



# **National Policies and Legal Frameworks Governing Traditional Knowledge and Effective Intellectual Property Systems in Southern and Eastern Africa: The Case of Traditional Healers in Tanzania**

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# **National Policies and Legal Frameworks Governing Traditional Knowledge and Effective Intellectual Property Systems in Southern and Eastern Africa: The Case of Traditional Healers in Tanzania.**

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# List of Acronyms

ADRI	Animal Disease Research Institute
ARIPO	African Regional Intellectual Property Organization
CA	Content Analysis
CBD	Convention of Biological Diversity
CIPR	Commission on Intellectual Property Rights
CIPR	Coalition for Intellectual Property Rights
COSTECH	Tanzania Commission for Science and Technology
ESRF	Economic and Social Research Forum
FAO	Food and Agriculture Organisation
FFM	Fact-Finding Mission
FGD	Focus Group Discussion
ICTSD	International Centre for Trade and Sustainable Development
IP	Intellectual Property
ITM	Institute of Traditional Medicine
LDCs	Least Developed Countries
LinKS	Local and Traditional Knowledge Systems
MoHSW	Ministry for Health and Social Welfare
MUHAS	Muhimbili University of Health and Allied sciences
SPSS	Statistical Package for Social Sciences
STI	Science, Technology and Innovation
TFNC	Tanzanian Food and Nutrition Centre
TH	Traditional Healer
TK	Traditional Knowledge
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nation Educational and Scientific and Cultural Organisation
URT	United Republic of Tanzania
USDM	University of Dar es Salaam
WHO	World Health Organisation
WIPO	World Intellectual Property Organisation
WTO	World Trade Organisation

# Abstract

This paper provides highlights of a study on the National Policies and Legal Frameworks Governing Traditional Knowledge and Effective Intellectual Property Systems in Southern and Eastern Africa: The Case of Traditional Healers in Tanzania. The study has explored the existing policy and legal frameworks and the community protection mechanisms of traditional knowledge in Tanzania. The major objective of the study was to build a body of knowledge in the area of protection of traditional knowledge in Tanzania. The study was conducted in two districts - Lushoto and Handeni of Tanga region with communities that are well known for their famous traditional medicines. Data was collected using various research instruments including: documentary review, focus group discussion and questionnaire survey. A structured questionnaire was administered to 200 traditional healers, 250 users of traditional medicines and 37 officials in 20 wards in the two districts. The data collected were analysed using the Statistical Package for Social Sciences (SPSS) programme and Content Analysis (CA) approach. The study has revealed that Tanzania has no comprehensive and appropriate mechanism for protection of rights arising out of use and or exploitation of Traditional Knowledge. The current legal framework do not provide for protection of TK. The study has also revealed that traditional medical services are being used by most people. It further revealed that protection mechanism among the community is mainly secrecy. As TK is not documented there is a danger of losing this knowledge. Few traditional healers are aware of the legislation concerned with the conventional intellectual property protection mechanism. There is no policy with relevant issues to TK except the National Healthy Policy of 2007 which has a policy statement of working together with the traditional healers, traditional nurses and is recognizing the importance of both traditional and alternative medicines. Establishing a legal frame work for protection of TK; emphasizing on the documentation of TK: establishing a Traditional Knowledge and Genetic Resources Policy: and developing an outreach programme to create awareness on IPR issues as well as on benefit sharing is recommended.



# 1. Introduction

## 1.1 Background Information

In Tanzania, Traditional Knowledge (TK) has no official protection mechanisms, except for the folklore, of which its protection provision is provided by the Copyright and Neighboring Right Act, Cap. 218, RE 2002 (URT, 1999). The laws governing protection of industrial property do not have provisions for the protection of TK. These are: the Patent Act, Cap. 217 RE 2002, Trade and Service Mark Act, Cap. 326 RE 2002 (URT 1986, URT 1987). The ARIPO Instrument on the protection of traditional knowledge, genetic resources and folklore has been discussed in some fora, but yet there is no law enacted to provide protection for TK.

In the case of traditional medicines, a law was enacted in 2002 – The Traditional and Alternative Medicine Control Act No. 23 of 2002. A National Office was established as the Traditional Medicine Section of the Department of Curative Services at the Ministry for Health and Social Welfare (MoHSW) in 1998. Currently, there is a Registrar of Traditional Healer (TH) at MoHSW. Also an Institute of Traditional Medicine (ITM) was founded in 1974 at the current Muhimbili University of Health and Allied sciences (MUHAS) WHO, 2005).

## 1.2 Problem Statement

The issue of protection of TK has been a debate in a number of fora, but to date there is yet a global agreed mechanism on how TK should be protected. The focus has always been to fit TK protection in the existing classic protection mechanisms. Article 27 (3) (b) of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement has given provisions to member states to consider protection of TK using existing intellectual property systems, as well as

geographical indications and sui generis forms of protection (WIPO, 1997). These are just provisions with no proper ways to enable TK be protected as some of the requirements for the protection by the current system cannot be met by TK. For instance, the protection through patents requires that the invention be by an individual, but most of the TK are owned by communities. To obtain a proper protection mechanism there are a few questions that need some considerations: How should TK be protected?; What do indigenous communities wish to protect?; and What is the best method of achieving this? Most of the considerations made so far have not taken into account that the indigenous communities had their own means of protecting their IP. The study has considered to un-earth the indigenous protection systems and proposes them to be incorporated into the existing conventional system. This has been done through investigating the traditional healers in two districts in Tanzania.

### **1.3 Objectives**

The major objective of the study is to build a body of knowledge in the area of protection of traditional knowledge in Tanzania. The specific objectives are:

1. To examine the existing legal and policy frameworks relevant to protection of TK in Tanzania.
2. To examine previous studies on protection of traditional knowledge and synthesize the recommendations thereof, for the purpose of suggesting possible modalities for the protection of TK to be proposed to the global ongoing debate on TK protection.
3. To gather and document existing protection mechanisms among the communities. The case of traditional healers in two district of Tanga region.
4. To gather the mechanisms in which the traditional healers transfer their knowledge to others.
5. To synthesize the mechanisms of indigenous protection of TK and propose strategy to adopt them in the system of protection of TK.

### **1.4 Justification**

Tanzania, in particular, and Africa as a whole is endowed by huge TK, which is currently not documented and one of the reasons for no or little dissemination of TK might be the lack of protection mechanisms. There is a need for mechanisms to protect TK. The study has provided insight of the indigenous protection mechanisms which could assist the various initiatives for protecting TK. The analysis of the existing policy and legal frameworks is an eye opener on the gaps

existing to achieve protection of TK. Lack of protection of TK has contributed to losses and will contribute to continue to lose opportunities in the cause of utilization, transfer and transformation of Traditional Knowledge based technologies.

## **1.5 Structure of the Paper**

The paper comprises of six sections. The first one is the introduction, which provides the background information; statement of the problem; objectives of the study; and justification. The second section is on literature review. It gives definition of TK and the general overview of the protection of TK. Additional information is provided on the protection situation in Tanzania; global overview of the protection of TK and initiatives developed to establish protection regimes on TK; the analysis of TK in Tanzania; and the establishment of TK systems in the country. The third section is on the methodology that was used in the study. Section four is about the results and findings. Section five provides conclusions and recommendations and finally section six is on the references.

## 2. Literature Review

Literature review was conducted to understand the concepts and the situation of TK globally and in Tanzania in respect to intellectual property protection of TK.

