it was hard for my guide to translate and keep up with the conversation. However, here are the answers I managed to gather for the other two healers during the group conversation.



**Figure 18: Akie traditional healers**

#### **4.4.11 Healer no. 9, 65 years old, Male, Kimana village, Kiteto district**

This healer said that he was an herbalist with 30 years' experience. He learned his trade from his father who taught him how to help sick people and which trees to use for medicine. On some days he saw three clients per day. On the odd occasion he treated 20 patients per day. His clients come from as far as Dar es Salaam. During the interview a young man who looked about 28 years old asked to speak to the healer, as he wanted to purchase some medicine. My guide told me that the healer said that this man was a regular client. The medicine, looked like some twigs from a branch. This medicine is alleged treat stomach illness and male sexual impotence.

During the course of the interviews, an official-looking vehicle entered the area. I felt disappointed because the arrival of the vehicle created some disturbance to our setting as some people had to leave to chat to the occupants, and this appeared to have affected the dynamic of the group discussions. I was later informed that the officials were from the local administration and had wanted to meet with leaders from this community. We later resumed the interview and I proceeded to interview healer no. 10.

#### **4.4.12 Healer no. 10, male, 70 years old, Kimana village, Kiteto district**

This healer had 25 years of experience as an herbalist. He said that he learned naturally and through stories how to be a healer. He treats diseases associated with the back. I did not ask all the questions when talking to this healer. This is because I sensed that my guide was becoming tired in asking the questions but also that the answers were similar to the answers from previous

interviews. At the time it felt as though we had reached saturation point and that no new information would emerge from the current form of interviews.

This section introduced the interviewees, providing basic demographic and background information on each, based on what they told me, as well as my own observations. The following section will now discuss the experiences of healers with respect to traditional medicine and their lives in Dar es Salaam and the Manyara region. There were certain themes that emerged from my analysis and these will be discussed in the next section.

#### **4.5 Identified themes**

In this section, I will highlight the various themes that emerged from the interviews. The themes were arrived after I coded my notes using thematic analysis, which helped organise similar or different qualitative data of the healers' experiences. Please note that information about the interviewees is summarised in Table 1 below. This table can be referred to remind one about the various healers as one reads over the themes.

Healer number	Gender	Age	Place interviewed	Description of own role	Diseases treated	Why/how they became healer
1	M	45	Makongo, Dar es Salaam	Herbalist; uses Qu'ran	Male and female infertility, male sexual dysfunction, hypertension	Inherited from family
2	M	38	Kimara, Dar es Salaam	Herbalist;	Peptic ulcers, male impotence and infertility	Gift from mother
3	M	25	Tegeta, Dar es Salaam	Herbalist; uses <i>Qu'ran</i> ; uses spirits	Asthma, diabetes, HIV related diseases	Gift from grandparents
4	M	90	Terat, Simanjiro district	Herbalist and animal doctor	Broken limbs, stomach discomforts, diarrhoea	Inherited from grandfather
5	F	82	Terat, Simanjiro district	Herbalist	Fever, backache, headache	God given
6	M	57	Simanjiro district	Herbalist and traditional bone-setter	Broken limbs	Helping children who broke limbs
7	M	80	Kimotorok, Kiteto district	Herbalist; animal doctor	Stomach problems, pregnant women and pregnant cows	Other people and life experiences
8	F	62	Kimotorok, Kiteto district	Herbalist; traditional midwife	Pregnant women, children's diseases, intestinal diseases	Self- realisation
9	M	65	Kimotorok, Kiteto district	Herbalist	Male impotence, stomach illness	Father
10	M	70	Kimotorok, Kiteto district	Herbalist	Back related problems	Through stories from period

#### **4.5.1 Variations in focus of traditional healers**

An interesting theme from the interviews was the similarities and differences in how healers identified themselves.

The most common description used was that of being an herbalist; all three healers from Dar es Salaam identified themselves as such, as well as the two male healers from the Akie tribe. Other healers spoke of using herbs, but did not describe themselves as herbalists.

For the five who identified themselves as herbalists, two used only this word to describe themselves. The other three herbalists used additional words to describe their healing work. Both healers no. 1 and 3 (Dar es Salaam) relied on religion for their legitimacy. In addition to religion, healer no. 3 relied on spirits/ancestors. Healer no. 2 relied solely on using herbs to treat his patients.

During the visits to the Manyara region, I did not observe any traditional healers having tools such as bones or beads in their possession for divination purposes. Three of the healers used terms such as bone-setter, animal doctor, midwife to describe their work that none of the others had. Healer no. 6, the 57-year-old male from the Simanjiro district, identified himself as a traditional bonesetter. He specialised in re-setting broken bones. His tools used were physical manipulation of the injured parts after inserting them into or covering them with animal intestines. The Akie woman, (healer no.8), referred to herself as a traditional midwife. She reported using plants to treat patients with gynaecological diseases. She also used her hands to manipulate the pregnant bellies of women experiencing difficulty. Healer no. 7 described himself as a traditional animal doctor.

This highlights the diverse nature of traditional medicine practice and types of treatments and approaches that are used.

#### **4.5.2 Religious and cultural ties to traditional medicine**

During my discussion with the elder from Terat village he informed me that he grew medicinal plants at home for self-medication purposes. His reasons were they were easily available and accessible to his family and many people around him.

Strong links between culture and religion existed for most of the healers interviewed. As mentioned in the previous section, two healers explicitly used the Qu'ran as part of their practice. This section details other religious and cultural links among the healers during the interview conducted with healer no. 7, strong links between culture and traditional medicine

emerged. As an animal doctor, he focused on the important role that animals play in his culture. He stated that traditional medicine evolved to help humans and animals. He said that sometimes humans and animals use similar medicine and illustrated this statement with the following example. He referred to a medicine known as '*urkipole*'. It was given to a cow during labour to ease the birth of the calf. Likewise, it can also be given to a woman in labour to aide with a smooth delivery of the baby. This medicine helped the cow to deliver the placenta more easily if it was failing to dislodge. My impression was that this healer saw no delineation between humans and animals when using traditional medicine; both should be able to derive benefit.

