

PATENTING AND PROTECTING TROPICAL PLANT MEDICINE

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ABSTRACT

Most medicinal plants and herbs are tropical. A large population of Africans live in the tropics. For centuries African people have acquired knowledge of their environment, which includes rainfall patterns, natural phenomena, how to conduct their lives especially to know when to go fishing or hunting and how to take custody of their environment so it will remain productive. One of the areas that they have been successful in preserving is their medicinal knowledge, which has sustained them for years and kept them healthy even before the advent of modern medicine.

Part 1 of this paper establishes that traditional people are the original owners of plant and herbal medicinal knowledge. It discusses the importance of traditional medicines which consist of plants and herbs as the base from which many of the commercial drugs are manufactured. Traditional people as the original owners must be adequately compensated for preserving this knowledge for centuries.

Part 2 discusses how the lack of knowledge on the protection of this knowledge has led to bio piracy. It gives examples of others patenting the knowledge of these original owners, and discusses the challenges that owners of this knowledge encounter in trying to protect their knowledge. The paper further discusses how to protect this medicinal knowledge through the use of patenting and other IPR systems; the use of Sui Generis systems, and so on. The main challenges that traditional people face in acquiring patents.

In part 3 we discuss ways in which original owners of medicinal knowledge could be assisted to gain recognition as owners of that knowledge, and benefit from it; also, the need to give them humane and equitable benefits sharing agreements between the multinationals and the local communities, and how this should be facilitated at both national and International Levels.

Part 4 dwells on the importance of integrating in the education curricula from basic education into higher levels of education as a means to address the problem of patenting discussed above. The importance of scientific research into medicinal knowledge and their sustainability as a continental project will be discussed, also the importance of networking among individuals and institutions engaged in research into traditional medicinal knowledge.

INTRODUCTION

Most Medicinal Plants are from the tropical regions of the world. Large populations of Africans live in these tropical regions, which are very rich in biodiversity. Their tropical Climate provides excellent conditions for nurturing medicinal plants. "Tropical and Subtropical African countries contain between 40-45,000 species of plants with the potential for development and out of which 5000 species are used medicinally.... The continent already contributes nearly 25% of the world trade in Biodiversity"¹(Gurib-Fakim, 2010) For centuries African people and other indigenous people have acquired knowledge of their environment, including effective ways of protecting the flora and fauna found in it. They have also been successful in preserving their medicinal knowledge. Which has sustained them for years and kept them healthy even before the advent of modern

¹ (Gurib-Fakim, 2010)

medicine? Plant medicines are an integral part of the Indigenous knowledge of several countries. Although the study of herbal medicine falls under pharmacy, the protection comes under Intellectual Property Law.

Across the indigenous cultures, knowledge of the use of medicinal plants exists in the form of local folklore available within families, tribes and cultures, handed down from generation to generation. These medicinal plants form the basis of most pharmaceutical drugs. The value to the United States pharmaceutical industry from plant species is estimated at over \$ US 30 Billion per year (P. A Zakrzewski, 2002)²

For more than centuries, traditional healers have been using almost 7,000 natural compounds that are found in today's modern medicines (Oguamanam, 2004)³ Indeed, the significance of traditional methods of healing gained global prominence in 1978 when the World Health Organization (WHO) urged member states to officially adopt traditional healing strategies in their health sectors (Roux-Kemp, 2010 ;Offiong, 1999)⁴ It has been asserted that medicinal plants discovered by indigenous knowledge have contributed an annual value of US \$43 billion to the world market. It has further been asserted by the same authority that in the US alone it was estimated at US \$85 million for digitalis, US \$42 million for reserpine and US \$28 million for pilocarpine all in the year 1989 (Posey, 1991)⁵. According to Wane more than 80% of the population in the rural areas depends on medicinal plants by traditional healers in Africa (Wane, 2005)⁶ In some areas in Nigeria, about 80-90% of the population entirely depends on traditional healers (Offiong, 1999)⁷

There has been the need for multinational drug companies to look for alternatives to the synthetic compounds being used to produce drugs. Hence, the interest in tropical plants. These companies have resorted to bio prospecting which is "the exploration, extraction and screening of biological diversity and indigenous knowledge for commercially valuable genetic and biochemical resources" (P. A Zakrzewski, 2002)⁸ Bio prospecting which leads to bio-piracy, which refers to "the theft of intellectual property such as genetic resources or traditional plant medicines from poor communities by multinational companies" (P.A Zakrzewski, 2002)⁹

There is an urgency of African Countries to protect their plant resources and also participate in this booming trade in Plant resources. This statement reiterates the situation of most African countries who are rich in natural resources but remain poor, "poor people are 'shorted' by companies that register patents based on their knowledge and collect revenues that should go to the poor communities" (Finger & Schuler, 2004)¹⁰

Finger equally asserts that " the challenge facing developing countries is to unpackage knowledge from indigenous products and repackage it for commercial markets"(Finger & Schuler, 2004)¹¹

This article commences with the source of most medicinal plants and the International interest that has been generated in these tropical plants because of their medicinal values. Unfortunately, the owners of this valuable resource have not been able to fully utilize it. The article continues with the need for its protection as the International Intellectual Property Regimes have so far not been able to protect these Tropical Plants adequately. Other means of protection have been briefly discussed. This includes: customary law, creating a database, sui generis systems and the TRIPS agreement. This paper also discusses the negative impact of colonialism on the development of plant medicines, attempts at reviving the knowledge of plant medicines after independence and the Challenges of protecting plant medicines.

