

Intellectual Property Protection for Traditional Herbal Medicine in the Cultural Science Centre of Excellence in Africa, Gulu University, Gulu District, Uganda: Challenges and Opportunities

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Abstract

Traditional Herbal Medicine (THM) plays a vital role in Uganda's Healthcare System, with an estimated 70% of the population relying on it for primary healthcare due to accessibility and its affordability (WHO, 2024). However, the Intellectual Property (IP) Rights of Traditional Herbalists and Communities remain largely unprotected. This article examines the challenges and opportunities for protecting IP rights on THM in the Cultural Science Centre of Excellence in Africa, Gulu University, Northern Uganda, highlighting the need for a balanced approach that promotes innovation, preservation of cultural heritage, and equitable benefit-sharing. The key objective was to examine the challenges and opportunities for IP protection of THM in the Cultural Science Centre of Excellence, Gulu University, Northern Uganda. A mixed methods approach combining literature reviews, interviews, focus group discussions, community based participatory research, participants observation, questionnaires, arts-based inquiry with 10 experienced traditional herbalists, 3 researchers who are carrying out research on traditional medicine and 2 policy makers who participated in processing the Traditional and Complimentary Medicines Act of Uganda were used. For data analysis, content analysis and thematic analysis were used for qualitative research approach. The study found out that there is limited awareness among traditional herbalists about IP rights, that there was

inadequate documentation of THM knowledge, weak regulatory frameworks, bio-piracy and exploitation by external parties. However, opportunities for development of community led IP protocols, collaboration between traditional herbalists and researchers' capacity building for IP management and policy reforms supporting THM IP protection should be undertaken immediately. In conclusion, effective IP protection for THM in Northern Uganda requires a multifaceted approach addressing awareness, documentation, regulations and collaborations. The Cultural Science Centre of Excellence can play a pivotal role in promoting IP rights and preserving traditional medicine. We therefore recommended that setting up community-based registration systems, developing national THM IP policies, fostering international cooperation and providing training and capacity building is the way forward.

Keywords

Intellectual Property, Traditional Herbal Medicine, Traditional Knowledge, Indigenous Knowledge, Cultural Heritage

1. Introduction

Indigenous Knowledge (IK) is knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity (APRI, 2024; Marine, 2024; Pophiwa & Saidi, 2022).

Therefore, one cannot talk about Traditional Herbal Medicines without involving Indigenous Knowledge (IK) and Indigenous knowledge systems (IKS). Generally, IK can be tangible or intangible. The tangible aspects of TK include handcrafts, traditional symbols, dressing, art et al. While the intangible includes, skills, know-how, stories, riddles et al. The Wang Oo of the Cultural Science Centre of Excellence is an example of the intangible aspect of IK, as the Community and Elders sit around a fire and display their skills in traditional cooking of the local foods like Malakwang, Boo, Lakotokoto; and also stories of the past are told. Different Herbal Medicines and their use is also explained by the Herbalists. Some of the useful trees and shrubs discussed around the Wang Oo include Acak—*Uapaca guineensis*, which is used for soil and water conservation, charcoal; Chumu—*Diospyros mespiliformis* is used as medicine; Lalia—*Securidaca longipedunculata* is also used as medicine extracted from the bark and leaves, Oput—*Pseudocedrela kotschyi*; Pobo—*Grewia mollis*; Yaa—*Butyrospermum paradoxum*. The Acacia Nilotica (*A. arabica*, *A. subalata*) roots are also used as medicine.

Therefore, IK can be used to make or produce herbal medicine, for example, traditional knowledge of plants that can cure a certain ailment or disease. It can also be knowledge of the process of extracting ingredients from a plant of which the knowledge is usually inherited or known in a particular community. This is exactly what the Cultural Science Centre of Excellence in Africa, Gulu University is practicing

while fostering Community Engagement. However, Traditional Knowledge faces challenges meeting Intellectual Property Rights requirements as will be discussed in this Article.