For the two healers in Dar es Salaam, religion and culture are entwined. They used the Qu'ran and certain Islamic prayers with plants for healing. By repeating certain prayers and then either using or consuming traditional medicine, one could treat a problem. While some of the problems were linked to the body, there were some of spiritual nature, this included jealousy of a neighbour, bad spirits attacking children or just what they referred to as bad luck. Healer no. 1 said that he only used religion and incense as part of his repertoire to address spiritual problems. Healer no.3 went further and used witchcraft to help his clients. Healer no. 1 said that it was not part of his culture. Religion and witchcraft are not culturally acceptable. Healer no. 3 said that witchcraft was part of his culture because *Jins* in his area were of an Arab origin while other *Jins* were of a Bantu origin and this justified him using witchcraft to help his clients who were bewitched. Perhaps worth noting is that these two healers came from different tribes. Their traditions and experience of witchcraft could be different.

Moreover, like the connection of people in Dar es Salaam to their trees and plants of medicinal value (see section 4.3), healers from the rural areas of the Manyara region had close ties to nature. Nature was part of their cultural experiences and traditions. Two healers (8 and 9) said that nature gave them what they needed. If they needed to have a ceremony to celebrate a birth, they were able to find an animal to sacrifice. There is a ceremony that is used to welcome a child. Healer no. 8 said that plants were used to help a women conceive, because for a woman, bearing children is important in her community.

#### **4.5.3 Being called to be a traditional healer**

I also inquired what made the traditional healers choose the practice. Most healers spoke of a certain kind of inevitability to the process. One healer (healer no. 5) spoke about her gift being from God. Two healers mentioned that people approached them for healing (before they realised they were able to do so), while healer no. 5 said that she was guided to herbs

and plants when she was searching for treatments for specific ailments. Five healers spoke about having a family member who was a healer and taught them the skills. Healer no. 2 learned his skill from his mother. He felt that he wanted a scientific understanding of traditional medicine and was reading for a Masters degree in Traditional Medicine at the Institute of Traditional Medicine at Muhimbili University.

#### **4.5.4 Types of diseases treated**

The literature in Chapter 3 highlighted that traditional medicine was used to treat diseases. It was interesting then to hear from healers themselves what type of diseases they treated. Two healers (no.'s 4 and 6) treated broken limbs. Treating male and female infertility as well as male sexual impotence was another disease that appeared on the list from two healers in Dar es Salaam (Healer no.'s 1 and 2). While in Dar es Salaam, I noticed some flyers posted onto streetlights close to where I lived advertising sexual cures for male impotence. On another occasion, a Masaai man was at the University of Dar es Salaam campus selling traditional medicine claiming to heal stomach discomfort and enhance sexual performance. While in the Kiteto district (as mentioned in section (4.4.9.2) a healer sold some branches to a client who needed to enhance his sexual performance. Two healers (7 & 8) had remedies to treat pregnant women who experienced complications during pregnancy.

There were a variety of diseases treated by healers. This included diseases affecting children. Others diseases related to life style diseases such hypertension, diabetes and HIV related diseases. Other milder diseases treated were headaches, backaches, nausea, fevers and peptic ulcers.

Humans were not the only beneficiaries of this health care. Animals were also treated. The traditional animal doctor (healer no. 4) treated pregnant cows that were experiencing difficult labour, as well as cows afflicted by the tsetse fly.

#### **4.5.5 Benefits of traditional medicine**

From the interviews, the various benefits of traditional medicine emerged as a theme. All healers were able to extol the benefits of traditional medicine. The benefits will be listed below.

##### **a) Improved health**

All the traditional healers defined benefits in relation to patient wellness and improved health and getting healed. Healer no. 6 mentioned that, because his medicine is plant-based and has active ingredients, when treating an illness the health of the body is improved. He said

that this was an important benefit for unlike western medicine, which treats just a symptom; traditional medicine helps to improve other aspects of the body.

#### **b) Traditional medicine is safe**

Traditional medicine is safe: this sentiment was expressed by nine of the healers from both Dar es Salaam and the Manyara region. They felt there are no side effects; Healer no. 1 said that it was safer as compared to western medicine. He said that western medicine at times has side effects whereas herbs if administered correctly do not. Thus people who used traditional medicine under guidance of the healers, found it to be safe. The traditional bonesetter and animal doctor (healer no. 4) from Terat village raised a comment that was cautionary relating to physical wellbeing and traditional medicine. He said that problems arose when people mixed traditional medicine and western medicine. He said that some people sought cures from traditional healers. However,, when they felt that the process was taking too long, they consulted western doctors. He said that herbs and plants could not work simultaneously with western medicine. From his experience, when people used both, they became even more ill.

#### **c) Affordability**

There was no specific tariff set by any regularity body or the Traditional and Alternative Medical Council. The rates for payment for consultation services for each traditional healer varied from none to TSh1 000 000, which amounted to about R6156 (according to the prevailing exchange rate at the time of the interview in July 2015). This amount was not for a once-off consultation but entailed treatment over a longer period of time, although I did not ask how long. One traditional healer based in the Simanjiro district had different rates set aside for city dwellers and rural dwellers; rural dwellers would have a lower consultation fee to pay and, if unable to pay in cash, they could pay with livestock (e.g. cows or goats). The distinction given between rural and urban dwellers was based on the fact that those from rural areas were perceived to be poorer. It appeared that most healers negotiated the charge based on what the patient could afford. The female healer from Kiteto district (healer no. 8) said that she charged about Tsh 5000 (R31 at that time) for children and about Tsh 100 000 (R616) for adults. In rural areas, there was often no charge and most healers said they saw their services as a benefit for village dwellers. Although one traditional healer in Dar es Salaam said that he does not always charge people who cannot afford his services. The charges vary from village to village and between urban and rural areas. There is a difference in charges depending on the treatment given. If sessions last longer or the ailment is more severe, the charges would be different compared to a once off session. What emerged from

the interviews was that the inability to pay for services in the rural areas did not preclude a person from attaining health care.

