Turbulences in Repackaging Traditional Knowledge in an Era of Sovereignty: Case of Uganda and Zimbabwe

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Chapter 11
Turbulences in Repackaging Traditional Knowledge in an Era of Sovereignty:
Case of Uganda and Zimbabwe

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ABSTRACT

Traditional or Indigenous systems have always been the bedrock of Africans' socioeconomic and political livelihoods before the dawn of colonialism in developing countries like Uganda and Zimbabwe. Indigenous practices are important to people's daily lives. This chapter looks to strengthen classical African systems and methods for decoloniality. The study explored traditional knowledge with a focus on its meanings and critical features, reviewed the laws protecting traditional knowledge in Uganda and Zimbabwe, and how libraries can contribute to preserving such classical knowledge in Zimbabwe and Uganda. It explored the factors that affect the preservation of traditional and proposed strategies to enhance conventional conservation by libraries in Zimbabwe and Uganda. An Afrocentric paradigm underpins the chapter, and data were collected from the literature review and the researchers' personal experiences as members of indigenous communities.

INTRODUCTION AND BACKGROUND

Traditional or Indigenous knowledge systems have always been the bedrock of Africans' socioeconomic and political livelihoods before the dawn of colonialism. Traditional knowledge is the primary element millions depend on in developing countries (Carrea, 2001). Indigenous knowledge and practices are

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verbally transmitted to succeeding generations and firmly and broadly anchored in the intergenerational experience of the environment (Kamau & Winter, 2009). Different nomenclatures are under several names in indigenous systems, including indigenous and traditional knowledge of the environment, traditional ecological knowledge, and Native Science (Bucket, 2013). The protection of indigenous cultural heritage can be realised by empowering them to reclaim their sovereign space among other social groups. As stated by Latulippe and Klenk (2020), a two-pronged solid conceptual framework for indigenous sovereignty is concerned with enhancing indigenous systems, ensuring their transfer within indigenous governance structures, and reducing external obstacles to indigenous expression on the land. The United Nations (2008) states that worldwide, indigenous peoples have the right to their natural resources and grounds, to consciousness, and to make accessible, prior, and informed decisions in all indigenous territories and to practice their legal systems, political systems, and intellectual traditions (Pillay, 2013). Additionally, sovereignty is not contingent on other people's acceptance of indigenous systems, the generous funding of short-term programs, or the encouragement of equity among various communities. It is a right derived from indigenous sovereignty, title, and ownership (Latulippe & Klenk, 2020). Indigenous sovereignty is the basis of sovereignty in indigenous peoples and their culture. The notion of indigenous sovereignty rests on the idea that the indigenous people are of sovereign descent, as their Deoxyribonucleic acid (DNA) covers the challenges and day-to-day activities that they face when fighting for survival (Birch, 2007). The concept of sovereignty is distinctly stated in the United Nations' (UN) Declaration on the Rights of Indigenous Peoples (2008), in which the sovereign rights of such groups to self-determination are explicitly stated by Article 31,1. Indigenous peoples have the right to protect, administer, and enhance their knowledge, cultural practices, and scientific, technological, and cultural manifestations, including seeds, medicines, and human and genetic resources. Flora and wildlife traits, oral traditions, literary genres, designs, sports, traditional games, and the visual and performing arts are essential to Africa's epistemic revolution. Additionally, they are entitled to maintain, control, safeguard, and further their Intellectual Property (IP) rights concerning cultural heritage, knowledge, and conventional cultural representations. There are numerous cases whereby indigenous groups have lost their sovereignty over their natural resources due to biopiracy as will be highlighted in the subsequent paragraphs.

Fredriksson (2022) analyzed *Curcuma Longa's* case and a plant patented by the University of Mississippi through the United States Patent and Trademark Office and then revoked. The patent mentioned above was withdrawn due to pressure from India on the grounds of uniqueness, which marked great success in countering biopiracy by a third-world country. Fredriksson (2022) reported that the Indian government's Council of Scientific and Industrial Research challenged the patent for its use of traditional Indian practices. Hasfera (2017) conducted a study investigating the reprocessing and preservation of Minangkabau folklore from Indonesia's West Sumatra province. The growing disinterest of young people triggered the investigation into reading indigenous folklore, which posed a challenge for librarians. The Nagari Library began a mission to repackage Minangkabau folklore and upload the content to the institutional repository. The oral legend was converted into multimedia and shared with the community (Hasfera, 2017). Similarly, Sithole (2007) explains that documentation of indigenous knowledge is a necessary and legitimate method to validate it and ensure its defence against biopiracy and other abuse. The court dispute over the patenting of the hoodia plant used for medicinal purposes demonstrated the need for paperwork. Sources of the plant were the Kalahari people, who generously disseminated it worldwide; however, it was patented without informing and compensating the original owners (Yunnus, 2017).