### 2.1 Traditional Knowledge - What is it?

Traditional knowledge has played and still plays an important role in the lives of many people globally. It has particularly been essential for food security and health care for millions of people in developing countries. Up to 80% of the population in these countries depends on traditional medicines in meeting their health care demand (CIPR, 2002).

There is no exact definition for Traditional Knowledge (TK) globally, but TK has raised a debate on how it should be protected in the recent years. The World Intellectual Property Organization (WIPO) is currently using the following definition:

*The term traditional knowledge refers to the content or substance of knowledge resulting from intellectual activity in a traditional context, and includes the know-how, skills, innovations, practices and learning that form part of traditional knowledge systems and knowledge embodying traditional lifestyles of indigenous and local communities, or contained in codified knowledge systems passed between generations. It is not limited to any specific technical field and may include agricultural, environmental and medicinal knowledge, and knowledge associated with genetic resources*  
(Saurombe, A. 2009).

### 2.2 Protection of Traditional Knowledge

The issue of protection of TK has been debated in a number of fora, but there is

yet a global agreed mechanism on how TK should be protected. The focus has always been to fit the TK protection in the existing classic protection mechanism. Article 27 (3) (b) of TRIPS Agreement has given a provision to member states to consider protection of genetic resources using existing intellectual property systems, as well as geographical indications and sui generis forms of protection (WIPO, 1997). These are just provisions with no proper ways to enable traditional knowledge be protected as some of the requirements for protection by the current system cannot be met by TK. For instance, the protection through patents requires that the invention be owned by an individual, but most of the TK are owned by communities. To obtain a proper protection mechanism there are a few questions that need some considerations: How is traditional knowledge protected?; What do indigenous communities wish to protect?; and what is the best method of achieving this? Most of the considerations made so far have not taken into account that the indigenous communities had their own means of protecting their IP.

The major question is whether the conventional protection mechanisms could be applied to traditional knowledge or not. However, on analyzing these conventional mechanisms for the protection of intellectual property, it appears that they are ineffective in protecting traditional knowledge. For instant, the high cost of effective protection by patents is far beyond the means of most holders of traditional knowledge and the limited period of protection does not fully compensate for the disclosure of the knowledge which was guarded for hundreds of years. Furthermore, the novelty of traditional knowledge which was used over several centuries may be legally challenged.

Trademarks may be useful to protect expressions of traditional knowledge like handicrafts, but they are of no use in protecting traditional knowledge itself. Similarly, geographical indications will protect the product but not the traditional knowledge. Copyrights for traditional knowledge will not be effective as well as it would be difficult to enforce.

Traditional knowledge that has not been documented survives today usually as a “family secret” similar to a trade secret. However, traditional knowledge maintained as family secrets have a tendency to leak or gradually move into the public domain and their leakage cannot be effectively prevented unlike trade secrets in the corporate sector.

One of the solutions will be to institute the *sui generis* system for such protection. Also defensive protection through documentation of traditional knowledge could be used so that the TK should not be used by others in patenting.

## **2.3 Global Overview on TK Protection**

Traditional knowledge has played and still plays an important role in the lives of many people globally. It has particularly been essential for food security and health care for millions of people in developing countries. The issue of protection of traditional knowledge has just come recently from the pressures of many developing countries, holders of traditional knowledge and campaigning organizations. This was due to a number of cases on the appropriation of knowledge and genetic resources of farming and indigenous communities by individuals or institutions seeking monopoly control (bio-piracy) (CIPR, 2002).

### **2.3.1 International Arena**

In the international arena, issues of attempting to recognize and protect traditional knowledge started in 1981 when WIPO and UNESCO adopted a model law on folklore. This was followed by the 1989 recognition of the farmers' right which was introduced by FAO in its International Undertaking on Plant Genetic Resources. The 1992, Convention on Biological Biodiversity (CBD) also has emphasized on the protection of traditional knowledge. The protection of traditional knowledge is further being discussed within the framework of CBD in other international organizations such as FAO, UNCTAD, UNESCO and UNCTAD (CIPR, 2002; ICTSD, 2003). Furthermore, the Doha WTO Ministerial Declaration directed the TRIPS Council to do further work on the protection of traditional knowledge.

Other international initiative to seek for a way to protect traditional knowledge was the WIPO Fact-Finding Mission (FFM). WIPO needed to know and understand the needs and expectations of the traditional knowledge holders. This was carried out between 1998 and 1999. FFM identified a number of needs and expectations for the traditional knowledge holders of which it is evident that some are conflicting or reflect competing policies. The needs identified pose a challenge to the entire IP community and collaborative effort by other relevant organizations and processes are needed (WIPO, 2001).

At a WIPO Meeting on Intellectual Property and Genetic Resources which was

held in 2000, it came out clearly that there is an interrelation between genetic resources and the new global issues of TK, folklore and biodiversity. The meeting reached out a consensus that WIPO should facilitate the continuation of consultations between member states and other relevant organizations, through conduct of legal and technical studies and setting up of an appropriate forum within WIPO for future work. This led to establishment of the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore in 2001. So far there is yet to be a comprehensive regime to govern protection of traditional knowledge.

### **2.3.2 Studies from Other Countries**

The issue of protection of traditional knowledge and benefit sharing is yet to be properly handled also in other countries. E.g. a major study was conducted in areas of important biodiversity, and focused on both medicinal plants and agro biodiversity knowledge systems in different ecosystems (mountain, dry-land, semi-arid and coastal forests). It involved diverse communities ranging from quite traditional to more mixed/integrated: Mijikenda and Maasai in Kenya; and Zhuang and Yao, in Guangxi, South West China. The studies revealed the following:

- > Traditional knowledge is in decline in many communities with the younger generation having little interest in learning it and in observing customary laws. Loss of ancestral land and sacred sites is a key factor in this – e.g. the Mijikenda have lost many of their kaya forests (Mutta, D. & Munyi, P., 2010).
- > Erosion of cultural values and customary laws due to the spread of western culture, markets and governments to rural areas, are also key factors. Some Mijikenda customary laws have been lost or modified, or are selectively recognised (Mutta, D. & Munyi, P., 2010).
- > In China, customary laws have been lost altogether, but some customary values and cultural preferences remain (amongst elders). In Guangxi, SW China, modern high yielding varieties have replaced many traditional crops such as maize, largely due to the limited size of landholdings and the need to increase yields (Jingson, L. & Yiching S., 2010).

## **2.4 Analysis of Traditional Knowledge in Tanzania**

### **2.4.1 The Potential of Traditional Knowledge in Tanzania**

Tanzania, like many African countries, is rich in Traditional Knowledge,

Expressions of Folklore and Genetic Resources. However, no comprehensive or appropriate mechanism is available for protection of rights arising out of the use and exploitation of the respective subject matters.

It is undisputable that due to lack of a comprehensive system for protection of the said subject matters, Tanzania has lost and continues to lose opportunities both in form of utilization, transfer and transformation of Traditional Knowledge based technologies; particularly in the absence of any formal and binding agreements for possible equitable benefits sharing.

The historical background of Traditional Knowledge surrounds local communities and indigenous people's mode of life, in which case, their systems of protection was largely dependent on the respect for communal and common understanding of their respective cultural norms and values.

In essence, the social economic development brought about by what could simply be associated with “civilization”, has rendered the said systems unrespectable, ineffective and hardly sustainable.