The system of Education most Africans have has its foundation in western philosophy. As a result, an individual who is trained in this way finds it difficult to appreciate traditional knowledge. This has led to the loss of

² (P. A Zakrzewski, 2002)

³ (Oguamanam, 2004)

⁴ (Roux-Kemp, 2010 ;Offiong, 1999)

⁵ (Posey, 1991)

⁶ (Wane, 2005)

⁷ (Offiong, 1999)

⁸ (P. A. Zakrzewski, 2002)

⁹ (P. A Zakrzewski, 2002)

¹⁰ (Finger & Schuler, 2004)

¹¹ (Finger & Schuler, 2004)

valuable medicinal knowledge. Regrettably, the educational system does not place much emphasis on traditional knowledge.

This article draws attention to the fact that there is a need to use indigenous knowledge as a foundation to be able to be innovative. Not the other way round. This article has tried to analyse various IP systems used by different African countries to protect traditional Knowledge. It has also looked at some initiatives by the World Health Organisation and the African Regional Offices to protect Traditional Medicines. Finally, this paper concludes with some recommendations such as: making education in traditional knowledge part of the school curriculum and strengthening the judicial systems to be able to enforce Intellectual property Rights.

I will be referring to tropical plant medicines, herbal medicines and traditional medicines interchangeably in this paper. There is the general understanding that they all refer to the same product. I will also be using traditional medicinal knowledge to describe traditional medicines. The World Health Organisation (WHO) states that “traditional medicine is the sum total of the knowledge, skills 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 the prevention, diagnosis, improvement or treatment of physical and mental illnesses¹²

THE NEED TO PROTECT TROPICAL MEDICINE

Concerning Tropical Medicine, it is fair to state that it is the ‘property’ of the communities that create and develop it – a characteristic of ownership of any form of tangible or intangible property or asset. Unlike patents that protect inventions or copyrights that protect expressions of works, traditional medicine does not have a set legal framework that protects it. This has been a problem because there has never been a concise definition of what traditional knowledge (which covers medicine) is. Thus, it can be difficult to protect something that is undefined. However, traditional knowledge ought to be protected irrespective of the lack of definition. Wekundah¹³ in *African Technology policy studies* stated the main reasons as:

1. Equity;
2. Promotion of use and development;
3. Prevention of misappropriation and bio piracy;
4. Preservation of the knowledge to continue traditional practices and culture; and
5. Conservation of biodiversity systems.

The protection of the intellectual property rights of indigenous people has been a big challenge for several years. Indigenous people all over the world have suffered losses of their intellectual property rights to multinationals and other private exploiters through bio piracy and colonialism. Communities who produced this knowledge have continued to live in abject poverty because these multinationals and other private entities refuse to remit royalties to the respective communities. The lack of knowledge concerning the protection of these rights and how to profit from their resources can be seen as an important factor contributing to their poverty. (Posey, 1991)¹⁴

INTERNATIONAL CONVENTIONS AND AFRICA IP RIGHTS

Most African Countries are signatories to these international Conventions. They include:

1. The Convention establishing the World Intellectual Property Organization (WIPO)
2. The World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)
3. The Patent Cooperation Treaty 1970
4. The Protocol Relating to the Madrid Agreement
5. The Protocol of Patents and Industrial Designs adopted in Harare, Zimbabwe (Harare Protocol)
6. Convention on Biological Diversity

¹² http://www.wipo.int/edocs/pubdocs/en/intproperty/450/wipo_pub_450.pdf

Accessed in 24th May, 2017

¹³ (Wekundah, 2012)

¹⁴ (Posey,1991)

AFRICAN REGIONAL CONVENTIONS:

1. African Model Law
2. African Regional Intellectual Property Organization (Swakopmund Protocol)

The African Model law is mainly concerned about access to biological resources and cannot be considered as an instrument to protect intellectual property rights.

HOW TO PROTECT TROPICAL PLANT MEDICINE

Presently, the conventional intellectual property systems been used to protect tropical medicines are: Patents, Trademarks, Geographical Indications and Trade Secrets.

CONVENTIONAL IP SYTEMS USED BY SOME AFRICAN COUNTRIES

1. The conventional Intellectual Property Protection regime was used in an attempt to protect traditional knowledge in some cases but has not been successful for a number of reasons. An example is the possibility of protecting Ethiopian Coffee and Ghanaian cocoa using Geographical indications it was not possible because at that time both Ethiopia and Ghana did not have well established Geographical Indication laws were not in place.¹⁵ Ghana was still working on its Geographical indication Act of. 2003¹⁶Ethiopia also had its laws scattered in between several laws. Since both countries were now working on the GI laws, for any protection; secondly. In order to have a GI working system, there is a need to have an established 'institutional, legislative, and organizational structures¹⁷.
2. In Africa Trade Secrets can be used to protect intellectual Property of Traditional Knowledge because most of the knowledge especially on medicines are kept supposed to be kept as secrets and ate only known to particular families. However most Africans rarely think of trade secrets as a mode of protecting their knowledge.
3. Other Intellectual Property Method that could be used is design patents and utility models. This is much simpler to use than patents but most African Countries are not conscious of its usefulness so they are not been used.¹⁸
4. In Nigeria communal trademarks law can be used for protection of Traditional Knowledge. There are at least two to three forms of the communal trademarks, which are the following certification, marks, collective marks and/or GIs. Nigeria needs to amend its Trademarks law¹⁹
- 5.
6. Geographical Indications (GI) Law". Protects goods in their entirety and in relation to their contexts of production".
7. According to a survey and interviews conducted in forty-Four African Countries and at African Regional Organizations like ARIPO and OAPI;
8. It was discovered that African Countries just serves as "dumping grounds" for patents, with little or there is no public access. The offices are not sufficiently equipped with the right infrastructure or there not enough human capital to handle or processes required for the patenting process²⁰.
- 9.
10. Most African Countries patent offices are not equipped for the processing of patents and are also in