The Hoodia *Gordonii* case from South Africa has exposed the vulnerabilities of traditional knowledge in an era of greedy consumerism, as stated below:

Case of Hoodia Gordonii, a succulent plant researched in the early 1960s by the South African government-funded Council for Scientific and Industrial Research (CSIR) for its appetite and thirst-quenching properties, represents the most iconic cases of biopiracy in all of Southern Africa and worldwide" (Wynberg, 2023). As noted by Wynberg (2023), the benefit of sharing with the indigenous peoples was demonstrated in the Hoodia case, which set a significant precedent.

A classic example of biopiracy in South Africa is a pharmaceutical company's operation with the Hoodia plant. Robinson (2010) described biopiracy as a process whereby companies or researchers appropriate the genetic resources, knowledge, and customs of various nations, indigenous peoples, and local communities (usually from the Global South) without their consent and then patent this information to secure the ability to resell it for profit. Zimu-Biyela, (2021), citing Tsekea (2016) noted that the Amendment of Intellectual Property (IP) Laws, No. 28 of 2013 guaranteed proper IP protection measures for indigenous knowledge as IP. The Intellectual Property Laws Amendment Act 38 of 199 (IPLAA) (2013) recognizes indigenous systems as forms of IP, and among other things, the law aims to conserve geographical indicators and forbids the recording of indigenous knowledge without the agreement of the indigenous people. As an illustration of patenting, consider the Hoodia cactus, an indigenous plant with appetite-suppressing properties that the Khoisan people discovered in the 19th century, for who Pfizer was obliged to compensate (Tsekea 2016: 213). Wynberg (2023) highlighted that the Hoodia Case was primarily the development of the agreement that promoted the ability of the South African San Council to facilitate benefits through negotiations with industry. Representatives of indigenous San and more recently, Khoi organizations are leading numerous business transactions concerning South Africa's biodiversity, including claims to knowledge. The cases of *Curcuma longa* (India), *Minangkabau folklore* (Malaysia), and *Hoodia Gordonii* (South Africa) illustrate the importance of IP rights in repackaging and patenting indigenous knowledge. Cases of revocation of the culturally appropriated patent confirm that protecting indigenous systems is threatened by greedy corporate organizations seeking to profit from such resources. The above reasons justify enacting laws to safeguard indigenous knowledge in the Global South and Zimbabwe and Uganda is no exception.

STATEMENT OF THE PROBLEM

Indigenous knowledge plays a critical role in the lives of African people, even though it has been disparaged because of the colonial and imperial onslaught. Chisita, Rusero and Shoko (2016) argued that the dawn of colonialism marked the genesis of a systematic strategy to denigrate anything indigenous in an attempt to establish colonial rule. According to the authors, the colonial settlers' grand design was to wipe out any traits of indigeneity and create a culturally confused mass that would sheepishly embrace the new colonial and imperial order. Even though Africans had always relied on indigenous knowledge before colonialism to sustain their livelihood in all aspects, the new colonial doctrine underpinned by the imperial mission of "Commerce, Christianity and Civilisation," commonly abbreviated as the 3Cs resulted in Africans succumbed to neo-colonial epistemic values. However, Uganda and Zimbabwe cannot continue to celebrate epistemic injustice when globally, there are growing calls to reassert and reaffirm the importance of indigenous culture, including its systems through praxis-oriented combative decoloniality. The founders' ideals of Africa's struggles against colonialism drew inspiration from Pan-Africanism, an ideology that upholds the sovereign independence of Africans, including the right to

self-determination. Indigenous knowledge has become a victim of the machinations of colonial and neo-colonial institutions as it has been peripherised yet it holds solutions to the current problems humanity is experiencing. The failure to preserve indigenous knowledge will rob Uganda, Zimbabwe, and Africa of their critical cultural and epistemic capital. The clarion call to protect and maintain indigenous knowledge has always been the rallying point of the struggle against colonialism and neo-colonialism in the context of combative decoloniality discourse and praxis as highlighted by Torres & Medina (2021). The advent of globalization has facilitated covert and overt ways of pillaging indigenous knowledge in the guise of tourism and international trade. Biopiracy has become a strategic instrument of greedy capitalism to dispossess the already disposed of people of Uganda, Zimbabwe, and Africans' key stronghold for indigenous knowledge. This chapter seeks to contribute to the discourse on preserving Indigenous Knowledge, including knowledge to protect the sustainability of Africa in the face of globalization. The objectives of the chapter aimed to:

- Establish the traditional knowledge in Uganda and Zimbabwe
- Analyze the key features of traditional knowledge
- Review the laws that protect traditional knowledge in Zimbabwe and Uganda
- Identify the roles of libraries in the process of knowledge repackaging
- Suggest ways to enhance the conservation of traditional knowledge in Zimbabwe and Uganda

METHODOLOGY

There are a variety of research paradigms, even though the dominant paradigms in the world are influenced by "Euro-Western" thought including positivism, post positivism, interpretivism, transformational, and indigenous paradigms based on their ontology, epistemology, axiology, and methodology (Chilisa, 2012). This chapter is premised on an Afrocentric paradigm as enunciated by (Asante, 1991a). The proponent of Afrocentrism (Asante, 2005b) argued and emphasized the need to x-ray issues concerning Africans using an Afrocentric lens to reconstruct African experiences using an Afronographic methodology while keeping Africans' attention at heart when seeking to answer epistemological and axiological questions (Rodgers, 2022). Asante (2005) describes Afronography as a method of recording and writing the African experience from an Afrocentric perspective (Asante, 2005b). Chilisa, (2012) identified Afrocentrism as a worldview that embodies African ways of perceiving reality, knowledge, values, and methodology in research. Afrocentrism encapsulates the ethos of combative decoloniality as a special vehicle to reclaim indigenous sovereignty.