Tanzania has exploited the traditional health practices for a long time even before the arrival of foreigners. Over 60% of health seeking population has a traditional healer as the first point of contact. In the year 2000, it was estimated that there were about 75,000 traditional health practitioners in the whole country, exemplifying a ratio of traditional health practitioner against the people's population as 1:400, while that of doctors to patients was 1:20,000 (Mhame, 2000). Like in the other societies, in Tanzania the people have over the centuries, developed a wide variety of technologies from exploration of medicinal properties of plants, extracts of animals and marine life. Most of such indigenous knowledge was handed down, through the ages, by oral tradition.

Traditional knowledge in Tanzania has also been developed in other field not only in traditional medicines. The following are examples of some of the Tanzania traditional knowledge obtained from [www.worldbank.org/afr/ik/i/index.htm](http://www.worldbank.org/afr/ik/i/index.htm)



## **“Acquisition and Sharing of Knowledge**

**Summary:** *The Maasais and Barabaig alike of Northern Tanzania have developed and maintained traditional knowledge and practices for the management and conservation of biological resources on which they depend on. Their knowledge and practices are empirical, based on continuous observation and their close attachment to and utter dependence on natural resources. The knowledge is stored in cultural and religious beliefs, taboos, folklore or myths as much as in the individuals' practical experience. Knowledge is imparted in the youth through a phased childhood and adolescence. This contributes to a stock of knowledge in human and animal health, in agricultural meteorology and in land use. A combination of cultural, empirical and hierarchical methods ensures the safeguarding and further development of knowledge as well as effectiveness of existing practices. By preferring utilitarian to hierarchical or theoretical concepts, knowledge is much easier shared. Evidence provides a strong corrective agent in determining the usefulness of existing knowledge, and an incentive to further develop it.*

**Lesson:** *Indigenous knowledge systems are often application oriented. The introduction of new concepts should use approaches that are based on or compatible to existing systems.*

*Source: MARECIK; N. Ole-Lengisugi, F. Ole-Ikayo, or contact: multicho@yako.habari.co.tz*

## **Medicinal Use of Plants**

### **Medicinal use of plants for people and livestock**

**Summary:** *It is estimated that over 1000 plant species in Tanzania are used as sources of traditional medicine for human ailments. Over 80% of Tanzanians are dependent on traditional phytomedicine to treat various diseases. More than 100 plant species are recorded to treat 38 different pathological conditions of livestock in Arusha, Kilimanjaro and Uhaya regions. Veterinary use of plants is widespread among the pastoralist communities in Tanzania but not restricted to them.*

**Lesson:** *Knowledge of traditional medicine practices has not yet sufficiently inseminated conventional medicinal practices in Tanzania, a missed opportunity for cost effective treatment.*

*Source: MARECIK; N. Ole-Lengisugi; F. Ole-Ikayo, or contact multicho@yako.habari.co.tz*

## **2.4.2 Institutional Arrangements and Structures**

In Tanzania, there are several institutions which were established to deal with TK issues. These include:

### **(a) Institute of Traditional Medicine (ITM)**

This institute has been established by Act of Parliament in 1974 at the current Muhimbili University of Health and Allied Sciences (MUHAS). The programmes of the institute include research activities in ethno botanical, anthropological, chemical and biological studies. Currently, the Institute's research activities fall under the following research areas:

#### **HIV/AIDS**

The Institute has an extensive program to evaluate therapies that are being used by traditional healers to treat HIV/AIDS patients. Concurrently, the Institute is running a program to evaluate extracts from different plants for antiviral, anticancer, anti-bacterial and anti-fungal activity.

#### ***Search for plant derived compounds for treatment of type 2 diabetes mellitus.***

Both ethno medical and laboratory studies on plants used traditionally for treatment of type 2 diabetes mellitus are being done by the Institute.

#### ***Discovery of anti-malarial compounds from marine invertebrates and terrestrial plants***

This is a collaborative project being done jointly between the Institute of Traditional Medicine, the Institute of Marine Sciences in Zanzibar, and the Department of Parasitology of the School of Public Health and Social Sciences. It is a WHO funded project.

#### **Other Programmes**

##### **Formulation and standardization of herbal formulations**

This is a new program at the Institute. The Institute has in place a herbal standardization unit, which has recently been established. The intention is to promote the use of herbal medicines for plants whose therapeutic value is already established. Partnership with pharmaceutical industry is being sought to facilitate commercialization of the production of herbal medicines.

### **Ethno botanical studies in Tanzania**

This is an ongoing activity to continue identifying plants that are being used by traditional healers for the treatment of various diseases.

### **Ex-situ conservation of potential medicinal plants**

This is currently an area of immense importance to the Institute. The institute is seeking to promote community based cultivation of medicinal plants to serve the purpose of supplying raw materials for the production of herbal extracts and herbal medicines. This is also intended to promote national strategies for poverty reduction.

There is a good opportunity existing for the institute to make progress in the area of utilization of medicinal plants. These include:

- > A large wealth of medicinal plant in Tanzania of which a few have been exploited
- > Over 75,000 traditional healers in Tanzanian Mainland. These are the custodians of the knowledge about plants with medicinal value. They will assist the Institute in exploiting the wealth of medicinal plants found in different parts of the country.
- > Unique Tanzanian flora in the world. Some plants are only found in Tanzania. Due to this reason it is possible to attract both national and international collaborators in research on the medicinal value of these plants.
- > Based on the information which has been accumulated, the Institute can develop a curriculum to teach traditional medicine to medical students. This is an important stage if traditional medicines have to be prescribed by doctors.
- > The Institute has medicinal plant farms, which can be used for commercial cultivation of medicinal plants.
- > Establishment of herbal pharmacy for dispensing these preparations will generate funds for the institute.

### **(b) Links Trust**

This is a non-governmental and non-profit making organization, which was established to take over the activities of a project funded by Food and Agricultural Organization's (FAO) on Local and Traditional Knowledge Systems (LinkS) in Tanzania in 2005.

It was an initiative taken by a group of individuals from different Tanzanian institutions, including the Tanzanian Food and Nutrition Centre (TFNC), the University of Dar es Salaam (USDM), the Tanzania Commission for Science and Technology (COSTECH), the Ministries of Health, Livestock Development and Agriculture, and the National Environment Council.

The founding of the Trust was prompted by the need to make Local and Indigenous Knowledge issues visible in the national policies and strategies at different levels. The Trust took over LinKS project activities and built on the experiences made during the project period. Its main purpose is to establish a platform within the country for sharing ideas and information on local knowledge systems. Moreover, the Trust will be able to provide training courses on gender, biodiversity and local knowledge. The project looked at gender issues, agro biodiversity and local knowledge in Tanzania, Mozambique and Swaziland. Its core activities were: capacity building, communication and advocacy, and research. These activities are taken over by the Links Trust.

### **(c) Economic and Social Research Forum (ESRF)**

In the study conducted by Msuya (2007), the Tanzania Development Gateway database of the Economic and Social Research Foundation (ESRF) was found to be one of the efforts in regard to protection and preservation of TK.

ESRF has developed a database on Traditional Knowledge to enhance sharing and dissemination of TK information, experiences and practices in Tanzania, with the following objectives:

- > provide a platform where TK is captured, stored and disseminated;
- > provide a mechanism of sharing this knowledge and also integrate it with modern science and technology to enhance information dissemination;
- > promote sharing and dissemination of TK information, experience and practices in Tanzania; and
- > in realisation of TK and its contribution to socio-economic development, the database will promote development of TK systems to improve information provision to the local communities.