¹⁵ Oguamanam, Chidi and Dagne, Teshager, Geographical Indications (GI) options for Ethiopian Coffee and Ghanaian Cocoa in pg. 91 De Beer et al in Innovation & Intellectual Property Dynamics in Africa, UCT Press, 2014

¹⁶ Geographical Indication Act of Ghana 2003

¹⁷ Offiong, A. Daniel. *Traditional Healers in the Nigerian Health Care Delivery System and the Debate Over Integrating Traditional and Scientific Medicine*. Washington D. C.: The George Washington University Institute for Ethnographic Research, 1999

¹⁸ Juma, C and Ojuwang, J. B (Eds), Innovation and Sovereignty: the patent Debate in African Development, Centre for Technology Studies (ACTS) Nairobi, 1989.

¹⁹ Adebambo, Adewopo et al Consideration of communal marks for Nigerian leather and Textile Products, pg. 113-114 De Beer et al in Innovation & Intellectual Property Dynamics in Africa, UCT Press, 2014

²⁰ Current Realities of Collaborative Intellectual Property in Africa in De Beer et al in Innovation & Intellectual Property Dynamics in Africa, UCT Press, 2014

very deplorable states²¹. There is the need to train African Patent staff lack the skill of drafting patent laws. Many African countries are now updating their patent laws.

11. The Kukula Traditional Medicine Practitioners are an example

12. Example of an existing Intellectual Property unable to protect communities. Knowledge. Copyright law could not protect his or her medicines because of the requirement of originality, no one could tell the originator of that knowledge because it was acquired through past generations. The second requirement of material manifestation in material form was also impossible. The law of Patents could neither protect their medicines because of the requirement of novelty, which could not be used because their knowledge was not new, it was acquired through their ancestors and it was by oral tradition. In addition the laws of copyright and patents require an originator and, in the case of Intergenerational knowledge it is really difficult to find the originator of the knowledge thus Kukula Traditional Medicine Practitioners could not get any protection for their medicines from the conventional Intellectual property System a legal trust was established to protect their medicines.

OTHER INTELLECTUAL PROPERTY PROTECTION SYSTEMS

Countries like China have a system where its State Intellectual Property Office has a team of patent examiners who have specialised in Traditional Chinese Medicine so the rights of the knowledge holders will not be infringed. (World Trade Organisation; World Intellectual Property Organisation and World Health Organisation, 2013)²²

Others have opted for exclusive sui generis systems to protect their medicinal knowledge. Thailand's Act on the Protection of Traditional Thai medicinal Intelligence is one such systems (Protection, Of, Thai, & Intelligence, n.d.).²³ This legislation protects "formulas" of traditional Thai drugs and Texts on traditional Thai medicines. This act gives legal protection for the knowledge holder - "those who have registered their IP rights on traditional Thai medicinal intelligence under the Act- the sole ownership of the production of the drug and research development. Communities in Peru have introduced law No. 2781 as a protective system for the collective knowledge, which are products of the biological resources of their Indigenous people. (World Trade Organisation; World Intellectual Property Organisation and World Health Organisation, 2013)²⁴

The African Regional Intellectual property Organisation (ARIPO) has adopted the Swakopmund Protocol with the following aims:

1. "Protect traditional Knowledge holders against any infringement of their rights as recognised by this protocol";
2. " To protect expressions of folklore against misappropriation, misuse and unlawful exploitation beyond their traditional context"

Other systems of protection:

Traditional Communities can use a defensive approach for securing their knowledge. One way to do this is to create a database. During the fact-finding mission of WIPO to West Africa, WIPO was advised on the need for Traditional Medicine to be documented due to the following reasons (Webb, 2003)²⁵:

"... Contribute to the identification of existing knowledge and practices in the community or country";

Serve to protect the destruction of the knowledge and practices;

Act as record of the knowledge and practices of the people; and serve as evidence of ownership.

India has compiled a database of traditional medicines known as The Traditional Knowledge Digital Library Project (TKDL)²⁶. This can be used as prior arts such that outsiders cannot easily acquire the IP rights of such communities.

It has been stated several times that because of the communal nature of traditional knowledge it is impossible

²¹ Mgbeoji, Ikechi, African Patent Offices not fit for purpose, pg. 234 in Innovation & Intellectual Property

²² (World Trade Organisation; World Intellectual Property Organisation and World Health Organisation, 2013)

²³ (Protection et al., n.d.)