Some healers said that their treatments are cheaper than what clients pay for Western medicine. Healer no. 6, the traditional bonesetter mentioned that he worked in a hospital outside Arusha and found that his charged far lower rates that what in patients paid for medical services at the local hospital.

#### **d) Communal benefits**

The healers felt that the community benefited from their services. Healers live close to their communities and are able to provide a service almost immediately. Although some charged for their services, they did not feel as though they were commoditising their practice, because the rates they charged were reasonable. Most traditional healers recognised the gift they had and saw it as a benefit to the community. Four healers specifically mentioned that they are custodians of knowledge and this knowledge was for communal benefit. In having outlined the benefits, there have also been challenges impacting on them and their practice of traditional medicine.

### **4.5.6 Challenges to traditional medicine**

#### **a) Commercialisation of traditional medicine**

As discussed in chapter 3 there is huge value to be captured through commercialising traditional medicine, which means there are potential issues around private companies appropriating traditional knowledge without benefit sharing. However, it is not only private companies that utilise indigenous knowledge as a commodity for profit.

The two experts informed me that the Institute of Traditional Medicine at Muhimbili University<sup>49</sup>(ITM) was granted two patents. One patent was for Morizella juice for treating diabetes and the second for Ravo cream for treating skin fungal infections. Other product development is on the way. The academic institution has the means to scientifically research indigenous knowledge use and develop medicines; the experts mentioned that part of the Council's work was ensuring that healers understood the value of the knowledge. An example cited was that one of the healers in a community gave away traditional secrets to gene hunters. This healer did not know the value of his knowledge. Therefore, issues around

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<sup>49</sup>One of its mandates was set up to explore the research and development of traditional medicine.

beneficiation of traditional knowledge would be part of the ITM's education process in the future.

#### **b) Access to plants**

Access to plants presented a challenge to some of the healers and several reasons were provided. Firstly, access to plants was often limited by the location of the healer; this was often more of a challenge for rural rather than urban healers. Rural practitioners sourced their supply of medication from their immediate vicinity; however, at times it was difficult to access plants from the forest. The elderly traditional healer from Terat village in the Simanjiro district (healer no. 4) said that he used trees, plants and herbs and collected them from the immediate vicinity although some were extinct. If they were unavailable, he sent his children to pick them from the forest around Mount Meru in Arusha. This distance was about 227 kilometres from his village. The reason for travelling such wide distances for plants was because certain species were becoming less locally available and endemic to the region around Mount Meru. He said this was caused due to over picking and drought.

Secondly, access to plants was hindered by jurisdiction and boundaries. Various levels of government prevented access into the forest for collecting plants. The 80-year-old traditional healer and animal doctor from Kimotorok village (healer no.7) said that access to the Mkongonero game reserve and the Tarangire National Park is by permit only. The lack of access to both premises precluded him from sourcing valuable plants that treated and cured sexually transmitted diseases. Healer no.10 from the Kiteto district said that people who wanted access to the forests needed permission from the village councils before they could pick plants. In some cases, they were issued with a permit giving them permission to access the biodiversity. He said that the village council therefore have the power to limit or grant access to people wanting to access biodiversity.

Thirdly, the aging of traditional healers affected their ability to collect plants. For those over sixty years, their age became an impediment to movement and access to plants. At least three highlighted that being older limited their movement and that they had to rely on younger people to carry out tasks for them. In their youth the healers could walk to the forest and pick plants for themselves. The 85-year-old female, healer no. 5 from Terat village, participated in the interview from her bed. While she may not have been bedridden, her ability to walk far was inhibited by her age. She relied on her children and grandchildren to collect medicinal plants from places close by and further afield from her dwelling. She did say that this was her way of teaching them. The 95 year old man (healer no. 5) also from

Terat village mentioned that he sent his sons to places as far as Arusha to fetch medicinal plants because he was too old to do so himself.

### **c) Availability of plants**

In the Simanjiro district, the unavailability of plants due to theft was raised as a challenge. It was reported by the Kiteto traditional healers that people were coming from as far as Dar es Salaam to pick a variety of plants such as Aloe Vera. In one village soap and other products were manufactured from plants and herbs sourced in the forests from that area and then resold to them in their village shops. The elder from Kiteto district (healer no. 9 reported that people come from Kenya and ask about plant usage. They pick the plants and then sell them in Kenya and Uganda.

Healer no.1 in Dar es Salaam related the following in relation to an act of biopiracy, although he did not use the word biopiracy, but rather 'theft of knowledge'. He said that a Tanzanian medical doctor helping a South African medical doctor visited him and asked what herbs were used to treat high blood pressure and male infertility. He shared his knowledge of one of the plants. They then went to another traditional healer and asked the same question. He later heard that they went to Botswana and made some medicine from the plants they were told about in Tanzania to treat these two conditions. He was very upset about the fact that their trust was misused. I felt embarrassed being South African and having to hear of such an experience. I wondered if he now viewed me in the same light since I came asking questions related to traditional medicine. I asked how would he protect knowledge and he said he does so by maintaining secrecy. He knew of many other plants but would not reveal their uses.