## 3. Methodology

In this section the description of the study area is presented as well as the data collection and the data analysis methods are described.

### 3.1 Study Area

Tanzania is located in Eastern Africa, and lies between longitude 29° and 41° East and latitude 1° and 12° south<sup>1</sup>. Tanzania has an estimated land area of about 945,000 km<sup>2</sup>, with a population of about 42 million people and the population is growing at the rate of 2.9% per annum. The current official per capita income is estimated at TZS 548,388 (USD 540) in 2007 and about 50% of the population live below the poverty line<sup>3</sup> ranking Tanzania among the world's Least Developed Countries (LDCs). The study was carried out in two districts of Tanga region in the north-eastern part of Tanzania namely: Lushoto and Handeni. Both districts are well known for having reliable traditional healers.

Handeni is one of the eight districts of Tanga Region in Tanzania. According to the 2002 Tanzania National Census, the population of the Handeni District was 248,633. The district has a population increase of 4% per year. Its area is 6,112 square kilometers. The District is administratively divided into 7 divisions, 19 wards and 112 Villages (URT, 2008). The ethnic groups in Handeni district are the Zigua (66.1%) and Nguu (17 %) (URT, 1997). These communities are well known for their famous traditional medicine curing ill persons through use of herbs and

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<sup>1</sup>Tanzania, United Republic of (2010), "Country Profile"  
<http://www.tanzania.go.tz/ministriesandinstitutions.html>

<sup>2</sup>Tanzania, United Republic of (2010), "Hali ya Uchumi wa Taifa, 2007"  
<http://www.tanzania.go.tz/ministriesandinstitutions.html>.

<sup>3</sup>*Ibid.*

other traditional means. Handeni District has 31 health facilities and the population per health facility is 9,062 persons (URT, 2008).

Lushoto district is located in the northeastern Tanzania. It is one of the eight districts in Tanga region. The district has a population of 418,652 people and a growth rate of 1.1% (Census, 2002). Indigenous people are mainly of Bantu origin. The tribes that dominate in the district are Sambia and Pare. The Sambia are also well known for their famous traditional medicine. The district has got 52 health facilities and the population per health facility is 6,190 persons.

### **3.2 Data Collection**

Data was collected using various research instruments including: documentary review, focus group discussion and questionnaire survey.

#### **3.2.1 Documentary Review**

Intensive literature review was made on analysing the global overview and traditional knowledge in Tanzania as well as analysing the relevant legislation and policies in respect to protection of TK in Tanzania. The main legislation that would have provisions on protection of TK include: The National Arts Council Act, The Alternative and Traditional Medicine Act, Institute of Traditional Medicine Act, Foods and Drugs Act, Animal Disease Research Institute (ADRI) Act, Patents Act, Trade and Service Marks Act, Copyrights and Neighbouring Rights Act, National Institute of Medical Research Act, National Commission for Science and Technology Act, The Protection of New Plant Varieties (Plant Breeders' Rights) Act, and African Regional Intellectual Property (ARIPO) Traditional Knowledge Model Law. The policies which were reviewed include: National Health Policy; Science, Technology and Innovation (STI) Policy (draft); Forest Policy; Agricultural Policy; Environmental Management Policy; and Trade Policy.

Previous studies on protection of TK were also studied and analyzed. The following studies were analyzed:

- > Msuya (2007) "Challenges and opportunities in the protection of Indigenous knowledge in Africa"
- > Bridel (2003) "Status of Protection of the Environment, Traditional and Plant Medicine in Uganda, Tanzania and Kenya" in the "Study of Indigenous Plants and Non-Timber Products as Related to Traditional Medicine in the Nuba Mountains and Southern Blue Nile Region of South Sudan".

### **3.2.2 Focus Group Discussion**

A focus group discussion was held which included among others the traditional healers and the district officers dealing with forest, cultural, and environmental issues. In this meeting, the study was introduced and opinions were sought on the research and the issue of protection of traditional knowledge. Discussion was made with the District Cultural Officer, who identified the traditional healers who were invited to the focus group discussion. During this meeting a pre-testing of the questionnaire was conducted. Also discussion was made with the District Executive Director on the study.

### **3.2.3 Questionnaire Survey**

Three different questionnaires (for traditional healers, beneficiaries of the traditional medicines and officials) were administered and data was collected. Data requested for in the questionnaire covered different main areas as shown below:

*Questionnaire for Traditional healers:* This included: the personal particulars with 9 questions; diseases cured by the traditional healer and access to medicinal plants with 8 questions; protection mechanisms with 20 questions.

*Questionnaire for Beneficiaries:* This included: the personal particulars with 9 questions; utilizing services of traditional healers with 9 questions; protection mechanisms of traditional knowledge with 8 questions.

*Questionnaire for Authorities:* This included: the personal particulars with 6 questions; coordination, registration and protection of traditional healers' knowledge with 10 and access to medicinal plants with 12 questions.

The data was collected by enumerators who were mainly the Ward Executive Officers. They knew who the traditional healers in their wards were.

## **3.3 Sampling**

The Lushoto district has got 8 Divisions and 32 Wards. Out of the 32 Wards, 10 wards were selected randomly for the administration of the questionnaire. Similarly, in Handeni district, 10 wards out of 19 wards were selected randomly for administering of the questionnaires. In each district 100 questionnaires for the traditional healers, 200 questionnaires for beneficiaries and 20 questionnaires for officials were administered. In total 200 questionnaires from traditional healers were collected. Two hundred and fifty (250) questionnaires for beneficiaries were collected and 37 questionnaires for officials were collected.

### **3.4 Data Analysis Techniques**

The data collected were analyzed using the Statistical Package for Social Sciences (SPSS) programme. Other data collected was analyzed using content analysis (CA) approach.



## 4. Results/Findings

This chapter contains results and findings from the literature review and the field research on National Policies and Legal Frameworks Governing Traditional Knowledge and Effective Intellectual Property Systems in Southern and Eastern Africa: The Case of Traditional Healers in Tanzania. The field was carried out in two districts in Tanga region, north-eastern part of Tanzania. The chapter provides responses to the key specific objectives. The issues that are addressed in this chapter are as follows:

- > Existing legal and policy frameworks relevant to protection of TK in Tanzania;
- > Previous studies on protection of traditional knowledge in Tanzania;
- > Existing protection mechanisms among the communities in the two districts;
- > Mechanisms in which the traditional healers transfer their knowledge to others in the two districts; and
- > Mechanisms of indigenous protection of TK.

### **4.1 Existing legal and policy frameworks relevant to protection of TK in Tanzania**

#### **4.1.1 Legal Frame Works**

Tanzania has no comprehensive and appropriate mechanism for protection of rights arising out of use and or exploitation of Traditional Knowledge. The main legislation which could have provisions on protection of TK include: The National Arts Council Act; The Alternative and Traditional Medicine Act; Institute of Traditional Medicine Act; Foods, Drugs and Cosmetics Act; Animal Disease Research Institute (ADRI) Act; Tanzania Patent Act; Trade and Service Marks Act; Copyrights and Neighbouring Rights Act; National Institute of Medical Research Act; National Commission for Science and Technology Act; The Protection of

New Plant Varieties (Plant Breeders' Rights) Act; and African Regional Intellectual Property (ARIPO) Traditional Knowledge Model Law. Following are some of the legislation which on analysis were found to be relevant to the intellectual property protection of TK.