²⁴ (World Trade Organisation; World Intellectual Property Organisation and World Health Organisation, 2013)

²⁵ (Webb, 2003)

²⁶ <http://www.tkdil.res.in> accessed on 24th May, 2017

to use the existing IPR conventional method to protect it; there could be an advantage when using certain methods. For example communities can form groups to represent them or act in trust for the communities in order to protect their knowledge.

In addition, Prior Informed Consent and Equitable sharing of benefits could be used to protect indigenous knowledge.²⁷

Contracts

Contracts can also be used to protect plant medicines. The use of contract law, while offering a legal framework to secure indigenous peoples right, still requires translation and legal advice. There remains a significant concern again about unequal negotiating positions- not only between a community and a researcher or researchers, but also between a national government and a community. This is particularly the case since what is being negotiated in this context is the recurring issue of sovereignty over land and biological resources.

Customary Law Protection

Customary Laws are practices or norms evolved by a community over a period of time. In some African countries, customary law is accepted and used alongside common law. Several laws on land marriage are customary laws. Since customary law is pivotal to traditional people it can also be used to protect their knowledge. In addition, because of its 'holistic nature which includes customary and indigenous laws and protocols as part of a wider set of tools for protecting traditional knowledge."²⁸

These tools may include "Existing intellectual property systems or adapted intellectual property systems or it could be new stand alone- sui generis systems, as wells as non intellectual property options such as trade practices, and labelling laws, liability rules and use of contract to regulation of access to genetic resources, remedies based on such facts as unjust enrichment, rights of publicity and blasphemy."²⁹

Although customary law and practices can be used to protect traditional knowledge, it has some limitations. When there are issues of disclosure of information and other conventional methods of intellectual Property Protection requirements, customary law will not hold because the knowledge is meant to be kept secret and should not be disclosed to outsiders. Also, Customary Law is national and cannot be enforced internationally.

SUI GENERIS PROTECTION OF TROPICAL PLANT MEDICINE

In recent times, there has been a call by several organisations for the protection of traditional knowledge by Sui generis systems. Countries like Panama, Peru³⁰ and Thailand have introduced sui generis systems to protect their traditional knowledge. The OAU model law is a sui generis model for African countries to protect their knowledge (Model et al., 2000). One of the major objectives of this law is African Countries who are members

²⁷INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE BOOKLET NO 2
http://www.wipo.int/edocs/pubdocs/en/tk/920/wipo_pub_920.pdf

²⁸ Customary Law and Traditional knowledge, Background Brief No 7

http://www.wipo.int/export/sites/www/tk/en/resources/pdf/tk_brief7.pdf

²⁹ Customary Law and Traditional knowledge, Background Brief No 7

http://www.wipo.int/export/sites/www/tk/en/resources/pdf/tk_brief7.pdf

³⁰ Peru Law 28216 relating to the Protection of Peruvian Biodiversity and Traditional Knowledge of Communities, 2001.

of the World Trade Organisation to fulfil their obligations of Article 27.3(b) of the TRIPS Agreement through a "Sui generis" System of Protection³¹

Comparative table regarding National and Regional sui generis Measures and laws for the protection of Traditional Knowledge states all fifteen elements that may be used for Sui generis protection³². The AU model law provides adequately for all them and thus it could be used as a sui generis measure to protect traditional African Knowledge.

ACCESS AND BENEFIT SHARING

Access and benefit Sharing could be used as a measure to protect indigenous people's knowledge. The Convention on Biodiversity's Nagoya Protocol on Access to Benefit Sharing through its community protocol.³³ provides that parties 'shall take into consideration indigenous and local communities' customary law, community protocol and proceedings' (Article 12, Section 1) and support the development by Indigenous and Local Communities of 'community protocols in relation to access to traditional knowledge associated with genetic resources and the fair and equitable sharing of benefits arising out of the utilization of such knowledge' (Art 12, Sect 3(a))³⁴

Local communities usually find themselves in situations when they are forced to negotiate. This is the case of Access and benefit sharing. Before anyone outside the local communities will be allowed access to the natural resources of the communities, there should be 3 things³⁵:

1. There should be an agreement from the community as to the use of their knowledge.
2. The agreement should be according to the provisions of the Convention of Biodiversity (CBD³⁶) Article 1.
3. There should be an understanding concerning benefit-sharing agreements. 'Whether monetary compensation or other forms of compensation like development projects for the community as well as subsequent applications and applications.....sharing shall be on agreed terms.'³⁷

THE TRIPS PROTECTION

The TRIPS agreement covers the following:

Patents, Trademark, Copyright, geographical indications, industrial designs, and trade secrets

The agreement states that members may choose to implement or not to implement extensive protection, which is reported in the agreement: this allows parties to the TRIPS agreement to enact laws for protecting Traditional Knowledge.³⁸ According to the TRIPS AGREEMENT, which allows for Patents, most forms of Traditional Knowledge cannot be patented because the forms in which most traditional knowledge exist,

³¹ South Centre Website at www.southcentre.org/info/south_bulletin/bulletin_34/

³² Comprehensive survey of existing summary of National and sui generis Measures and Laws for the Protection of Traditional Knowledge WIPO/GRTKF/IC/7/6 Annex 11, page 5, Part 2

³³ <http://www.cbd.int/abs/> The Nagoya Protocol on Access and Benefit-Sharing

³⁴ "<http://www.cbd.int/abs/>"