Another factor cited by two rural traditional healers (healers no.4 and5) related to seasonality of available plants. Certain plants are only available during the rainy season. Upon probing into what could be done to ensure that plants are available during the dry season or the remainder of the year, they felt that the plants could be cultivated but lacked facilities to do so. For those in Dar es Salaam seasonality did not affect access to medicinal plants because they had an alternative plan; the three traditional healers from Dar es Salaam all stated that they sourced their herbs from around their homes. In addition to his home garden, healer no. 1 said that he bought his supply of plants from an herbal seller in the city and, if unavailable there, he could collect plants from Tanga or Zanzibar.

#### **d) Sales of medicine by non- healers**

A traditional healer from Dar es Salaam informed me that plants sold by people in Dar es Salaam, who he said were mostly from the Masaai tribe, gave traditional medicine a bad name. They sold traditional medicine to make a quick profit. The medicine and dosage were often ill matched to the disease or symptoms of the client. Moreover, being plant sellers and not traditional healers, they lacked insight into diagnosis and treatment of illness and sell incorrect medicine, which created further complications for the client and a bad reputation for the profession of traditional healers. Healer no.9 from Kiteto district shared this view of plant sellers. In speaking to local residents within Dar es Salaam they confirmed that many plant sellers were not traditional healers. I asked a Masaai businessman who works in the tourist sector in Zanzibar whether his tribesmen selling knew about the medicinal value of plants. He said that almost all Masaai men learn about traditional medicine from their mothers because they need to know how to cure themselves when out grazing cattle while they are young. Due to the poor performance of the economy and being unable to find employment, they sell medicine indiscriminately and irrespective of ailment in order to make a sale.

#### **e) Institutional support**

Half of the healers interviewed felt that government had a role to play in supporting their work. They felt government could assist with some of the problems they encountered, such as the lack of physical spaces and venues to open a practice. The traditional bonesetter, encountered along the road in the Simanjiro district (healer no.6 mentioned that it would help him train other students in this practice if he could have a venue. In addition, he said that if a venue was close to a hospital, expertise between practitioners could be shared and new skills could be learned. In the Kimotorok community, the elder (healer no.7) mentioned that there was a lack of transport. More transport could help traditional birth attendants reach pregnant mothers in the remote parts of the village and other villages. There was a lack of equipment like gloves and a clean working environment in which to assist people. What was acknowledged was that the government has built a clinic in Kimotorok village in the Simanjiro district and most healers want some form of healthcare to be available to people.

### **4.6 Conclusion**

The chapter commenced with sharing my observations about traditional medicine from both my time living in Dar es Salaam and the interviews with experts and healers from the two areas in Tanzania I visited. Three field interviews were conducted with healers and two with experts in from Dar es Salaam, providing the urban experience of traditional medicine. Next, my travels took me to a rural setting that enriched my understanding of healers in more 'traditional' environments. Seven field interviews were conducted in the Kiteto and Simanjiro

districts within the Manyara region and five were conducted in Dar es Salaam. In talking to the healers various themes emerged that were common to most of them. There were variations in the focus of traditional medicine, religious and cultural ties to traditional medicine, to being called to be a traditional healer and the treating of different types of diseases. In both rural and urban sectors, the traditional healers shared their respective experiences of the benefits and challenges of being traditional healers and how such experiences impacted on their practices. Some of the benefits included safety, affordability and communal benefits of traditional medicine. Some of the challenges were the commercialisation, access and availability of plants and sales by non-healers. In the next chapter, these findings and the learning from the literature review(Chapter 3) will be discussed and recommendations will be shared.

## **Chapter 5: Conclusions and recommendations**

### **5.1 Introduction**

This research provided as comprehensive a response as possible to two research questions. The first research question sought to understand what the literature highlighted about the challenges to and benefits of traditional medicine in Tanzania. The second question then delved into obtaining a deeper understanding of the experiences of rural and urban traditional healers in Tanzania with regard to the challenges and benefits of traditional medicine. What follows below are the findings from the literature review in Chapter 3 and the field interviews in Chapter 4. I will commence with highlighting the benefits, followed by the challenges, contrasting the findings from the literature review with the findings from the experiences of the traditional healers. Thereafter I share recommendations and conclude the chapter.

### **5.2 Benefits of traditional medicine in Tanzania**

The first benefit emerging from both the literature review, and backed up by the information shared by the healers, and my observations while living in Dar es Salaam were that traditional medicine was easily accessible. This access is in terms of people seeking care as well as access to the natural resources of plant and animal material that constitute medicines. The literature stated traditional medicine was widely utilised by individuals and healers in Tanzania (Kayombo et al. 2012), with an estimated 80 000 traditional healers operational in Tanzania (Chirangi et al 2013). I found that most places I visited or people I spoke to had some form of traditional medicine for sale or knowledge of healers and medicines.

The World Health Organisation states that one of the main benefits of traditional medicine is that it is often more accessible than western medicine to people in developing countries due to their proximity to traditional healers (WHO 2012), especially in rural communities (Chirangi 2013); Augustino et al. 2014). In Tanzania, the ratio of traditional healers to the general population is around 1:500 as compared to a medical doctor at 1:25000 (Mahunnah, et al 2012). The healers I interviewed reiterated this, saying their services are easily accessible to the communities wherein they reside; healer's no. 4 and no 5 from Terat village of the Simanjiro district lived within close proximity to each other and their respective communities. This proximity afforded people seeking help a choice to visit either healer. Within the other communities I visited, traditional medicine and healing services appeared to be accessible. While healers themselves are accessible to clients, they did not directly raise their own access to plant and animal material as a benefit. It could be interpreted as a

benefit due to the close proximity to nature and/or plants. From my observations while conducting field interviews, I noted that all healers lived close to nature and/or plants and had access to ingredients that constituted material for traditional medicine. So, for example, in Dar es Salaam, healers had trees and plants growing in their backyards around their homes. If more plants were needed, they were able to access material from plant sellers in the cities or were able to travel to nearby forests out of town. However, there were some restrictions on access that are mentioned under the following section on challenges.