#### **4.1.1.1 The Tanzania Copyright and Neighbouring Rights Act and the National Arts Council Act**

The Copyrights and Neighbouring Rights Act of 1999 and The National Arts Council Act of 1984 provide for some aspects of protection of Expressions of Folklore and protection of traditional arts, however these two Acts do not provide a comprehensive mechanism for protection of traditional knowledge.

The National Arts Council Act provides for promotion of the development and production of artistic works including the production and use of indigenous and traditional musical instruments, songs, poetry and dancing with a view of reviving and promoting Tanzanian culture.

Folklore is recognized in Tanzania and is included in the Copyright and Neighbouring Rights Act. Genetic Resources and Traditional Knowledge on the other hand have been excluded in that category as their exploitation finally ends up in either an invention or innovation and therefore could be protected as a patent. The Patents Act does not provide for protection of inventions and or innovations coming out of traditional knowledge.

#### **4.1.1.2 The Protection of New Plant Varieties (Plant Breeders' Rights) Act, of 2002**

This Act has provided for the protection of farmers rights. In Part XII, Section 57, the law recognizes the need to protect farmers' rights on their germ plasm and cultivars. The extract of the section is as follows:

*57-(1) The Minister shall ensure that the implementation of this Act shall not affect the fulfilment of the Government obligations pertaining to the protection of farmers' rights to equitably share and access to traditional cultivars and germ-plasm; national and international commitments towards sustainable use of biological diversity taking into account the human health.*

*(2) The Minister shall, after consultation with the Minister responsible for finance, direct that, a certain percent of the fees paid to the Registrar under this Act, be set aside for the benefits of traditional farmers and the preservation of traditional cultivars of agricultural products.*

#### **4.1.1.3 The Traditional and Alternative Medicine Control Act No. 23 of 2003**

The Traditional and Alternative Medicines Control Act provides for registration of traditional health practitioners and regulates the traditional practitioners practice in the country. This, like other laws as shown above, does not provide for mechanism to protect the knowledge of the traditional practitioners.

#### **4.1.1.4 The African Regional Intellectual Property Organization (ARIPO) Instrument on the Protection of Traditional Knowledge and Expressions of Folklore.**

In 2006, ARIPO, of which Tanzania is a member state, drew an Instrument for the protection of Traditional Knowledge and Expressions of Folklore. The Instrument gives comprehensive provisions for protection of the subject matters in the region.

The ARIPO Instrument was endorsed by the Council of Ministers in 2010. This instrument shall provide inter alia harmonized provisions on the protection of Traditional Knowledge and Expressions of Folklore in the member states.

#### **Diagnostic Assessment of the ARIPO Instrument on Protection of TK**

Africa is rich in Traditional Knowledge and Expressions of Folklore but at the same time no comprehensive and appropriate mechanism is available for protection of the rights arising out of the subject matters.

The substance of the provisions of the Instrument sufficiently articulate the parameters and the scope of the referred to subject matters in that a balance of appropriation has been put and set in between the bonafide right holders and would be users. This is an important and valuable element to observe before taking any decision to engage in commercial transactions.

At national level, the local legislation which is supposed to be ARIPO Instrument compliant, ought to and should address specific issues and provide flexible protection provisions within the framework of the Instrument.

On the other hand, there is also criticism that the Instrument has heavily borrowed from the existing conventional IPR regimes something that is seemingly inconsistent with the nature and scope of desired protection of Traditional Knowledge and Expressions of Folklore:

For instance, a Traditional Knowledge that by the very nature of its effectiveness cannot be reduced to writing to bring about disclosure requirement which could hardly be accommodated within the style and scope of the Instrument. Some of the Traditional Knowledge call and or require specific ritual performance, which constitute part and parcel of the knowledge of the performer. These exceptional components of Traditional Knowledge do not seem to have been dealt with and therefore not reflected in any of the provisions of the Instrument.

There is likelihood of resistance on the part of the local communities and or indigenous people who may stick and appear conservative to their own consumption as opposed to ARIPO Instrument that presupposes a public regulated traditional knowledge consumption pattern.

Nevertheless, since the Instrument has been endorsed, it is in the interest of Member states to enact national legislation guided by the Instrument. This endorsement of the Instrument by the ARIPO Council of Ministers is a development for the member states, Tanzania inclusive, to draft their own respective compliant national legislation.

It is recommended that Tanzania needs a comprehensive legal mechanism for the protection of Traditional Knowledge, lack of which the country has lost and continues to lose opportunities in the cause of utilization, transfer and transformation of Traditional Knowledge based technologies.

#### **4.1.2 Policy Frameworks**

The main Policies that would have provisions for the proper protection of Traditional Knowledge include: National Health Policy; Science, Technology and Innovation (STI) Policy (draft); Forest Policy; Agricultural Policy; Environmental Management Policy; and Trade policy. These policies were analyzed to find out whether they have got policy statements concerning protection of traditional knowledge.

In the analysis, it was found out that the National Health Policy of 2007 is the only one stating issues relevant to TK; it has a policy statement of working together with the traditional healers, traditional nurses and is recognizing the importance of both traditional and alternative medicines.

In its section 5.4.11, the policy discusses about traditional and alternative medicines and traditional nurses<sup>4</sup>. It gives policy statement on coordinating and promoting the use of traditional medicines; on engaging the traditional healers in improving the treatment system; in the conducting of research on traditional medicines and protection of environment. Of course there is no mention on the protection of traditional knowledge as such.

In analyzing the other policies, they had no strong policy statements on the protection of traditional knowledge

## 4.2 Previous studies on protection of traditional knowledge

A search for literature on studies conducted in Tanzania on the protection of traditional knowledge was conducted. A study conducted by Bridel (2003) on Indigenous Plants and Non-Timber Products as Related to Traditional Medicine in the Nuba Mountains and Southern Blue Nile Region of South Sudan produced a chapter on the Status of Protection of the Environment, Traditional and Plant Medicine in Uganda, Tanzania and Kenya. It was revealed that secrecy was the

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### <sup>4</sup>5.4.11 *Tiba Asilia, Tiba Mbadala na Ukunga wa Jadi*

#### **(a) Maelezo**

*Tiba asilia inatumiwa na wananchi wengi. Takribani asilimia sitini ya wananchi huanza kutumia tiba asilia wanapopatwa na maradhi kabla ya kwenda vituo vya kutolea huduma za afya. Aidha, hivi karibuni tiba mbadala imepata umaarufu miongoni mwa wananchi kutokana na uimarikaji wake duniani.*

*Kadhalika, wagonjwa hutoka hospitalini na kwenda kutafuta tiba asilia au kutumia aina zote za tiba kwa pamoja. Vilele, takwimu zinaonyesha kwamba bado kuna wanawake wajawazito wanaojifungulia nyumbani kwa kusaidiwa na wakunga wa jadi. Pamoja na huduma hizi kutumiwa na wananchi wengi, uratibu wa uendeshaji wake unahitaji kuimarishwa.*

#### **(b) Madhumuni**

*Kuendeleza, kuratibu na kuboresha utoaji wa huduma za tiba asilia, mbadala na ukunga wa jadi.*

#### **(c) Tamko la sera**

*Serikali itaandaa kanuni, miongozo na taratibu za usimamizi wa utoaji (i) huduma za tiba asilia, tiba mbadala na ukunga wa jadi.*

*Watoa huduma za tiba asilia, tiba mbadala na ukunga wa jadi (ii) watashirikishwa kuboresha na kusimamia utoaji wa huduma hizo.*

*Wadau watashirikishwa katika kuweka mfumo madhubuti wa kulinda (iii) mazingira na mimea inayotumika katika tiba asilia na tiba mbadala.*

*Serikali kwa kushirikiana na wadau itaimarisha, kuendeleza na (iv) kuratibu taffiti za tiba asilia, tiba mbadala na ukunga wa jadi. (URT, 2007)*

form of protection of traditional knowledge particularly the knowledge related to medicinal plants.