³⁵ Wynberg (R.), Schroeder (D.) & Chennells (R.) Eds. INDIGENOUS PEOPLES, CONSENT AND BENEFIT SHARING, lessons from the San-Hoodia case

³⁶ Convention on Biodiversity
<http://www.cbd.int/>

³⁷ Agreement on Trade-Related Aspects of Intellectual Property Rights www.wto.org/English/tratop_e/trips_e/t_agm0_e.htm

³⁸ Agreement on Trade-Related Aspects of Intellectual Property Rights www.wto.org/English/tratop_e/trips_e/t_agm0_e.htm

cannot meet the requirements for patenting procedures. According to the agreement, patents can only be protected for 'inventions, whether product or processes, in all fields of technology, once they are new, involve an inventive step and are capable of industrial application'³⁹ Traditional Knowledge does not meet the requirements of 'inventive step' and 'capable of industrial application' requirements'⁴⁰

There are other requirements in Art 29 for example, to obtain a patent one must disclose enough and definite information concerning the invention in order for any one "skilled in the art to be able to finish the process"⁴¹. This aspect of revealing the information about their Traditional Knowledge will take away the rights of the local communities, because their knowledge will be in the public domain. Also, people living in deprived communities lack sufficient funds to enable to get a patent. The lengthy process and demands of acquiring a patent often prove too cumbersome for rural folks. This discourages them from pursuing the patents of their traditional knowledge.

Geographical indications are 'indications which identify a good as originating in the territory of a member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to success'⁴²

Tropical plants medicinal Knowledge could be protected by patents, trade secrets and geographical Indications ⁴³ However, there are still limits to the use of the above because traditional knowledge by its very nature is not amenable to the strict standards of the conventional system of Intellectual Property Protection. TRIPS however allows the protection of a Sui generis system in Article 27.3(b) ⁴⁴

According to Mugabe "developing countries should use the opportunity granted in Art 27, (3)(b) to establish non-patent modes of protecting Traditional Knowledge"⁴⁵

Intellectual property rights in the West are based on individual property rights. However, in Africa intellectual property rights are community based. This makes the protection of traditional knowledge by conventional methods very difficult. In developing nations like Ghana, Traditional Knowledge such as herbal medicinal knowledge is generally community based.

PATENTING

³⁹ Goldstein *ET. Al, op. Cita.* p. 448. Article 27.1 of the TRIPS Agreement.

Goldstein *ET. Al. op. cit.* p. 448. Article 27.2 of the TRIPS Agreement. Quoted in INTELLECTUAL PROPERTY PROTECTION AND TRADITIONAL KNOWLEDGE An Exploration in International Policy Discourse Dr John Mugabe Executive Director, African Centre for Technology Studies

⁴⁰ Duffield, *op.cit.* p. 24 in INTELLECTUAL PROPERTY PROTECTION AND TRADITIONAL KNOWLEDGE An Exploration in International Policy Discourse Dr John Mugabe Executive Director, African Centre for Technology Studies
http://www.wipo.int/edocs/mdocs/tk/en/wipo_unhchr_ip_pnl_98/wipo_unhchr_ip_pnl_98_4.pdf

⁴¹ See INTELLECTUAL PROPERTY PROTECTION AND TRADITIONAL KNOWLEDGE An Exploration in International Policy Discourse Rd. John Mugabe Executive Director, African Centre for Technology Stud
http://www.wipo.int/edocs/mdocs/tk/en/wipo_unhchr_ip_pnl_98/wipo_unhchr_ip_pnl_98_4.pdf

⁴² http://www.wipo.int/edocs/mdocs/tk/en/wipo_unhchr_ip_pnl_98/wipo_unhchr_ip_pnl_98_4.pdf

⁴³ "Some limited protection of traditional knowledge would be possible using regimes of copyright, trade secrets and geographical indications. These measures do, however, have their own limitations in protecting traditional knowledge as the intellectual property of traditional and local peoples. The problem, as we shall show, is because of the rigidities built in to these measures and the very nature of traditional knowledge." in INTELLECTUAL PROPERTY PROTECTION AND TRADITIONAL KNOWLEDGE An Exploration in International Policy Discourse Dr John Mugabe Executive Director, African Centre for Technology Stud
http://www.wipo.int/edocs/mdocs/tk/en/wipo_unhchr_ip_pnl_98/wipo_unhchr_ip_pnl_98_4.pdf

⁴⁴ See INTELLECTUAL PROPERTY PROTECTION AND TRADITIONAL KNOWLEDGE An Exploration in International Policy Discourse Dr John Mugabe Executive Director, African Centre for Technology Studies
http://www.wipo.int/edocs/mdocs/tk/en/wipo_unhchr_ip_pnl_98/wipo_unhchr_ip_pnl_98_4.pdf

⁴⁵ INTELLECTUAL PROPERTY PROTECTION AND TRADITIONAL KNOWLEDGE An Exploration in International Policy Discourse Dr John Mugabe Executive Director, African Centre for Technology Studies
http://www.wipo.int/edocs/mdocs/tk/en/wipo_unhchr_ip_pnl_98/wipo_unhchr_ip_pnl_98_4.pdf

WIPO defines a Patent as “an exclusive right granted for an invention, which is a product or process that provides in general, a new way of doing something, or offers a new technical solution to a problem”⁴⁶ Traditional medicines can be patented. Patents provides owner with protection for new inventions for up to twenty years.