Linked to accessibility is the affordability of traditional medicine. Traditional medicine is noted for being more affordable than conventional medicine for many people in developing countries (WHO 2012). This is contrasted against the rapidly rising costs of western medicine noted in the literature review (Deloitte 2015). This difference in cost has increased the awareness about the benefits of traditional medicine (WHO 2012). What emerged from the interviews with healers was that many of them would not turn away clients who could not afford to pay for services or medicines. Healers living in the rural areas stated that if a person could not pay for their services, they could barter with animals such as chickens, goats or cows. This allowed people in these communities the opportunity to seek basic healthcare at no cost or very affordable prices and is consistent with Mhame et al. (2010) who says that traditional healers are guided by the philosophy of *Ubuntu*, meaning they should help their communities regardless of payment.

The next benefit that emerged was that traditional medicine is perceived to be safer and some sources referred to it as 'holistic', meaning it has multiple uses as compared to conventional medicines (Truter 2007). Due to the compatibility with the body, it is reported to have fewer side effects (Al-asmari et al. 2014). During the interviews, at least three healers mentioned that traditional medicine was safe. They remarked that due to the healing nature and properties of the plants, traditional medicine treated not only current symptoms but also that the immune system derived benefit from their medicine.

Other uses of traditional medicine include being used as preventative medicine, as well as a food supplement (healer no.5), and some medicines can also be used in animal husbandry (Kayombo et al. 2013). As voiced by healer no.7., for example, that traditional medicine used by women during pregnancy could also be given to ailing pregnant cows. Also, unlike doctors trained in western medicine, who are consulted when a painful bodily symptom is experienced, traditional healers are consulted on matters relating to the body, mind and spirit. Healer no.3, for example said that some people consult him when they feel that

someone placed a *Jin* on them and they felt it was causing “bad luck” or misfortune in their lives.

Another benefit noted from the literature was that traditional healers preserve the culture and heritage of their communities (Mhame et al. 2010). Their knowledge is part of indigenous knowledge systems (Kaya 2007), and is passed down from one generation to the next and with it associated customs and lore (Msuya 2007). While none of the healers mentioned this as a direct benefit, I would suggest that their calling to practice is embedded within a community and cultural context. In a sense, it could be said that their inherited culture and indigenous wisdom allowed them to become holders of knowledge in their communities. Two of the healers I interviewed also combined healing with religion (healers no’s 1 and 3), thereby reflecting the changes in culture that occurred during Tanzania’s history when new settlers brought a new religion.

A key benefit that the literature highlighted pertains to trade in and commercialisation of traditional medicine, which is now a multibillion dollar industry (Mhame 2004; Food and Agriculture Organisation 2008, WHO 2013). Trade in traditional medicine has increased as well on a national level in Tanzania. Between 1997-1999<sup>51</sup> there was an expansion in Tanzanian exports of traditional medicine, which included sea products (Mbwambo et al. 2007). There is a local demand for products such as *Prunus africana*, *Moringa oleifera* and *Withania somnifera*, in Tanzania. While Tanzania as a country addresses the international and national demand for traditional medicine, it also imports medicinal products from India and South Korea, (Kayombo et al. 2013). There is a gap in the market for cultivation of these medicinal plant species.

Closely linked to trade in traditional medicine is its commercialisation. It is estimated that by 2020, the global demand for herbal medicine and remedies could amount to US\$115 billion (Robinson & Zhang 2011; Global Industry Analysts Inc. 2015). Researchers at the Institute for Traditional Medicinal (ITM) at the University of Muhimbili in Tanzania have realised this potential and been granted two patents for medicines that claim to address diabetes and skin fungal infections. While conducting interviews at the University, I was shown the pharmacy where medicine is produced at the ITM. These medicines are scientifically tested and thus purported to be efficacious and safe. They were sold to patients from Muhimbili Hospital as well as to the general public.

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<sup>51</sup>The study looked at records up to 1999. Post 1999, there is no data highlighting the increase in commercial trade of traditional medicine.

In speaking to healers, all except one healer (healer no.2) said that they would not sell medicines separately or as a stand-alone product to their clients. He did justify his statement saying that these products were sold to clients after a first consultation. However, if he were able to scale up his product, he would like to see it sold in pharmacies in Tanzania. All mentioned that they would need to consult with clients and based on what they found lacking they would then provide medicine. For them, trade was not the focus; healing was. However, while moving about in Dar es Salaam, I noted places where traditional medicine was traded, not at a corporate scale, but along the pavements and in markets. Some of the healers I spoke to regarded many of those selling medicines as 'charlatans', who would sell medicines without the correct knowledge of how and when to prescribe them.

This section concludes the benefits of traditional medicine. In the next section, I will discuss the challenges outlined by the literature as well as those mentioned by the healers.

### **5.3 Challenges to traditional medicine in Tanzania**

The first challenge related to the quality, safety and effectiveness of traditional medicine. According to the WHO (2013), the issue has been raised with regard to medicines of poor quality, or those that have been adulterated or counterfeited. While sixty to seventy percent of the general population in Tanzania use traditional medicine as a form of primary health care; there have been some risks associated with its safety (Kayombo et al. 2013). According to healer no.2, some healers do not use hygienic conditions when preparing the medicine and this could have further health implications for the broader population. The literature cautioned too that traditional medicine consumed with western medicines could result in toxic combinations (Watchel-Galor & Benzie 2011). This was echoed in the experience of healer no.7 who said that people often become more ill if they simultaneously ingested both traditional and western medicines.