LITERATURE REVIEW

There are various definitions of traditional knowledge, ranging from those that are explicit and those implicit. World Intellectual Property Organisation (WIPO) (2020) defines traditional knowledge as a community's knowledge, know-how, skills, and traditions that are created, maintained, and passed down from generation to generation; frequently, these elements contribute to the community's cultural or spiritual identity. As noted by WIPO (2003), traditional knowledge and Cultural Expressions (TCEs) have

intrinsic social, cultural, spiritual, economic, scientific, intellectual, and educational value. Cultures and systems representing traditional knowledge are living plans subject to constant innovation and creativity. Traditional knowledge has wide and narrow definitions. Shabalala (2017), using a *lato sensu* perspective, describes traditional knowledge as an epistemological framework embracing the traditions, customs, and bases of local communities and indigenous peoples. In a narrow sense (*stricto sensu*), Shabalala (2017) describes traditional knowledge as produced by intellectual endeavour in a traditional setting and includes know-how, practices, skills and innovations. Ranjan and Singh (2020) described traditional knowledge as passed from one person to another via practice and employment as evolving following nature. Traditional knowledge exists in varied contexts ranging from agriculture, science, technology, ecology, and medicine, including related treatments, remedies, and biodiversity-related (Shabalala, 2017).

Indigenous Knowledge Systems

Indigenous knowledge encompasses systems of traditional knowledge based on place and specific to an area or state's original inhabitants (Moichela, 2017). Abebe et al. (2021) and Seroto (2011) argued that philosophical practices among indigenous peoples took the form of oral traditions in pre-colonial Africa. Abebe et al. (2021), citing Okot p'Bitek (1975), assert that oral procedures are prompter and more effective. Indigenous knowledge in the form of the classical art of African conversation is common throughout all Indigenous communities, and they help to distinguish one community from another. As Jasmine, Singh, Onial, et al. (2016) explain, indigenous knowledge can refer to a wide range of abilities, innovations, or practices originating from indigenous people. Many communities depend on their traditions to survive. For instance, Uganda has an investigation into that culture's unique characteristics and the circumstances under which it exists (Mugabe, Kameri-Mbote & Mutta, 2001). WIPO (2003) articulates the oral-shaped nature of traditional knowledge such as folklore as an inter-generational and collaborative creative process that reflects and identifies a community's history, cultural and social identity, and values. The oral-shaped culture of Africa includes verbal expressions, such as folktales, folk poetry, riddles, signs, words, symbols, and indications; musical terms, such as folk songs and instrumental music; and actions, such as folk dances and plays (WIPO, 2003). Several indigenous knowledge systems generate, manage, and disseminate this body of knowledge, including informal education, apprenticeships, internships, and mentoring based on traditional beliefs and practices (Afful-Arthur et al., 2022). However, the critical question is, "Do indigenous people have sovereignty over their data and knowledge?"

On the other hand, indigenous knowledge sovereignty refers to practices that support indigenous knowledge systems, ensure their transmission occurs according to indigenous governance structures, and remove external barriers to their expression on the land (Whyte, 2018). Indigenous people have been left by their government vulnerable to capitalism and neo-colonialism, as evidenced by the unwarranted pillaging of their cultural heritage and their use as objects of unfair research practices. Foxworth and Ellenwood (2023) noted that as a complement to the mainstream research principles of Findability, Accessibility, Interoperability and Reusability (FAIR), Indigenous leaders have developed CARE principles to protect and advocate for Indigenous data governance rights. In CARE, Collective Benefit, Authority to Control, Responsibility, and Ethics are emphasized (Foxworth & Ellenwood, 2023). Data is vital in advancing Indigenous development and self-determination so they can benefit from research according to the CARE principles (Carrol et al., 2022).

Traditional Knowledge in Africa

Sindiga, Nyaigotti-Chacha and Kanunah (1995) argued that in Africa, traditional knowledge exists as an unwritten science; for instance, in the field of medicine, the majority regarding the qualities of medicinal plants has remained unstudied and even a closely-kept secret among mystics and conventional physicians. For decades, traditional knowledge has been transmitted verbally from one person to another. Traditional knowledge, including songs, rituals, traditions, folklore, and unwritten laws, can be articulated differently. Other forms can be communicated through artefacts, drawings, and other documents of art and technology, as supported by Singh et al. (2023) when they noted that:

Traditional is rarely fully documented because it is mostly transmitted through stories, songs, customary ceremonies, traditional laws, and farming practices (Singh et al., 2023).