One area Africa is not doing well at all is in the area of Patent production. “The western countries dominate as far as intellectual Property Rights is concerned. The following data states that 97% of all patents worldwide is concentrated in a handful of countries; In 1993, ten countries accounted for 84% of global Research and development(R&D); 95%of the patents granted in the US over the past decades were conferred on applications from 10 countries which captured more than 90% of cross border royalties and licensing fees payments were between parent and affiliate in Trans National corporations (TNCs) and more than 80% of the patents that have been granted in the third world countries(TNCs) belong to residents of Industrial nations.” (Correa, 2001)⁴⁷

WHO CAN GRANT PATENTS?

Patents are granted by National Patent offices or by regional offices that carry out examination work for a group of countries e.g. European Patent office or the African Intellectual Property organisation (ARIPO) Under such regional systems, an applicant requests protection for an invention in one or more countries, and each country decides whether to offer patent protection within its borders. The WIPO administered Patent Cooperation Treaty (PCT) provides for the filing of a single international patent application that has the same effect as national applications filed in the designated countries. An applicant seeking protection may file one application and request protection in as many states as needed. PCT has 152 Contracting states.⁴⁸

THE SITUATION OF PATENT OFFICES IN AFRICA

According to a research conducted in 44 African countries, it was discovered that their patent offices were not adequately equipped to enable them perform the two important functions of a patent office⁴⁹ which are:

1. Examining patent applications
2. Collecting patent information

Some of the African national patent offices are in deplorable conditions. They lack the basic infrastructure to perform any examination of patent applications. Also, the offices had poor record keeping procedures that made it difficult for the public to access vital information⁵⁰. In this state, they cannot be useful for facilitating patent application. There is a need to train African patent staff that lack skills in drafting patents. In some African countries, there is no well-defined legislation covering the use of patents to protect traditional medicine, products and procedures Many others are still updating their patent laws.. Many of the herbal medicine practitioners are ignorant of patent laws, as well as any means of protecting their IP.

SITUATION

Plant medicine used to be the major means of health care for most African countries, before the advent of colonialism. Traditional medicine was demonised as pagan during colonialism. During the apartheid regime according to Hassim et. Al “... a century of colonialism, cultural imperialism in South Africa have held up the development of African traditional healthcare and medicines in particular, during several centuries of conquest and invasion, European systems of medicine were introduced by colonisers. Pre-existing African systems were marginalised” In some cases, traditional medicine was out rightly bard. For instance, the South African medical association outlawed traditional medical systems in 1953⁵¹ ‘The ban of TM was partially based on the belief that the conception of disease and illness in Africa was historically embedded in “witchcraft” where, in Western knowledge, witchcraft reinforces “backwardness”, “superstition” and “dark continent”’ (Abdullahi, 2011)⁵²The

⁴⁶ www.wipo.int/patents/en accessed 24th may 2017

⁴⁷ (Correa, 2001)

⁴⁸ www.wipo.int/edocs/en/int-property/450/WIPO_450.pdf accessed on 24th May, 2017

⁴⁹ (de Beer, Armstrong, Oguamanam, & Schonwetter, 2014)

⁵⁰ I Mgeoji, ‘African Patent Offices not fit for purpose’ in De Beer et al p234

⁵¹ . <http://www.alp.org.za> accessed on 24th May, 2017

⁵² (Abdullahi, 2011)

subjugation of traditional medicine continued in most African countries even after independence, though local efforts were initiated to challenge the condemnation and stigmatisation of traditional medicine in some African communities during and after colonialism. (Abdullahi, 2011)⁵³

“In post independence Africa, concerted efforts have been made to recognise traditional medicine as important aspects of healthcare delivery systems in Africa. In Nigeria and other African countries there is distrust between allopathic and traditional practitioners in Africa. This has continuously hampered and thwarted the process of integration and cooperation between traditional and modern medicines”⁵⁴ it has been very difficult to disabuse the minds of Africans concerning the negative ideas they have concerning traditional medicine. On the whole, western trained physicians appear unwilling to allow traditional medicines into the mainstream of healthcare in Africa.

INITIATIVES FOR THE PROTECTION OF TROPICAL PLANT MEDICINE IN AFRICA

The world health Organisation has a number of resolutions, which have assisted the protection of tropical plant medicines through its regional committees.

An example is resolution WHA 41.19 of 1988 on traditional medicines and medicinal plants. This resolution has “urged member states to examine the situation with regard to their indigenous medicinal plants and to take effective measures to ensure their conservation and encourage their sustainable utilization (Gurib-Fakim, 2010)⁵⁵

A second resolution AFR/RC50/R5 of 1999 on essential drugs in the WHO African Region situation and trends analysis requested the WHO “to support member states in carrying out research on medicinal plants and promoting their use in the healthcare systems” A strategy for the Africa Region urged member states to actively promote, and collaborate with all other partners. Also to conserve medicinal plants and requested WHO to strengthen WHO collaborating centres and other research institutions to carry out research and develop monographs of samples of medicinal plants and disseminate results in the safety of traditional medicines.”⁵⁶