Moreover, medical practitioners appear to have a negative sentiment towards traditional medicine (Abdullahi 2011). Professor Mahunna, in his interview shared that during the commencement of his academic career; the medical fraternity shunned him because his study of traditional medicine did not appear to be scientific enough. Over the years, he felt this attitude had changed in Tanzania. The Tanzanian government enacted the Traditional and Alternative Medicine Control Act, 2002 to ensure that the status of traditional medicine was elevated as well as to align traditional and conventional medicine under one body. He said that, in future, the aim of the Tanzanian government was to have traditional healers working within the hospitals so that patients could choose whom to consult regarding their health issues.

Another challenge raised was the related to healers' affiliation to the Traditional and Alternative Medicine Council (TAMC). Both experts interviewed were then or had in the past been President of this council. Professor Mahunnah confirmed that the TAMC is a body that is meant to regulate and guide the practice of traditional medicine in Tanzania. It served to protect the public from unscrupulous practitioners who brought the practice into disrepute and aimed to achieve this through having all traditional healers registered so that the Council was able also to monitor and guide them. I wanted to find out if healers were aware of the TAMC and how many were affiliated to it.

Only one healer from Dar es Salaam was a member of the body and had his certificate on display when I visited him. He said that it was important for him to register with the Council because his clients felt secure knowing that he has authority to practice. His certificate indicated that he was certified to treat asthma, diabetes, high blood pressure and HIV/AIDS related issues. When asked whether he was registered with the Council, healer no.1 from Dar es Salaam said that the board of traditional healers in Dar es Salaam "have some rules" but that these "do not apply to him". He explained this by saying that the Council linked spiritual practices such as divination with traditional medicine. For him, this combination prevented him from practicing as a healer if he joined the Council because it contradicted the tenets of his Islamic faith. He described the board as weak and ineffective, adding that they gave away knowledge and secrets of traditional medicine for lucrative purposes.

The traditional healer no. 4 from Terat village said that the registration was cumbersome. He would need to attend a village meeting and thereafter ask for a copy of the minutes, which were to be taken and presented at the district council whereby registration of healers is applied for on his behalf. The elderly female healer from Terat village said that she had never heard of the council and saw no need to register because she had been working as a healer most of her life without being registered. She did not see the benefit in registering with the Council. Likewise, in Kiteto district, neither any of the traditional healers nor the village chairperson had heard of the Council. However, the village chairperson said that it would be good for traditional healers to be registered; he felt that, currently, healers pass on knowledge to their students, who need protection from unscrupulous third parties. He gave an example saying that the local non-governmental organisation invited people into the community to gather information about healing remedies. Healer no.8, whom initially did not want to consent to an interview, citing similar past experiences, supported this fact. My own thoughts on this matter, after my discussions with the various healers, are that perhaps registration in rural areas is less important than in urban areas. It seemed to me that rural

healers were well known in their communities and if any misconduct occurred, they were more likely to be reported to the village chairperson. Whereas in the city, urban settlements are larger, and compliance with the Council would be necessary so that plant sellers and those claiming to be healers could be monitored. There is a higher population in the city and people need to be protected from potentially unscrupulous practitioners. However, this also requires that members of the public be informed of the existence and function of the Council, so that they can demand to see healers or plant-seller's certification.

Dr. Kayombo confirmed that there was problems experienced pertaining to the use of witchcraft by some healers. The Council could certify those who use witchcraft as a modality because it is part of tradition and culture for many people. He also mentioned that membership of the Council helped healers (i.e. not just customers) to protect themselves. So, for example, some healers used animal teeth or horns as tools for divination or practice. They needed to be registered with the Ministry of Natural Resources<sup>52</sup> whose departments oversee conservation of natural resources in Tanzania. Dr Kayombo mentioned a healer who was arrested by the police and charged with contravening the Witch Craft Act of 2002<sup>53</sup> because he could not provide proof indicating that he was a healer. Had he had proof that he was a registered healer with the Council, he could have proved that his practice was legitimate and the arrest would not have occurred.

Next, the lack of Institutional support was highlighted in both the literature and by the healers. Half of the healers interviewed felt that government has a role to play in supporting their work. It appeared that they did not make the connection of the Council as a quasi-government agency trying to help them. Problems that the healers felt government could assist them with included the lack of venues to open a practice, which they feel would provide an opportunity to reach more patients, as well as provide a cleaner working environment. The traditional bonesetter (healer no.6) who was encountered along the road in the Simanjiro district mentioned that it would help him train other students if he could have a venue to conduct his practice. In addition, if a venue was close to a hospital, expertise between practitioners could be shared and new skills could be learned. In the Kimotorok community, the elder (healer no.7) mentioned that there was a lack of transport, and that more transport could help traditional birth attendants reach pregnant mothers in other villages. What was acknowledged was that the government has built a clinic in Kimotorok

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<sup>52</sup>The Ministry of Natural Resources and Tourism is responsible for conservation of natural and cultural resources as well as development of tourism in Tanzania.

<sup>53</sup>This Act prohibits the use of witchcraft that brings about harm or death to another.

village in the Simanjiro district, which has been helpful in treating childhood diseases and as the elder stated that many children's lives had been saved.

In the previous section access to traditional medicine was listed as a benefit. For most traditional healers, access to medicinal plants was generally available from forests or public spaces. However, while driving through the Simanjiro district, my guide informed me that healers were precluded access to protected forests for two reasons. Firstly, the conflict over jurisdiction between the different levels of government created barriers to entry into forests for accessing and collecting plant material. The 80-year-old traditional and animal doctor from Kimotorok village (healer no.4) said that entry to harvest plants in the Mkongonero game reserve and the Tarangire National Park was denied. Entry into both facilities was by permit only, with village councils being the bodies responsible for issuing permits and thus the power to limit or grant access to people wanting to access biodiversity. The healer said that the lack of access to both premises precluded healers from sourcing valuable plants that treat and cure sexually transmitted diseases. While in this village, the village government (as it was referred to), appeared to be upholding its responsibility to protect the land because access to protected areas was controlled. I was informed that in other councils this was not the case. My guide said that not all village council's work well due to a lack of operational resources and they were unable to protect the forests from unknown people who came to pick plants. Their mandate is to govern what happens on the land. In the event of transgression on the land, they would contact the security agencies or work with environmental agencies to have transgressors prosecuted. It was not clear to me how the village councils would have the expertise to assess whether or not plant resources were being sustainably harvested or not.