Traditional and indigenous knowledge eventually become a part of the community's distinctive spirituality and culture. A significant component of human existence has always been and will continue to be indigenous (Magni, 2017). Indigenous knowledge refers to the systems of traditional knowledge based on place and specific to an area or state's original inhabitants (Moichela,2017). Abebe et al. (2021) and Seroto (2011) argued that in pre-colonial Africa, philosophical practices among indigenous peoples took the form of oral traditions. Abebe et al. (2021), citing Okot p'Bitek (1975), contend that oral procedures are quick and decisive. WIPO (2003) articulates the oral-shaped nature of traditional knowledge as folklore which includes, verbal expressions, such as folktales, folk poetry, riddles, signs, words, symbols, and indications; musical terms, such as folk songs and instrumental music; and actions, such as folk dances and plays. The revitalization of indigenous knowledge resonates with the philosophy of the African Renaissance (2009). The intelligentsia should be at the forefront of such struggles. Mbeki (2009) highlighted that the success of an African Renaissance is not only in the interest of African nations and people but also the entire globe. Cossa (2009) cites Mbeki's (2009) statement concerning the African Renaissance:

I am convinced that a significant burden rests on the shoulders of Africa's intelligentsia to help us to achieve these objectives… we have arrived at the point where the enormous brain power which our continent possesses must become a vital instrument in helping us to secure our equitable space within a world affected by a rapid process of globalization and from which we cannot escape (Cossa, 2009).

Van Wyk and Higgs (2004) argued that to address the colonial damage in South Africa, a uniquely African system would strive to rediscover the humanistic and ethical principles entrenched in African philosophy, particularly in communality and Ubuntu.

Repackaging Traditional Knowledge in Uganda and Zimbabwe

Like any other indigenous community in Zimbabwe, indigenous knowledge systems appear in various fields including linguistics, botany, zoology, security, agriculture, medicine, and other areas (Mapara, 2009). However, there are concerns that if indigenous knowledge is not rapidly investigated and preserved, it will disappear with subsequent generations. (Hostettmann, Marston, Ndjoko & Wolfender, 2000). Mposhi, Manyeruke and Hamauswa (2013) argued that indigenous knowledge systems offer

cheaper answers to most of Zimbabwe's and Africa's healthcare issues. The traditional medicine has thus become the most effective healthcare option for modern medical procedures for treating various diseases. Maroyi (2013) cited *Albizia antunesiana* (Muriranyenze), *Annona stenophylla* (Muroro), *Cassia abbreviate* (Muremberembe), *Albizia antunesiana* (Muriranyenze), *Strychnos cocculoides* (Mutamba muzhinyu) considered valuable medicinal plants with at least six different therapeutic uses across the majority of Zimbabwe's areas. Albizia antunesiana roots have been used in tropical Africa for various conditions and it helps treat numerous ailments such as abdominal pains, cuts, depressed fontanelles, sexually transmitted diseases, infertility, oedema, pneumonia, preventing abortions, tonsillitis, tuberculosis, ulceration and constipation (Maroyi, 2013).

Mujere, Chanza, Muromo, et al. (2023) argued that indigenous cultures employ various techniques to predict and gauge the scope and severity of drought. The above methods include spirituality, weather-related research, witnessing natural fires, and analysing plant- and animal-species behaviour. As stated by Kaddu, Nakaziba and Juma (2021), indigenous medicine was incorporated into treatment procedures in emerging nations, for example, in sub-Saharan Africa, indigenous medicine has proved essential to healthcare mainly because of its accessibility and affordability (Segun, Ogbole & Ajaiyeoba, 2018). The leaves and bark extracted from African Cherry (*Prunus Africana*) (Entaseesa or Ngwabuzito in Luganda) and (Muchambati in the Shona language) has proved to be a wonder anti-cancer tree. Cancer patients are given cooked water from its leaves (Kaddu, Nakaziba & Juma, 2021). The study highlighted above disclosed the use of marijuana (*Enjaga* in Luganda) and (*mbanje* in the Shona language) in treating cancer. Uganda and Zimbabwe have outlawed the growing, use, and sale of marijuana, although its use is widespread. Kaddu, Nakaziba and Juma's (2021) study on Cancer Indigenous (CIK) highlighted the widespread use of Aloe vera leaves (*Ekigagi* in Luganda and *Gavakava* in Shona). The above-mentioned herbal plant's leaves are blended with juices or boiled and served as a drink. Rajeswari et al. (2012), in concurrence with (Kaddu, Nakaziba & Juma 2021), stated that fluids from Aloe vera leave sustains normal human cell regeneration, reduce pain and inflammation, and enhance healing in the wounded cell monolayers. Because of its bioactive compounds, *aloe vera* has shown efficacy in treating allergies, burns, ulcers, diabetes, rheumatoid arthritis, diarrhoea, acid reflux, skin conditions, dysentery, and digestive system inflammation and piles (Sharma et al. 2014). The uses of Aloe *Vera* in Sub -Saharan Africa are the same among indigenous communities as highlighted above.