Some countries like Benin, Burkina Faso, Cameroon, Cote d’Ivoire, Ghana, Guinea, Madagascar, Mali, Mauritius, Nigeria, Senegal, Seychelles and South Africa have developed monographs of medicinal plants, similarly Benin, Cameroon, Chad, Cote d’Ivoire have developed inventions of medicinal plants and documented recipes used for the treatment of malaria and Hypertension, people living with HIV/AIDS (PLWA), Sickle cell diseases, diabetes and Hypertension (Cameroon and Nigeria)

Apart from Ghana⁵⁷ and Nigeria⁵⁸ which have published a Pharmacopeia, most countries have not published their work. Furthermore, to further protect the tropical medicinal knowledge of Africa, an African Herbal Pharmacopeia has been published by The Association of Medical Plant standards. This publication provides comprehensive, up to date botanical, Commercial and photochemical information on over 50 of the most important African medicinal plants. International experts have reviewed this. It is also in Electronic and print format.⁵⁹

Since the African Region of the WHO adopted the Regional Strategy and its resolutions AFR/RC50/R3⁶⁰ 28 African Countries have formulated initial policies to “regulate, promote, develop and standardize through practice of African Traditional Medicine”⁶¹ Countries have also developed frameworks for traditional medicine practice, others have introduced traditional medicine practice in their ministries of health⁶²

Some efforts have been made to change this scheme of things in several African countries. For instance, The Nigerian government has established the Nigerian Natural Medicine Development Agency to study, collate, document, develop, preserve and promote Nigerian traditional medicine products and practices, to fast track

⁵³ See note 52 above

⁵⁴ See note 52 above

⁵⁵ (Gurib-Fakim, 2010)

⁵⁶ See note 55 above

⁵⁷ The Government of Ghana. The Second Edition of the Ghanaian Herbal Pharmacopoeia, 2007.

⁵⁸ The Government of Nigeria. The First Edition of the Nigerian Herbal Pharmacopoeia, 2008

⁵⁹ www.aamps.org/African-herbal-pharmacopeia accessed 24th May 2017

⁶⁰ See note 55 above

⁶¹ Resolution WHA31.33 on Medicinal plants. The Thirty-first World Health Assembly

⁶² See note 55 above

the integration of traditional medicine into the mainstream of the modern health care system in line with happenings in China and India.

In Ghana, to further the knowledge and practice of traditional medicine, there is a 4-year course in herbal medicine at the Kwame Nkrumah University of Science and Technology, which trains herbal medicine practitioners to work in the health sector. Also, as part of the pharmacy course at the University of Ghana there is a subject area called pharmacognosy, which teaches on the use of plants in drugs.

There are several initiatives in various African countries. Examples of such countries include Zimbabwe and Tanzania. Some actually have laws to protect traditional medicine.

Due to the Lack of comprehensive policies by some African countries they have to enter bilateral contracts with partners in the developed world. There was one such initiative by the US Cancer institute Missouri Gardens and the University of Ghana. The national Cancer Institute and the Missouri Botanical Gardens and some other African countries like Madagascar, Cameroon and Tanzania. In recent times the Botany and Chemistry departments of the University of Ghana have also entered such bilateral contracts. (Addae-Mensah, 2000)⁶³

In the absence of adequate IPR laws, the bilateral contracts provides for: Capacity building, effective research programs of the university through the exchange of staff, material and equipment and sharing of royalties if any of the material is commercialized⁶⁴

THE IMPORTANCE OF TRADITIONAL KNOWLEDGE IN THE PROTECTION OF TROPICAL MEDICINAL PLANTS

Tropical Plants medicine is a product of generations of knowledge passed on from one generation to another. Presently, knowledge is acquired mainly through education, whether in an academic setting or self study by distance learning. Most of the knowledge on plant medicines are being lost because the younger generation are receiving Euro centric education and consider traditional knowledge backward. Hence, they are not interested in acquiring this kind of knowledge; this makes it difficult for their relations to impart the knowledge to them. There is a pressing need for African countries to modify their educational system to incorporate the study of traditional knowledge. This is very important as students could easily hold an erroneous perception of herbal medicines as 'primitive'. Knowledge is the father of Innovation. If the present day youth are not given an education that stresses the important of Traditional medicinal knowledge, they will stay ignorant, and pass on the same attitude to the next generation. Therefore, it is imperative we develop curriculum plans which inculcate the knowledge of traditional medicines into the students.

The reason Tropical medicines must be included in school curriculum is to teach the upcoming generation that, it is valuable and to counteract decades of psychological and intellectual misinformation about Africa. There are institutions which train people in the preparation and dispensation of traditional medicines in Africa, there is still a need to make this knowledge mainstream. Such that, one cannot go through the school system without acquiring it.

Libraries in these institutions of learning should change their traditional role of just waiting to be asked to help. They should use the knowledge Management Approach, and if possible introduce through transferring thorough interaction either implicitly through verbal communications or explicitly through writing. So knowledge does not become something abstract but rather something to be applied. The students should be encouraged to participate in their communities because most this traditional knowledge is found there. Since the knowledge is traditional it is usually passed on orally, in order to get the medicinal knowledge, students should be trained on how to collect information from these communities. This can be done in both structured and institutionalised ways. Africans must also create databases of all their traditional knowledge as India has done in the case of the TKDL database.

THE EDUCATIONAL SYSTEM

The Pedagogy in African educational institutions accounts for our lack of creativity, as well as our inability to develop effective ways of protecting our indigenous knowledge. The educational system does not encourage

⁶³ Addae-mensah, Biodiversity, Herbal Medicines and Intellectual Property.