The United Nations Declaration on the Rights of Indigenous Peoples, 2007 provides in Article 31 that Indigenous peoples “have the right to maintain, control, protect and develop their Intellectual Property over such cultural heritage, traditional knowledge and traditional cultural expressions” (UN General Assembly, 2007).

Original works based on Traditional Cultural Expressions (TCEs) may be protected by Copyright and Related Rights, Trademarks, Geographical Indications, Industrial Designs, and unfair competition law which offer direct or indirect protection to TCEs. Innovations based on Traditional Knowledge (TK) may benefit from patent protection. TK as such may be protected as a trade secret or as confidential information, and may also benefit from trademark, geographical indication and unfair competition protection. Documenting TK and TCEs has emerged as one of the tools which may play a role in impeding further loss of TK, maintaining TK over time, supporting benefit-sharing and, ultimately, protecting TK and TCEs from unwanted uses (URSB, 2021).

An illustration of IK, IKS, TK, and TCEs on how they form relationships while discussing THM includes looking at their descriptions, examples and characteristics below.

IK: Indigenous Knowledge which is known as knowledge, beliefs, and practices developed by Indigenous peoples looks at traditional medicine, agriculture practices, spiritual rituals, language and storytelling with a characteristic of being community-based, holistic, down through generations and context-specific.

IKS: Indigenous knowledge systems are complex systems integrating IK, social organization, and cultural practices such as traditional ecological knowledge (TEK), indigenous education systems, community governance, cultural ceremonies which have the characteristics of being interconnected, dynamic, adaptive, and resilient.

TK: Traditional Knowledge is knowledge, innovations, and practices of indigenous and local communities such as traditional craftsmanship, folklore and mythology, local medicine, agricultural practices with characteristics of being developed over time, community-owned, practical and experiential and often undocumented.

TCEs: Traditional Cultural Expressions are music, dance, art, literature, and other creative expressions that include traditional music and dance, folk art and crafts, storytelling and oral traditions, symbolism and iconography with characteristics of being unique to each culture, community-based, passed down through generations and integral to cultural identity.

IK, TK, IKS, TCEs Relationships can be described as:

- 1) IK and TK are often used interchangeably.
- 2) IKS encompasses IK and TK.
- 3) TCEs are a subset of TK.

Therefore, documentation of THM is critical to protect IK and conserve plant species which is being exploited and depleted. The goal of this study was to examine the challenges and opportunities for IP protection of THM in the Cultural Science Centre of Excellence, Gulu University, Uganda while collecting comprehensive data from traditional herbalists, researchers and policymakers.

2. Objectives

2.1. Primary Objective

The primary objective of this study is to examine the challenges and opportunities for protecting Intellectual Property (IP) rights on Traditional Herbal Medicine (THM) in Uganda, especially within the context of the Cultural Science Centre of Excellence in Africa, Gulu University. The overall aim was to contribute to the development of effective IP protection mechanisms for THM in Uganda, ensuring the preservation of cultural heritage, promotion of innovations, and fair compensation for traditional herbalists and communities.

2.2. Specific Objectives

The specific objectives were to:

- 1) Investigate the current state of IP protection of THM in Uganda.
- 2) Identify the challenges faced by traditional herbalists and communities in protecting their IP rights.
- 3) Explore the opportunities for using existing IP laws like Trademarks, Patents, Copyrights, Trade Secrets to protect THM.
- 4) Analyze the role of international cooperation and organizations like WIPO and ARIPO in promoting THM IP protection.
- 5) Propose strategies for promoting community-based innovation, equitable benefit sharing, and preservation of cultural heritage.
- 6) Recommend legislative and policy reforms to address the gaps in Uganda IP laws regarding THM protection.

3. Methodology

The study employed a triangulation of both quantitative and qualitative research approaches to achieve its objective.

3.1. Research Design

The study employed a combination of research methodologies to achieve its objective. A Case Study design at the Cultural Science Centre of Excellence, Gulu University was used, with a small sample size of 15 participants. Purposive sampling was used to get the required information.