THEORETICAL FRAMEWORK

This chapter analyses how decoloniality resonates with the aspirations of those seeking to reverse the devastating effects of epistemic injustice coupled with cultural appropriation. It employs the cultural appropriation theory as a basis for investigation. Arya (2021) contends that naming cultural appropriation and acting upon it implies understanding the histories of colonialism and imperialism and their legitimization of the act. Commodification underpins the practice of cultural appropriation because it provides the means through which cultural goods or ideas are converted into commodities or objects of trade. From a Marxist perspective, the exchange value, essentially its commercial worth- the cultural significance of owning the thing (Marx, 1986), replaces an object's use value (the cost of making). Arya (2021) contends that cultural appropriation is significant and allures one to the fact that cultural exchange can be a zero-sum game, hence interrogations of the ethics of a dominant culture taken from a marginalized culture. Ziff and Rao (1997) stated that cultural appropriation was the taking, from another

culture, of IP, cultural expressions or artefacts, history and ways of knowing. It causes offences, including sacredness desecration and the authentic culture's wrong reproduction (Young, 2010).

Similarly, Young (2010) and Lalonde (2021) described non-recognition within cultural appropriation as a phenomenon encapsulated in voicelessness and invisibility. McConkey (2004) argued that Epistemic injustice results from voicelessness in non-recognition since cultural members disregard epistemic contributions about their culture and cultural property. The denial of cultural appropriation refers to denied cultural property ownership claims. Taylor (1992) argues that Misrecognition or non-recognition can cause harm, enslave, or imprison someone in a distorted, reduced state of being. By asserting and reaffirming their right to self-determination, Eason, Brady and Fryberg (2018) call on indigenous communities to resist non-recognition, misrecognition, and exploitation. Traditional knowledge is rarely coded to its fullest extent since it is transmitted through stories, songs, customary rituals, ceremonial laws, and agricultural practices (Singh et al., 2023). A significant component of human existence has always been and will continue to be indigenously grounded in indigenous epistemologies and axiologies (Magni, 2017).

FINDINGS AND DISCUSSIONS

This section presents the study findings in sync with the guidance of the research objectives highlighted above.

- **Establish traditional Knowledge in Uganda and Zimbabwe**

Traditional knowledge diffuses every aspect of life in Uganda and Zimbabwe, for example, totemism, food sovereignty, farming, medicine, health, conflict resolution, weather prediction, education, wildlife management, and spiritual healing, among many other uses. The proceeding section analyzed selected cases concerning traditional knowledge. Mapira and Mazambara (2013) cited totemism as a common tradition among Zimbabwe's indigenous groups. Totemism refers to the indigenous practice of symbolically creating a synergy between human beings and non-human objects, including plants and animals (Mapira & Mazambara, 2013). Totemism involves people claiming an animal as a mythological ancestor (Jary & Jary, 1995). There is a systematic association between groups of people and animals (occasionally plants or inanimate objects) associated with particular elements of social organization (Tarugarira, 2017). In the author's opinion, focusing on the totem and its accessories increases our understanding of aspects of clan cultural heritage. It provides insight into traditional knowledge systems used in environmental management (Tarugarira, 2017). The concept of totemism is significant among the indigenous people of Zimbabwe because it bonds the living and the ancestors in protecting the environment. Totemism is buttressed by taboos because eating one's totem can result in fatal consequences, for example, misfortunes, illness, death, falling away of a victim's teeth, and abject poverty (Kasere,2010). For clan members in Uganda, killing certain animal species is forbidden to avoid bringing a bad omen on themselves (Ochieng, Koh, & Koot, 2022).

Ruhinirwa et al. (2019) argued that in Uganda, each clan in the region of Buganda identifies with a totem which may be an animal or plant. It is forbidden to eat your totem, and clan members are obliged to protect them from harm or destruction. This practice has enhanced the sustainable use of natural resources over generations. The findings on totemism and its significance in Zimbabwe by Tarugarira (2017) resonate with Ruhinirwa et al. (2019) regarding eating one's totem and the consequences that

one might face. However, the effects of modernization threaten totemism because the bible teaches its adherents that the practice is satanic, and people converted to Christianity proudly proclaim Jesus as their totem. As of 2016, agriculture is responsible for approximately 24% of the Ugandan GDP, nearly 48% of export earnings, and 80% of the household's livelihoods (Kansiime et al., 2016). In food and agricultural debates, 'food sovereignty' empowers nations and peoples to control their food systems, including their markets, production modes, food cultures, and environment (Wittman, Desmarais & Wiebe, 2010).