Furthermore, the literature highlighted that global international intellectual property rights instruments have an impact on traditional medicine in Tanzania. The Convention on Biological Diversity and The Agreement on Trade Related Aspects of Intellectual Property Rights (CBD) are agreements that Tanzania is a signatory to. However, Tanzania has no policy on traditional knowledge (Wekunda 2012). This lack of protection or adequate policy, leads the country open to instances of biopiracy. Some cases of biopiracy and abuse of trust were highlighted in Chapter 3 (Oloisuki/ Mjafari tree and the Swiss national (Laltaika 2011). Biopiracy is a threat to traditional medicine and indigenous communities. If patents are granted on the ingredients used for compiling medicines, healers are liable to pay fees, which in turn are passed onto their clients. Their sense of communal ownership and indigenous knowledge is potentially lost forever. In addition, their livelihoods are threatened for traditional medicine is also used as food.

While global intellectual property instruments and Tanzanian domestic law have placed challenges on traditional medicine, other challenges on a local level have been experienced. Healers no.4 and 5 shared stories of being aware of herbs and plants being removed in large amounts from the forests sometimes with the village councils being cognisant of these illegal activities. The plant materials were then sold in places like Dar es Salaam and within the neighbouring East African countries of Kenya and Uganda. So while biopiracy at a corporate level is a challenge to traditional medicine at a national level, the pilfering and trade of biodiversity also places it at risk of reduced stocks or even extinction (Augustino et al. 2014).

Another challenge highlighted in the literature related to the movement of youth to the cities and potential impact on traditional medicine and practice. Migration of youth to urban centres had increased due to them seeking work or education in Tanzania (Kira & Komba 2012). This is creating a vacuum in rural areas because healers cannot pass on their indigenous wisdom to the next generation of healers (Kira & Komba 2012). But it is not only this vacuum that is a challenge to the social structures; education of youth appears to be affecting the social structures as well. The elder and animal doctor from Kimotorok village (healer no.7) became emotional when sharing how education is changing and negatively affecting their culture, because it caused youth to question their elders and way of life. He said that his culture was passed down from one generation to the next, so if there is no one to continue it, it would die out. His concern was that youth who were becoming educated were also becoming reluctant to continue in the tradition as healers. Their reluctance was linked to their new way of life where they viewed their cultural way of life as rural and backward.

While the challenges in the next two paragraphs were not highlighted in the literature, they emerged during the informal conversations with my guide. I felt it was pertinent that they be mentioned as they are affecting not just traditional medicinal access and availability, but the social structures of these indigenous communities. The first of these two challenges relate to land tenure. Land tenure for indigenous communities is a challenge in this region of Tanzania. My guide shared an example of a case of conflict between the government and a community that PINGO's was assisting. Government built a local clinic for the community in the Simanjiro district. The challenge was that there was a land dispute between the Masaai because the clinic encroached on their land. Part of the land was appropriated and some families had to be moved off the land where the clinic was built. The unavailability of land could affect this community's ability to access plants from the land to make medicine. There is a possibility that land dispossession may affect their way of life and cultural practices. My

guide said that people were unhappy about the encroachment and forced removal, and hence sought their legal assistance.

In another example of land tenure, while in the Kiteto district, my guide shared a story of land disputes between two communities. He told me that the Akie tribe are experiencing land invasion by the Masaai. The Masaai have had their grazing lands expropriated from the government, forcing them to move and look for new land on which to graze their cattle. The reasons for the expropriation were to create new settlements or communities for people belonging to other traditional Tanzanian communities. The Akie are a hunter-gatherer tribe and rely on the forest for food, medicine and livelihoods. The arrival of the Masaai and their large herds of cattle are affecting the vegetation and access to the forest for food and medicine. There have been clashes between the tribes that have the ability to escalate into full-blown conflict. Without security of land tenure, both communities are experiencing hardship. Their way of life was challenged. If the Akie are unable to access the forests, they could be unable to treat diseases, which could escalate into further social instability and a potential health crisis.

The second of these two challenges relates to the protection of indigenous groups. My guide informed me that the Akie amount to about 300 people, though no formal count has been done. They have been afflicted by social challenges such as alcohol abuse. Their land is shared by Masaai who view them as inferior due to lengthy history shared between two tribes. They speak Masaai and lived for many generations alongside each other. Masaai are not hunters so, the Akie used to hunt and cook for Masaai. This interaction allowed the communities to co-exist. However, in recent times this coexistence also created hardship for the Akie because the Masaai had moved onto their lands. Recently the government had started making efforts to recognise the Akie as an indigenous group. This recognition affords them certain protection and rights in society. PINGO's were advocating that this recognition needed inclusion into the constitution guaranteeing all indigenous groups this status and protection. This protection was relevant because if this group was not protected, the traditional knowledge of which traditional medicine belongs to could be at risk of becoming extinct. Most of their knowledge was orally transmitted and they relied on it being passed down from one generation to the next to keep it alive. Being granted recognition could mean that they could access resources from the State to help preserve their indigenous culture.

#### **5.4 Areas for further research**

Future research could focus on the engagement between healers and the Traditional Alternative Medicine Council in understanding their role and support to and of each other.

With the Nagoya protocol now in effect, it would be important to research whether the Tanzanian national government has in effect addressed the gaps of weak legislation that leaves traditional medicine open to biopiracy. Also a study could be conducting in ascertaining the commercial value of Tanzania's traditional medicine.