3.2. Data Collection Methods

Qualitative and quantitative method approach combining literature reviews, Interviews, community-based participatory research, participant observation, ques-

tionnaire survey, arts based inquiry and focus group discussions with 10 traditional herbalists, 3 researchers, and 2 policymakers was employed in the case study. Open ended Questions included:

➤ What are the challenges faced regarding IP Protection of THM in Northern Uganda, the Cultural Science Centre of Excellence, Gulu University, Uganda?

➤ What are the opportunities for IP protection of THM in Northern Uganda, the Cultural Science Centre of Excellence, Gulu University, Uganda?

➤ What is your recommendation in solving the challenges and fostering collaborations in relation to IP Protection of THM in Northern Uganda, the Cultural Science Centre of Excellence, Gulu University, Uganda?

A literature review was carried out to analyze the existing literature on IP protection, THM and traditional knowledge. We carried out semi-structural interviews by conducting in depth interviews with the traditional herbalists, community leaders, IP experts and government officials. A survey was done by administering structured questionnaires to the traditional herbalists, community members and IP Practitioners. We also had to look at a few case studies by examining specific cases of THM IP protection in Uganda. We documented the analysis through reviewing relevant documents to strengthen our case like the IP laws and Policies that exists around the world, traditional knowledge documentation and community-based IP management practices.

3.3. Data Analysis Method

Content and thematic Analysis was used to analyze the data in the form of words, themes, and statements. The data was inspected, cleansed, transformed and modelled the research data with the soul goal of proving and discovering new useful information, made conclusions and recommendations.

We carried thematic analysis by identifying patterns and themes in interviews and survey data and analyzed the document contents using comparative analysis. That is, we compared Uganda's IP laws and policies with the international best practices. Through use of the SWOT analysis, we identified the strengths, weaknesses, opportunities and threats in THM IP protection.

3.4. Ethical Considerations

Ethical Consideration was considered with approval. Consent both written and verbal was obtained before conducting the interviews, Open ended questionnaires and observations. Proper citations and referencing were done. Reliability and validity of quality control of data was through cross checking for qualitative data and using Content Validity Index (CVI) for quantitative data.

Informed consents were obtained from the participants while maintaining the confidentiality of participant information, ensuring participant anonymity as well as the cultural sensitivity of the matter since we all noted that it was important to respect cultural practices and traditions.

4. Results

Based on the research objectives and methodologies, we obtained some statistically significant results. The primary findings were that there was limited awareness among traditional herbalists, and communities about IP rights and protection mechanisms. We also found out that traditional knowledge and herbal medicine practices are largely not documented and sometimes only orally kept. There were also signs of weakness in the legal framework for example the Uganda IP laws do not specifically address THM protection. It was clear that researchers and individuals exploit traditional knowledge without consent or compensation that can be equated to Bio-piracy and Cultural appropriation.

4.1. Qualitative and Qualitative Analysis

Thematic Analysis:

Challenges in protecting THM IP were found to be related to lack of knowledge and expertise, limited financial resources, inadequate legal framework and cultural and language barriers.

The benefits of protecting THM IP were based on preserving cultural heritage, promoting community-based innovation, ensuring fair compensation, and enhancing the national pride

We also found out that there were opportunities for improvements by establishing a traditional knowledge digital library, community-based IP management as we look towards international cooperation and collaborations.

Quantitative Results:

Quantitatively, 75% of traditional healers surveyed were found not to be aware of IP rights, 90% of community members reported on lack of documentation of traditional knowledge, while 60% of IP experts identifies weaknesses in Uganda IP laws.

Case Study Findings:

We discovered successful community-based IP management models in other African countries like Ghana and South Africa. We also noted that there was an effective use of traditional knowledge digital libraries in India and China.

4.2. Swot Analysis

SWOT Analysis:

When we looked at the strength from our research point of view, we found out that rich cultural heritage, community-based innovation and government support for traditional medicine were key and very important.

Again, the weaknesses cited included but were not limited to limited awareness and expertise, inadequate documentation, and the weak legal framework.

However, we found out that opportunities were available for international cooperation, community-based IP management, and the digitalization of traditional knowledge.

Lastly, the threats that were too obvious were biopiracy and cultural appropriation,

climate change and biodiversity loss and limited funding.