Martiniello (2015) argued that introducing genetically modified sorghum and finger millet varieties in an open environment will most likely engender the pollination of all other indigenous types. The effect would presumably be a reduction in the bio-diverse patrimony and standardization of the different sorghum and millet grown for millennia by eastern African peasants (Martiniello, 2015). Food sovereignty in Uganda is achievable by controlling access to land, mobilizing labour, and reproducing indigenous seeds, all of which are integral to food sovereignty's social, economic, and political ideals (Martiniello, 2015). Similarly, Mandisvika, Chirisa and Bandauko's (2015) study on Zimbabwe emphasizes that local people should secure control over natural productive resources, possess a right to land, and utilize and protect their indigenous knowledge and cultural identity. Chirisa, & Bandauko's (2015) argued that millet and sorghum are the best crop alternatives, as they can withstand the low rainfall and high temperatures indigenous to this region agro-ecological region 5 in Zimbabwe, such as Masvingo and Chiredzi. In Uganda, much indigenous knowledge helps manage soil and water, grow crops, livestock care, and process and store food (Tabuti, 2003). Haumba and Kaddu (2017) explain that to treat animals and plants when pests and diseases attack them, for instance, the farmers in Soroti employ indigenous medicine. Farmers use a variety of locally made medicinal plants to treat the animals. For example, to prevent the spread of pests and illnesses, farmers burn the infected crops, practice crop rotation, and grow various crops (Haumba & Kaddu (2017). This finding further supports Waziri and Aliero's (2005) assertion that growing the same crops in the same garden year after year might stimulate the development of pests and illnesses in the soil. These destructive agents keep on spreading from one crop to the next. Jiri, Mafongoya and Chivenge (2015) highlighted that the significant role of traditional knowledge in smallholder agriculture should not be underestimated. Our research has shown that most traditional leaders and older people fully understand the use of indigenous knowledge in forecasting seasonal characteristics. However, even they have noticed the erosion of local knowledge. Despite this result, farmers still use indigenous knowledge to make certain coping and adaptation decisions. Climate change may bring about new weather patterns and extreme events that are well beyond what the local communities can handle.

IP protection of indigenous knowledge is crucial. Hence, indigenous peoples, local communities, and governments seek its protection (WIPO, 2003). The world of traditional knowledge is rapidly depleting its natural resource base. It is in danger of becoming extinct due to the swiftly transforming global environment and economic, political, and cultural developments. As noted by Horsthemke (2021), it is relatively straightforward to justify focusing on indigenous African Knowledge, science, and technology, especially considering colonialism's destruction, suppression, and exploitation of traditional systems. Isife (2023) argued that African science/technology has never followed the Western scientific method yet has a functional basis and uses. Understanding the depth of African ontology and the metaphysical framework on which African scientific epistemology is essential to appreciate the African approach to scientific methodology (Isife, 2023). Cosmology is a branch of science that deals with the universe and what exists in it. How the Africans know and relate to this world or environment can pass the methodology, and how Africans know and connect the universe and its surroundings pass the test of a scientific method (Isife, 2023).

As Isife (2023) explained, through extractive biocolonialism, indigenous peoples' valuable genetic resources and associated agricultural and medicinal are sought, legally converted into IP, transformed into commodities, and sold on genetic markets. As Onayade, Onayade and Sowofora (1996) noted, traditional African medicine relies on plants as herbal remedies to heal wounds, extract pus, and treat infected and festering wounds. Onayade et al. (2009) and Kazembe and Mashoko (2008) concurred that traditional herbal medicines helped treat snakebites, stomach aches, and reproductive disorders. Over (75%) of modern medicine is plant-based. In contrast, (25%) is derived from synthetic materials, which proves the need to develop sustainable environmental management strategies to protect indigenous plants. In Zimbabwe, the Ministry of Environment and Tourism and other quasigovernmental organizations like the Environmental Management Agency (EMA), Forestry Commission of Zimbabwe, and the non-governmental Southern African Foundation for Indigenous Resources (SAFIRE), have contributed towards the promotion and protection of biological species.

Ray (2023) argues that the perception of traditional knowledge through contemporary scientific concepts and philosophies will authenticate it for broader adoption as a tried and true type of science in society to create a solid future-oriented foundation for research and innovation. Sindiga et al. (1995) criticized colonialism and the Christian crusades for failing to accept traditional systems by establishing control over the conquered people and acculturating them in the name of Christianity, Commerce, and Civilisation (3Cs). Traditional medicine and techniques are very much alive in Uganda and Zimbabwe, even though Africans disparage traditional methods in public but surreptitiously seek them out when they think no one is watching them (Chisita & Kaddu, 2009).

Critical Features of Traditional Knowledge

Sharma et al. (2020) analyzed the characteristics of traditional knowledge in various ways as follows:

- generated within communities, location, and culture-specific;
- decision-making and survival strategies;
- not systematically documented;
- concerns critical issues of human and animal life; and,
- dynamic and based on innovation, adaptation, and experimentation, oral and rural.