In the study by Msuya, he has recommended protection of TK to be through the establishment of TK databases. He pointed out the database established by Economic and Social Research Foundation (ESRF) on Traditional Knowledge.

There are not many researches conducted in the area of protection of traditional knowledge in Tanzania.

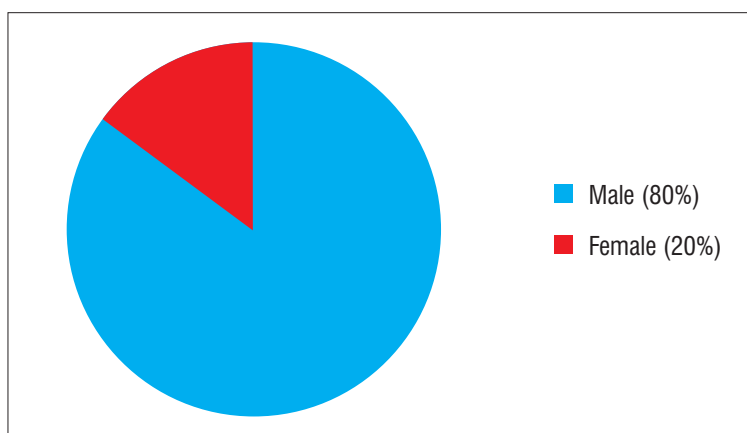
### 4.3 Existing Protection Mechanisms among the Communities

This information has been obtained from the questionnaire survey which was conducted in the two districts of Tanga region. The data was not segregated in the two districts it was analyzed in its totality. Data was collected on the characteristics of the respondents and their views on the mechanisms for the protection of traditional knowledge in these communities. Perspectives of three different groups were sought including the traditional healers, the beneficiaries of the traditional medicines and the officials at the wards and district level.

#### 4.3.1 Perspective of Traditional Healers

(a) Characteristics of the traditional healers-respondents

The questionnaire asked questions on the age, gender, marital status and education level of the respondents. With regard to the gender, the results revealed that the trade is mainly dominated by men.

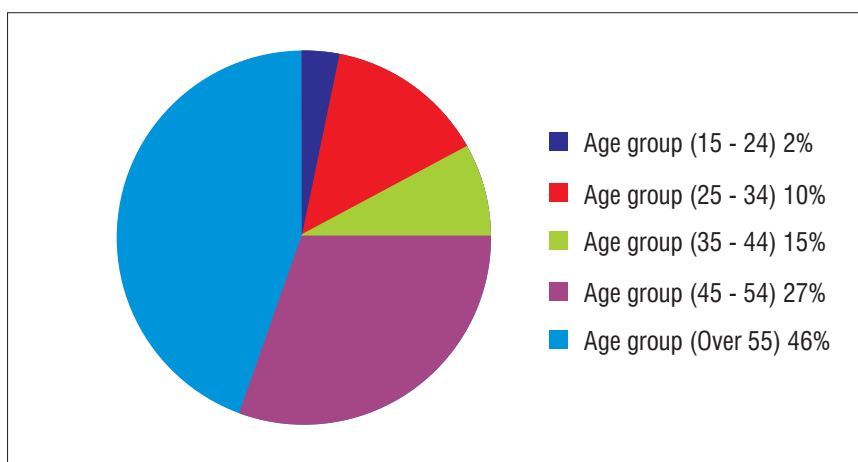


Source: Analysis from the collected field data (2010)

**Figure 1: Gender Distribution of Respondents - Traditional Healers**

Most of the respondents were males 80.1% (N=165) with only 19.9% (N=41) being females as indicated in figure 1 above.

Figure 2 below shows the distribution of the age of the respondents. Most of the respondents are old; at the age range of over 55 year 46% (N=93).

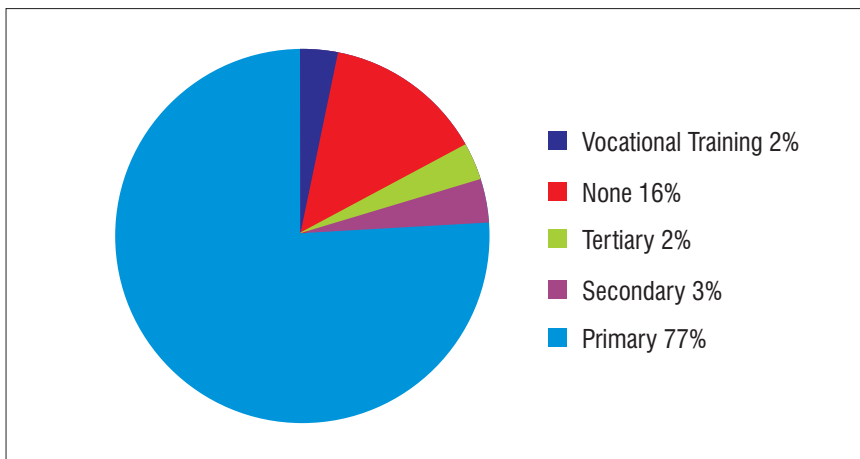


Source: Analysis from the collected field data (2010)

**Figure 2: Distribution of the age of the respondents**

This indicated that although traditional knowledge is being passed from generation to generation, modern education has influenced the young generation not to take part in learning traditional knowledge on traditional medicines. Only 2% (N=3) aged between 15-24 years and 10% (N=21) aged between 25-34 years are practicing traditional medicines healing. In total only 25% of all respondent are young people. The trade is being dominated by old persons of the society. As TK is not documented there is a danger of losing this knowledge. Msuya (2007) has also found out that there is a threat of TK extinction due to lack of recording and problems associated with preservation and protection of the knowledge from pirates. It is therefore very necessary to take purposeful efforts to document this knowledge.

The analysis of the data has shown that the level of education of the respondents is dominated by primary level education 77% (N= 145) and some of the traditional healers have not taken any formal education 16% (N= 33) as shown in figure 3.



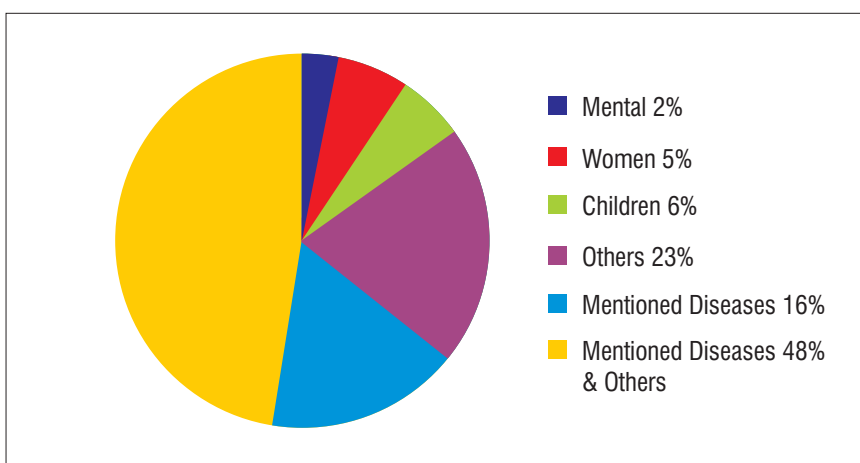
Source: Analysis from the collected field data (2010)

### Figure 3: Level of Education of Respondents

It is a normal trend that those who are educated, do not prefer to practice traditional knowledge.