## 5.5 Recommendations

Below I list some recommendations that are important for traditional healers to continue uninhibitedly with the practice of traditional medicine, which is a vital component of the health sector in Tanzania.

Firstly, a task team between the different levels of government needs to be set up to address the conflict relating to boundaries between communal land and State land. Expansion of State boundaries is hindering access to forests and medicinal plants cannot be harvested. This has the potential to impact on access to healers and the delivery of health care to clients.

Secondly, traditional healers need infrastructural support from their government. From the interviews, most traditional healers reported that they ground and packed the components of medicine themselves. I observed that some of the packaging was of poor quality and this could perhaps influence the efficacy of the medicine. The Tanzanian government could follow the example set by the eThekweni Municipality in Durban, South Africa. eThekweni Municipality has attempted to support traditional healers by installing infrastructure to clean and grind herbs and plants and process to a powder form and sale in hygienic packaging (Mander et al. 2007). The Municipality provided equipment for grinding plant material in the city centre, which was available for use by all healers. They then set up medicinal plant nurseries in some rural areas to cultivate plants that are affected by weather conditions, which are then sold to healers. This kind of centralised shared infrastructure would be cost effective to implement in both urban and rural areas in Tanzania. While the University of Muhimbili has started this process, perhaps institutional support to aide healers in rural areas could be impactful and render traditional medicine safer. This measure could go a long way in conservation efforts to promote a more sustainable supply of plants.

Thirdly, the healers could work with the Traditional Alternative Medicine Council and the village governments so that greater co-operation and decision-making can be shared. Their possibility for collaboration with State sanctioned institutions such as universities and hospitals could help them share expertise, experiences and knowledge. This in turn could result in better service delivery for the community.

Furthermore, improved co-operation between healers and doctors could assist with increased and improved trust and health care delivery options in urban and rural areas. The option is being investigated at Muhimbili University hospital and could be expanded to other public health sectors in Tanzania.

Fourthly, further study in terms of economic benefits needs to be done to ascertain the value of Tanzania's traditional medicine potential. The national government could conduct a study on the economic value of traditional medicine in order to understand the potential economic and social and benefits. Linked to this aspect relating to economic benefits are that further financial or infrastructural support be afforded to the Tanzanian research institutions such as Institute of Traditional Medicine at the Muhimbili University to commence with further research and development of new medicines and patent application.

Fifthly, Tanzania's legal framework needs harmonising with the Nagoya Protocol so that biodiversity is protected and adequate benefit sharing agreements can be concluded with indigenous knowledge holders. The government of Tanzania is bound by international law to comply with this legislation.

Sixth, some attempts have been made to document traditional knowledge. This needs to be improved so that biopiracy is minimised and generations of Tanzanians have a resource base to refer to for future study and medicinal development. Moreover, an indigenous knowledge curriculum could be developed at primary and secondary schools so that children and youth learn, appreciate and understand the relevance of traditional medicine.

Finally, what was evident from the findings of the study was that biodiversity was at risk due to human intervention such as excessive plant harvesting and climatic conditions. The cultivation and conservation of plants is important. At village level, programmes could be initiated to develop nurseries in order to access plants when weather conditions are poor. In addition, accessing plants from the nurseries could reduced the dependence on wild plants and ensure that plants are sustainably harvested.

## **5.6 Conclusion**

My personal motivation and the appreciation for traditional medicine was the impetus for me commencing this journey to another African country to explore what traditional medicine means to people in Tanzania. I wanted to investigate the status of traditional medicine on a global scale and then look at its practice in Tanzania, as my case study. My research indicates that traditional medicine usage is high in the country, which is consistent with

international research that indicates many developing country populations rely on traditional medicine due to poor access to conventional healthcare (whether geographical or financial), and/or because they prefer traditional medicine as it has strong links to culture.

In Tanzania, there seem to be many traditional healers in operation. Many derive their main source of livelihood from their practice. However, not all of these healers operate solely for commercial reasons and many of the healers interviewed spoke about their duty to look after their community and do not always charge people who cannot afford their services or medicines.

Although traditional medicine went through a period of decline in developed countries, there has been a revival in recent decades, which the literature ascribes to the populace being more aware of their health rights and through increased educational levels giving them the confidence to explore alternatives to conventional medicine. Many have opted to use complementary and traditional medicine as it is perceived to be more affordable and safer (less side effects) or when conventional treatment seems not to have helped. This rise in popularity in developed countries means that there is a large and growing market for traditional medicines. If correctly commercialised, the sale of traditional medicine or related plant products could boost the Tanzanian economy.

One of the key aspects of commercialisation relates sustainable use and conservation of biodiversity for current and future use. The Tanzanian government is a signatory to the international protocols protecting biodiversity. The Nagoya protocol compels the State to consult with its people in matters relating to traditional knowledge, requiring prior informed consent before research is conducted and an agreement on how benefits can be shared. Unfortunately, this research indicated that there are already examples of biopiracy that have occurred in the country, and so there is already a loss of traditional knowledge and intellectual property.

But, the threat to traditional medicine is not only from outside. This research showed that, despite government efforts to control plant a livelihood strategy within Tanzania, plant pickers in Tanzania remove plants without permission of the local governance structures and sell it off in other cities and neighbouring countries. Other pressures such as gene hunters, irregular weather patterns, change of landscape uses has placed pressure on forests and places where plants can be located.

On a personal level, I had my motivations for studying, but nothing prepared me for my life in Tanzania. I went with an open mind and was touched by the hospitality of people who opened their hearts and minds to me. I am more convinced at the conclusion of this study

that traditional medicine is of benefit to humanity and needs to be protected. If we do not guard and protect this century-old indigenous knowledge, we lose our connection to our past and have the potentially risk our future.

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