Traditional knowledge saturates every facet of the indigenous people's ways of life, as illustrated in Figure 1. Sharma et al. (2020) raise important issues concerning the nature of traditional knowledge and its place among other knowledge systems. While Western science rests on analytical and reductionist paradigms, traditional has a more intuitive and holistic view of reality (Mazzocchi, 2006). Traditional knowledge is transmitted orally from generation to generation (Sharma et al., 2020). Furthermore, as highlighted above, traditional knowledge depends on its context and particular local conditions (Nakashima & Roué, 2002). Traditional knowledge recognizes the robust correlation between humans and nature because of its spiritual thrust, unlike Western empirical science, which is more quantitative (Mazzocchi, 2006). The common denominator between Western and traditional Knowledge is that both rely on observation, experimentation, pattern recognition, skepticism of second and third-hand sources, creativity and intuition. The two knowledge systems are complex and dynamic (Sharma et al., 2020). Traditional knowledge develops in a communal setting where social actors play various roles in its

Figure 1. Characteristics of traditional knowledge
(Adapted from: Sharma et al., 2020).

invention, use, and gradual alteration in response to the requirements and conditions of the community through time (Muzah, 2016).

- **Analyze the key features of traditional knowledge**

Protecting traditional knowledge involves prohibiting unauthorized parties from unfairly acquiring Intellectual rights to indigenous peoples' knowledge, innovations, and customs. Zimbabwe and Uganda are members of the Intergovernmental Committee on IP and Genetic Resources, Knowledge, and Folklore (Session, 2022). Membership to such an august committee is beneficial for African countries to contribute to realizing an international IP law protecting knowledge. There are a variety of international conventions meant to protect indigenous knowledge. The World Health Organisation (WHO) (1978) Declaration of Alma Ata International conference on primary health care, Alma-Ata recognized the contributions of traditional healers in the primary health care sector. The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA, 92019) recognizes farmers' rights and protects traditional plant genetic resources for food and agriculture. The UNESCO Convention on Safeguarding Intangible Cultural Heritage also covers and preserves traditional knowledge. IP protection in the West was built following the expectations of technologically advanced societies during industrialization, according to WIPO (2012). The growing awareness of indigenous communities and governments from developing countries has led to demands for epistemic justice and sovereignty for knowledge. African Regional IP Organization (ARIPO) developed the Swakopmund Protocol (2019) to protect the region's knowledge, genetic resources, and folklore. Zimbabwe and Uganda are signatories to the Swakopmund Protocol.

The Constitution of Zimbabwe (2013) supports and protects cultural norms and values that advance Zimbabweans' equality, well-being, and dignity. The Stare and its institutions and agencies of government are obliged to respect traditional institutions that embody the country's cultural values (Constitution of Zimbabwe,2013). According to the Zimbabwean Constitution, conventional protection will be realized through the Legal status of treaties, international law, and treaty ratification, as highlighted in previous study sections. Zimbabwe has other valuable legislation protecting knowledge, such as the Patents Act (Chapter 26:03) and the Copyrights and Neighbouring Rights Act as an additional IP legal instrument.

Review the Laws That Protect Traditional Knowledge in Zimbabwe and Uganda

Uganda and Zimbabwe have robust legal frameworks that protect traditional knowledge. The proceeding section briefly discuss some of these laws.

- ***The National Intellectual Property Policy (NIPP)***

The implementation of copyright and other IP rights in Uganda is majorly affected by the lack of an integrated IP policy, as noted by Ssuuna (2017). However, this was resolved by a cabinet approval of the National IP Policy in May 2019 and its subsequent launch by the President of the Republic of Uganda on 23 September 2020 (Uganda Registration Services Bureau-URSB, 2020). NIIP (2019) explicitly supports the development of a framework to protect traditional knowledge and Traditional Cultural Expressions and create a digital database of traditional knowledge and Traditional Cultural Expressions to preserve cultural heritage from unauthorized exploitation in Uganda. The Zimbabwe National Intellectual Property Policy (2018-2022) recognizes the value of indigenous knowledge systems (IKS) as critical activities for protecting and leveraging the knowledge and intellectual traditions of the indigenous peoples of Zimbabwe. In defending the National Intellectual Property Policy (2018-2022), Shonge (2018) argued that the policy must balance IP creation, IP protection, and IP commercialization, focusing on creating a system for protecting traditional knowledge and preventing misappropriation and exploitation to provide a basis for decolonial combativeness among the indigenes.

- ***Copyright and Neighbouring Rights Act, 2006, and the Copyright and Neighbouring Rights Regulations, 2010***

The primary law protecting against piracy is the Copyright and Neighbouring Rights Act, 2006 (C&NRA, 2006) and the Copyright and Neighbouring Rights Regulations, 2010. Kawooya, Kakungulu and Akubu (2010) highlighted that Section 5 of the (C&NRA 2006) clarifies the peculiar types of protected works in Uganda, for example, literary, scientific, and artistic works (including computer programs, illustrations, and traditional folklore and knowledge, as well as derivative works such as translations, transformations, and collections. However, the (C&NRA, 2006) does not provide a mechanism for reproducing traditional knowledge.