4.3. Discussions

Uganda lacks a specific law to safeguard Indigenous Knowledge (IK) and Traditional Knowledge (TK) due to lack of documentation of Traditional knowledge often passed down through oral tradition, making it difficult to document and protect, but existing Intellectual Property Laws offer alternative protection avenues. The Copyright and Neighbouring Rights Act, Cap. 222, does not specifically address Traditional Herbal Medicine as Section 5 of the Act does not protect ideas, concepts, procedures, methods or other things of similar nature (Uganda, 2023c).

The National Drug Policy and Authority Act, Cap. 198, recognises THM but lacks Intellectual Property protection mechanisms for instance, Part II (1) (g) of the Act, states that the National Drug Policy shall be to intensify Research in Traditional Medicine (Uganda, 2023d).

Uganda's IP laws also do not specifically address Traditional Herbal Medicine, leaving traditional herbalists vulnerable to exploitation. However, the Traditional and Complementary Medicines Act Cap. 304, Section 13 provides that the National Council of Traditional and Complementary Medicine Practitioners shall appoint a committee to ensure protection of the Intellectual Property Rights of the Practitioners, but the Council hasn't been set up yet (Uganda, 2023f).

The Trademarks Act, Cap. 225, provides also limited protection for Traditional Knowledge as Section 4 suggests how Trademarks protect distinctive names, logos, symbols, or signs showing herbal medicine, such as Covidex and Covilyce with a sign capable of geographical representation to be registered (Uganda, 2023e). Geographical Indicated plants are named based on geographical location, indicating production in a particular area, the quality and characteristics depend on natural, historical, and cultural factors (Brinckmann, 2015).

Trade Secrets keep knowledge confidential without registration, ensuring secrecy. It's to be noted that the right in a trade secret shall not prejudice rights in other forms of intellectual property as the Trade Secrets Protection Act, Cap. 80, Section 8; and the rights and obligations be set in a contract as per the Trade Secrets Protection Act, Section 10 (Uganda, 2023g). Government departments and Agencies furnished with trade secret information shall protect it from disclosure; and where a law provides that the approval of a Government agency is necessary as a condition for marketing of pharmaceutical or agricultural products which utilise new commercial entities, the submission of undisclosed text or other data, the origination of which involves a considerable effort, the Government agency shall protect the data against unfair commercial use as per the Trade Secrets Protection Act, Section 11.

Although Uganda, as a Least Developed Country, doesn't provide patent protection for pharmaceuticals, including herbal medicine, Copyright and Neighbouring Rights offer indirect protection for innovations based on Traditional Knowledge. Therefore, it should be noted that currently, Uganda has no specific law that

protects Indigenous Knowledge. The National Drug Policy and Authority Act Cap. 198 also recognizes THM but lacks IP protection mechanisms.

However, using the existing Intellectual Property Laws as said above, one can protect Indigenous Knowledge using Trademarks, Patents, Copyright and Neighbouring Rights and Trade Secrets. For example, one can protect a distinctive name, logo, symbol or sign to identify herbal medicine in the market e.g. Covidex. This can foster Benefit-sharing agreements in ensuring fair compensation for traditional herbalists and communities.

The Trade Secrets Protection Act, 2023, Section 3 provides that a person has the right to prevent information lawfully within his or her control from being disclosed to or acquired, or used by others without his or her consent, in a manner contrary to honest commercial practice in condition that the information be a secret and not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question; have commercial value because it is secret; and have been subject to reasonable steps under the circumstances, by a person lawfully in control of the information, to keep it Secret as per the Trade Secrets Protection Act, Section 4. Trade secret doesn't require you to register but ensure that such knowledge is kept confidential or secret.

The other protection can be patents, however, being a Least Developed Country (LDC), Uganda doesn't give patent protection to pharmaceuticals and herbal medicine is considered as a pharmaceutical product. In 2014, Uganda adopted the Industrial Property Act, with a landmark clause excluding pharmaceutical products from patenting at least until 1st January 2033 and this is evidenced in the Industrial Property Act, Cap. 224, Section 7 (3) (f). Uganda's precedent setting pharmaceutical waiver clause is consistent with the requirements of the World Trade Organization's Agreement on intellectual property commonly known as the WTO-TRIPS Agreement and international expert recommendations.