#### (b) Diseases cured by traditional healers

Most of the respondents have indicated that they cure many diseases, including those that were listed for selection. i.e. mental- 2% (N=4), women- 5% (N=9), and children diseases 6% (N=12). About 16% (N=43) of the traditional healers indicated that they cure all mentioned diseases. Another 46% (N=89) have shown that they cure all mentioned disease and other diseases as well. Some of the traditional healers treat only other diseases excluding the mentioned ones 23% (N=30).



Source: Analysis from the collected field data (2010)

### Figure 4: Diseases cured by the traditional healers



They also indicated that the major source of the medicinal plants is from the forests and nearby farms.

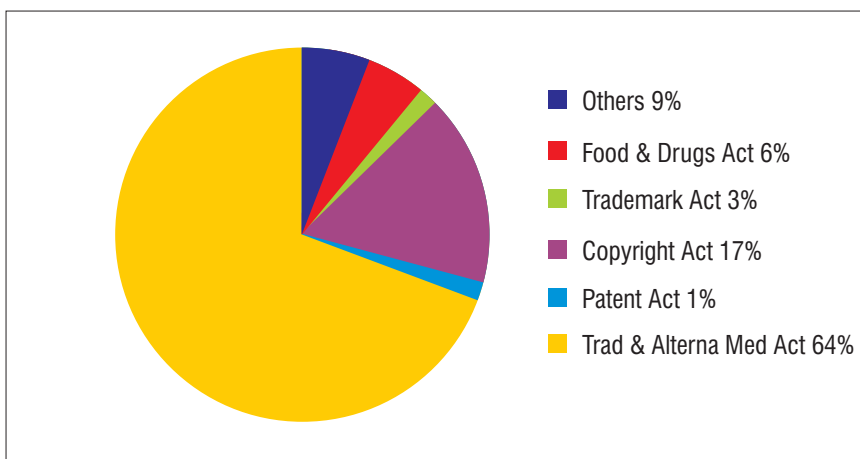
### **(c) Existing Protection Mechanisms**

The traditional healers were requested to mention the protection mechanisms of their knowledge or any existing ways in which the community is utilizing in protection of traditional knowledge. This was an open-ended question in which different responses were obtained. The responses were analyzed in their content and the following three mechanisms were identified. Surprisingly, most of the respondents were documenting their traditional medicines and the diseases the medicines cure. Some are protecting their knowledge through secrecy and others have mentioned training of their children as a way of protecting their knowledge.

During the FGD, most of the traditional healers mentioned that they protect their knowledge through secrecy. They do not reveal to others what medicinal plants they are using for what disease. They say that even if they should show you the plant they will not tell you the techniques to harvest the herb. The harvesting techniques have got an implication on the healing activities of the herb. TK, especially traditional medicine is not communal it has got its beholder. One in the clan is responsible for traditional medicines.

### **(d) Awareness on TK related legislation**

Investigation was conducted to test the level of awareness of the traditional healers on TK related legislation. This is a question which most of the traditional healers did not respond 61% (N=122). It is an indication of the lack of awareness on the legislation of concern to the traditional healers. On the remaining 39% (N=78) who responded, the result indicates that most of the healers are aware of the Traditional and Alternative Medicines Control Act - 64% (N=50). This is an act which provides a provision of promoting control and regulation of traditional and alternative medicines and regulates the conduct of practitioners and registration of practitioners. Registration of the traditional healers provides them with recognition. It is logical that many had interest in obtaining some information about this act.



Source: Analysis from the collected field data (2010)

**Figure 5: Awareness of the traditional healers on the relevant legislation**

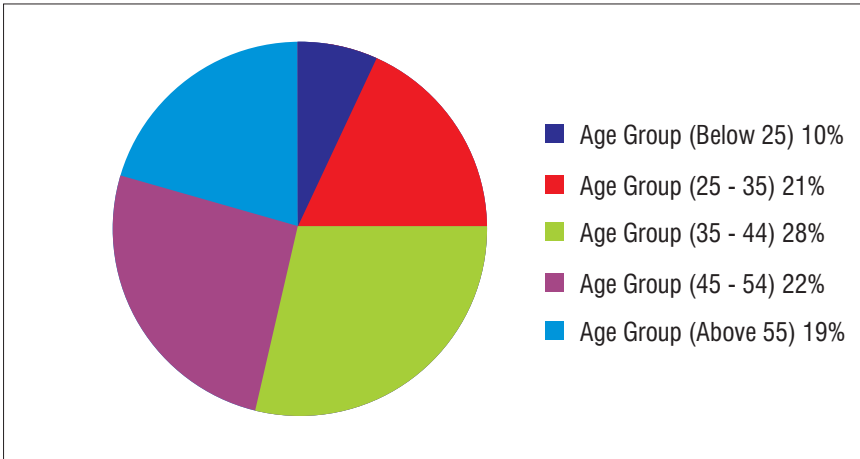
Few traditional healers are aware of the legislation concerned with the conventional protection mechanism. Only 1% (N=1) are aware of the Patent Act. About 3% (N=2) were aware of the Trade and Service Mark Act. To some extent the Copyright Act is known to 17% (N=13) of the respondents. This concurs well with the general tendency in Tanzania on lack of awareness on intellectual property rights issues. In a similar study conducted on IPR awareness among researcher, it was found out that the level of awareness is low (Shemdoe, 2010). This is because the whole issue of IPR is relatively new to the public in Tanzania.

#### 4.3.2 Perspective of Beneficiaries of Traditional Medicines

##### (a) Characteristics of the beneficiaries-respondents

An analysis on the characteristics of the beneficiaries on the following parameters: age, gender, marital status and education level was conducted and the following were observed: With regard to the gender, most of the respondents were males 61.9% (N=151) and 38.1% (N=93) being females. This is so, as in these communities, the spokesperson of the household is the man.

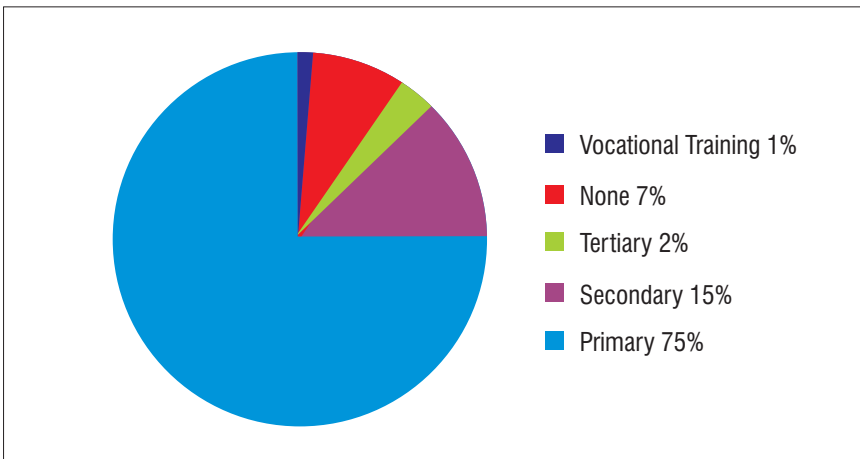
Figure 6 shows the distribution of the age of the respondents. Most of the respondents' are old at the age range of 35 years to above 50 years.