⁶⁴ Addae-mensah, Biodiversity, Herbal Medicines and Intellectual Property.

creativity; rather it focuses on passing of exams through rote learning. This method of learning was introduced in colonial times. Although most western educational institutions have graduated to improved methods, most African countries still resort to the old method. This explains why despite the rise in the number of graduates and postgraduates, there is a low level of innovation and inventions across the region. Africa records the lowest level of patent applications around the world and the question is: How is the existing curriculum and research agenda contributing to the death of widespread innovation and inventions across the continent? According to Ezeanya "At the foundation of innovation is knowledge, intimate knowledge of the environment within which the end product will be utilized. And indigenous knowledge is the basic foundation for most Africans."⁶⁵ In this case emphasis is on western education. Africa's curriculum for basic schools must have indigenous knowledge as their basis. Otherwise this state of affairs where Africans, intellectually lack the ability to produce patents of even their own knowledge will continue⁶⁶ African Researchers must merge the western acquired knowledge, skills, methodologies and tools of research with the African reality (Nsamenang 1995)⁶⁷

In Africa, according to UNESCO⁶⁸ "new insights reveal that development, interventions have failed to induce people to participate because of the absence of instruments and mechanisms that enable them to use their own knowledge. Therefore more efforts should be used to strengthen the capacity of local people to develop their own knowledge base and to develop methodologies to promote activities at the interface of scientific disciplines and indigenous knowledge"⁶⁹

CONCLUSIONS

This paper has sought to discuss tropical plant medicine, the global and African protection mechanism, especially the need to protect them. The use of conventional Intellectual property systems, which are not able to protect this tropical plant medicinal knowledge adequately. The problem of most African countries is that there is no policy for the protection of this tropical medicinal knowledge. As stated above Tropical plant medicines can be protected by patents, Trademarks, trade Secrets and collective intellectual Property Rights etc. But the problem of most African Countries is that they have "weak institutional Infrastructure and a lack of Context-sensitive Policy orientation on Intellectual Property"⁷⁰.

Secondly, Intellectual Property protection can only be possible if Institutions are ready to enforce Intellectual Property Regulations. There should be institutional frameworks that back Intellectual Property Policies with enforcement on the Laws of Intellectual Property.

There is a need to introduce in the curricula of educational Institutions from basic schools to University, indigenous knowledge especially on traditional medicines. It should be presented positively so that people's minds will be liberated from all the negative views they have about traditional medicine. The media should give positive coverage of the successful use of plant medicines for health as an alternative to the orthodox medicines.

There is not much awareness of the citizenry of the vast economic value of tropical plant medicinal knowledge. In addition, most traditional knowledge is found among the rural folk who are usually poor and sometimes disadvantaged, so there is general apathy towards improving tropical plant medicinal Knowledge.

RECOMMENDATIONS

A hybrid of both the conventional Intellectual Property System and sui generis system of protection can be used for protecting Indigenous knowledge depending on the circumstances.

There is also a need for African Countries to include specific provisions to protect traditional medicine in each

⁶⁵ (Ezeanya, n.d.)

⁶⁶ See note 65 above

⁶⁷ (Nsamenang, 1995)

⁶⁸ (UNESCO,2000)

⁶⁹ See note 65 above

⁷⁰ De Beers J, and Oguamanam, "Intellectual Property Training and Education: A Development Perspective" ICTSD Programme on IPRS and Sustainable Development Issue Paper No 31, International Centre for Trade and Sustainable Development, Geneva, PP. 1-58 in Innovation & Intellectual Property Collaborative Dynamics in Africa, UCT Press 2014

of their national patent laws. All African Countries should take advantage of the Swakopmund Protocol and other Regional Conventions for Adequate Protection of their Indigenous Knowledge. There must be strict adherence to issues of Access and Benefit Sharing.

The African Union and other regional bodies should as a matter of priority, sensitize their members as to the huge potential of Traditional Knowledge socially and economically. As stated in Innovation & Intellectual Property pg. 393. "African Policy Makers should Harness Intellectual property Rights on their own terms"⁷¹ There must be Capacity Building in the area of Intellectual Property. More Lawyers should be encouraged to pursue courses in Patent Law. Faculties of law in African Countries should also introduce indigenous knowledge as part of the course in Intellectual Property law.

There is a need for enforcement of Intellectual Property Rights. The Trips Agreement identifies the significance of enforcement. (Maskus, 2000)⁷² There should be networking throughout Africa amongst traditional medicine associations, Knowledge Management & Research, documentation, information sharing, baseline research, data collection, and Networking and Collaboration among scholars working in the area of tropical plant medicines.

The setting up of a possible tribunal to adjudicate on matters of Intellectual Property. Since most developing countries lack the necessary expertise in Intellectual Property Practice, there must be a conscious effort to train more. They should be fair and familiar with the Legal Aspects of Intellectual Property Rights Protection. Apart from having a very good educational background they must have a basic knowledge in science. (Maskus, 2000)⁷³

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⁷¹ De Beer Jeremy et al 'current realities of Collaborative Intellectual Property in Africa pg. 393 Innovation & Intellectual Property Collaborative Dynamics in Africa, UCT Press, 2014

⁷² (Maskus, 2000)

⁷³ See Note 72 above

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