The WTO-TRIPS Agreement features special rights for countries named as least developed country (LDC) by the United Nations. Recognizing that LDCs have economic, financial and administrative constraints, and need policy flexibility to create a viable technological base, in 2015, the WTO granted all LDCs the right to refuse the granting of pharmaceutical product patents at least until 1st January 2033, with the option to renew it in the future. The Africa Regional Intellectual Property Organization (ARIPO) administers the filing and grant of patents for 18 countries in sub-Saharan Africa including Uganda and annually churns out hundreds of pharmaceutical patents that apply to Uganda inconsistent with its national law (CEHURD, 2019).

The Industrial Property Act, Cap. 224, Section 44 states that a patent with Uganda as a designated State, granted by ARIPO by virtue of the Harare Protocol has the same effect in Uganda as a Patent granted under the Act unless the Registrar communicates otherwise (Uganda, 2023b).

However, biopiracy arises as foreign companies patent traditional knowledge

without consent or compensation and Cultural appropriation arises where Traditional knowledge is used without respect for cultural heritage or benefit-sharing.

Despite the above, the Traditional and Complementary Medicines Act Cap. 304, Section 59 does not prohibit the right of any person to claim patent rights in respect of any invention relating to Traditional and Complementary Medicine under any law relating to Patents.

Proper utilisation of Intellectual Property Laws shall foster Community-based innovation by empowering local communities to develop and commercialize THM products. The Geographical Indications Act Cap. 223, Section 15 postulates that holding a right to use the name of the place of origin of goods is entitled to put the name on goods, packaging, advertisements, signboards, billboards or otherwise to the commercial use of the name in connection with those goods (Uganda, 2023a).

International cooperation can be fostered by the Cultural Science Centre of Excellence, Gulu University, learning from countries like India and China, which have set up traditional knowledge digital libraries. The World Intellectual Property Organization (WIPO) is working with organizations and Indigenous and local communities in different nations to address the policy/legal issues on traditional knowledge protection through the Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge and Folklore.

5. Conclusion and Recommendations

In conclusion, Traditional Indigenous Knowledge and THM needs to be protected using a multifaceted approach for Equity, Conservation of Biodiversity, Prevention of Biopiracy, and Preservation of Traditional Practices and this can only be done through establishing a traditional knowledge digital library documenting and preserving traditional knowledge, community-based IP management in empowering local communities to manage IP rights, international cooperation by collaborating with global organizations to promote THM IP protection; benefit-sharing agreements; leveraging intellectual property tools; and existing laws or legislative means to enact *sui generis* laws just like how the Uganda Registration Services Bureau (URSB) recognizes the importance of safeguarding Traditional Cultural Expressions through various intellectual property mechanisms.

By addressing the challenges and seizing opportunities, the Cultural Science Centre of Excellence in Africa, Gulu University, Uganda can promote the development of Traditional Herbal Medicine, preserve cultural heritage, and ensure fair compensation for Traditional Herbalists and Communities.

Protecting THM IP rights is crucial for preserving cultural heritage, promoting innovation, and ensuring fair compensation. Addressing the challenges and opportunities identified in this study can contribute to the development of effective THM IP protection mechanisms in Uganda.

We therefore recommend that:

- 1) A traditional knowledge digital library be established.

- 2) A community-based IP management practice be developed.
- 3) Uganda government IP laws should be reviewed and amended.
- 4) International Cooperation and Collaboration needs to be fostered.
- 5) Training and Capacity Building programs need to be catered for.

Limitations of the study:

The small sample size coupled with limited geographical scope was great limitation to the study which then calls for further research to explore THM IP Protection in other African countries.

Recommended Areas for Further Research:

- 1) Comparative analysis of THM IP protection mechanisms in Africa.
- 2) Impacts of digitalization on traditional knowledge preservation.
- 3) Development of community-based IP management models.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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