Source: Analysis from the collected field data (2010)

**Figure 6: Age distribution among the beneficiaries of traditional medicines**

The analysis of the data has shown that the level of education of the respondents is dominated by primary level education – 75% (N=179) followed by the secondary level education – 15% (N=35) as shown below in figure 7. This is expected; as in the rural area settings of the country, with major activity being based on agriculture.



Source: Analysis from the collected field data (2010)

**Figure 7: Level of education among the beneficiaries of the traditional medicines**

### **(b) Utilizing services of traditional healers**

Investigation was conducted on the utilization of the services of the traditional healers among the beneficiaries. Most of the respondents have admitted using the services of the traditional healers 98% (N=229) though they have ranked it as second choice in their preference 72.1% (N=176). This shows that traditional medical services are being used by most people particularly in the rural settings. The Commission on Intellectual Property Rights (CIPR) (2002) has reported that up to 80% of the population in the developing countries depends on traditional medicines in meeting their health care demand.

### **4.3.3 Perspective of Officials**

#### **(a) Characteristics of the –respondents**

The officials who responded to the questionnaire comprise of cultural officers 10.8% (N=4), Village Executive Officers 21.6% (N=8) and Ward Executive Officers 45.9 (N=17).

#### **(b) Coordination, registration and protection of traditional healers' knowledge**

The indicated ways of coordinating and registering of the traditional healers were through visits to the respective offices and through the traditional healers and birth attendants association called CHAWATIATA.

During the FGD, it was revealed that the office of the District Cultural Officer issued permits for the traditional healers, but in order to be sure that the permit holder is a real traditional healer, he must get a letter from his village chairperson for recommendation. It was further established that there is an association of traditional healers and indigenous nurses currently with 200 members in Lushoto District. (Chama cha Waganga na Wakunga Tanzania wa Tiba Asilia (CHAWATIATA). CHAWATIATA provides certificate to its members but he/she must fill in special forms given by the District Medical Officer. This should be filled in four copies and one copy goes to District Medical Officer, a copy to the Regional CHAWATIATA Officer and a third copy to the CHAWATIATA district officer and the last copy to the District Cultural Officer.

#### **(c) Access to medicinal plants**

The respondents indicated that there are no foreigners accessing genetic resources from their forests. Very few 6.3% (N=2) were aware of the Convention

of Biological Diversity (CBD). About 47.2% (N=17) of the respondents indicated that there are some controls to protect extinction of medicinal plants. About 15.2% (N=5) have indicated that they are aware of existing strategies for protection of TK.

#### **4.4 Mechanisms in which the Traditional Healers Transfer their Knowledge to Others**

This information was obtained from the questionnaire survey which was conducted in the two districts of Tanga region. A question was posed to the traditional healers on how they transfer their knowledge and how they benefit from such transfer. On transferring their knowledge to others, the response was that it is done through training as apprentices. They train them on how to treat the disease, which medicinal plant treats which disease and also to practically harvest the plants.

During the FGD, the traditional healers revealed that the passing of knowledge to the other generations goes with “kiapo” (an oath). The TK holder will observe the members of his clan and select on one who is kind, honest, and intelligent and one who has got wisdom - this will be the one to be showed all medicinal plants, which ailment they cure and how the plant could be harvested and processed.

- > On the cooperation between traditional healers and Researchers, some of the participants revealed that they have worked with researchers from Institute of Traditional Medicines (ITM) and St. John University of Tanzania. Some say that they are not ready to share their knowledge with others.
- > Some say unless there are some agreements on which they are ensured of benefiting from their knowledge they could agree to share their knowledge.
- > There was a suggestion that in order to make traditional healers reveal their knowledge, the government could establish a traditional medicines hospital and let the traditional healers work there and introduce ways of incorporating science into their work.

#### **4.5 Mechanisms of Indigenous Protection of TK**

The identified indigenous protection of traditional knowledge is through secrecy and training of their children as a way of protecting their knowledge. Documenting of traditional medicines and the diseases the medicines cure was also identified as a mechanism for protection. But also the documentation will be kept secret by the beholder of that knowledge.

## 5. Conclusion & Recommendations

### 5.1 Conclusions

Protection of traditional knowledge is yet an issue for further debate. This study revealed that protection mechanisms among the community is mainly secrecy, which cannot be recommended as a means of protecting the TK. Leakage of the secrecy could lead to no protection. As TK is not documented there is a danger of losing this knowledge. Msuya (2007) has also found out that there is a threat of TK extinction due to lack of recording and problems associated with preservation and protection of the knowledge from pirates.

The service of traditional healers is required and has got its contribution to the health care of the society. Though the respondents rated traditional medicines as the second choice, most of them use this service. There is a need for respect for this contribution.

Few traditional healers are aware of the legislation concerned with the conventional intellectual property protection mechanism. This concurs well with the general tendency in Tanzania on lack of awareness on intellectual property rights issues. This is because the whole issue of IPR is relatively new to the public in Tanzania.

There is no policy with relevant issues to TK except the National Healthy Policy of 2007 which has a policy state ment of working together with the traditional healers, traditional nurses and is recognizing the importance of both traditional and alternative medicines. The current legal framework do not provide for protection of TK. The proposed ARIPO Instrument on the Protection of Traditional Knowledge, Genetic Resources and Expressions of Folklore is providing for protection of TK.

## **5.2 Recommendations**

### **Establishing a Legal frame work for protection of TK**

It is recommended that Tanzania needs a comprehensive legal mechanism for the protection of Traditional Knowledge, lack of which the country has lost and continues to lose opportunities in the cause of utilization, transfer and transformation of Traditional Knowledge based technologies. An instrument could be developed based on the ARIPO Instrument on the Protection of Traditional Knowledge, Genetic resources and Expressions of Folklore.

### **Emphasizing on the Documentation of TK**

It is recommended that it is very necessary to take purposeful efforts to document traditional knowledge as it is in the danger of being extinct. Database such as that of ESRF should be promoted to ensure that TK is documented.

### **Need to Establish a TK Policy**

Tanzania should establish a TK policy that encourages and provides guidelines on the innovation, conservation and preservation of TK. The policy is expected to address among other things:

- > Government appreciation of TK;
- > Political commitment on TK;
- > Use of TK;
- > Statement on Protection of TK;
- > Preservation of TK;
- > Distribution of benefits accrued from TK.

### **Outreach Programme**

From the study, it is established that the traditional healers are not aware of IPR issues especially on the protection of their traditional knowledge. Therefore there is a need to create awareness on IPR issues. This could be done through establishing an outreach programme for creating this awareness. This will also include creation of knowledgeable and skilled Human Resource and public in general on IPR. The programme will have a training and awareness creation on IP components and benefit sharing. The overall goal of the outreach programme is to inculcate a culture of innovativeness, creativity, protection and exploitation of TK. Among the proposed methods are to make use of: mass media campaigns, booklets, banners, radio & TV programmes, competitions, training and workshops, etc.

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