- ***The Copyright and Neighbouring Rights Regulations 2010***

The government legislated the Copyright and Neighbouring Rights Act, 2006 (C&NRA, 2006) and the Copyright and Neighbouring Rights Regulations, 2010. The regulations are broad and cover all the key provisions of the international and regional conventions, including the Berne Convention, as revised in Stockholm in 1979. The above legislation consists of nine parts, with seven details relating directly to copyright protection, contracts about the exploitation of authors' rights, general administration of copyright, collecting societies, general provisions, and repeal of the then-existing copyright act. The regulation also provides for the different forms used in applying and granting various privileges. Zimbabwe's Copyright and Neighbouring Rights Act (2004) acknowledges and protects traditional knowledge embodied in

Table 1. Selected riddles in the Shona language

Shona riddle	Answer in English /Shona
Pota neko tisangane	The two ends of a belt will meet when it encircles something.
Rakazvirova rikazhamba	The rooster flaps its wings when it crows.
Chidembo tambatamba muswe ndakabata	Hoe (Badza)
Amai vari papa kutsvuka kutsvuka havo asi kuroya havabvire	Chillies (Mhiripiri)
Mombe yababa vangu inomwa mvura yakabatwa muswe	Cup
Jira rababa vangu risingapere kupetwa	Sky (Denga)
Imba yekwedu isina musuowo	An egg (Zai)
Imba yamai vangu inomira nedziro rimwe	Mushroom (hwohwa)
Danda radonha vanavakati kumatsotso	Sunrise

the traditions peculiar to one or more communities in Zimbabwe, including folk tales, folk poetry, and traditional riddles; and folk songs and instrumental folk music; folk dances, plays, and artistic forms of ritual; and productions of folk art, in particular drawings, paintings, sculptures, pottery, woodwork, metalwork, jewellery, baskets, and costumes. Another unique African Art of conversation relates to the everyday use of riddles. Bhebhe (2018) interpreted riddles as games of wits and intellect that require a higher level of display of philosophical wisdom. Riddles are a form of traditional African literature, commonly called oral literature, that serves numerous functions, including socialization, communication, instilling discipline among the youths, preserving history and culture, carrier of language, and an index to the identity of unique traditional cultural groups in Africa (Chauke, 2022). Shona riddles are the analogy argument that Horner and Westacott (2000) define as a resemblance between two things or situations. The following table provides selected examples of riddles in the Shona language:

Friday and Oghenerioborue (2023) contend that Riddles call for critically examining the surrounding environment, human civilization, its composition, society's operations, and how animals and other living organisms behave. Besides imparting knowledge, riddles also enhance one's memory and intellect. The observation is consistent with Gelfand (1979), who, while discussing the role of riddles among children, highlighted how they empower children with skills and knowledge to comprehend, apprehend and analyse societal values and provide yardsticks for evaluating them by educating them on their existence. Bhebhe (2018) highlighted that children should deduce deeper meanings from riddles and extrapolate such purposes from the implications society attaches to them. Proverbs, riddles, folktales, songs, stories, and myths selected examples of pedagogical methods the indigenous people of Africa used to educate their children. Riddles were also utilized to encourage children's critical thinking skills. Riddles have proven that traditional knowledge is a dynamic kind of education, entertainment, or edutainment, as some people now refer to blending education and joy (Mapara, 2009). Mapara (2009) highlighted that Zimbabweans, like any other indigenous Africans, have maintained the tradition of teaching youngsters through the classical African art of conversation, for example, proverbs, riddles, folktales, songs, legends, and myths. Such words usually prefix the Shona people's teachings to the young as "*Vakuru vedu vanoti …or Vakuru vedu vaiti …*" (Mapara, 2009). Translated in English to mean "Our elders used to say …" or "Our elders say …."

The Role of Libraries in the Process of Information/Knowledge Repackaging

Dogara, Yashim and Peter (2022) observe that "information repackaging" refers to repackaging information again or in a more attractive format to effectively meet library users' information needs. The librarian in the age of combative decoloniality should be the vanguard for social change in reaffirming indigenous peoples sovereignty over their culture including indigenous knowledge. According to the authors above, repackaging involves converting data into a convenient, easily understandable format. Information Repackaging involves packaging information into a user-friendly design and arranging all these materials appropriate for the user, thus combining two fundamental concepts inherent in reprocessing and repackaging. Paul (2022) described repackaging as selecting, analyzing, processing, and translating information to communicate a message effectively and conveniently to a defined audience. Paul (2022) noted that well -repackaged information can potentially share the intended message with the target audience.

Oyadonghan, Eke and Fyneman (2016) refer to repackaging information as repackaging information in a more appealing way to serve library patrons' information needs better is known as "information repackaging. Repackaging the information in a way that can be handy and readily understood; packaging information and arranging all these materials in a way that is appropriate to the user, thus combining two essential concepts inherent in the term repackaging, that is, reprocessing and repackaging. Information repackaging refers to promoting quick and meaningful decision-making for outcome-based effect by giving information to various groups of users in an encapsulated form based on needs analysis (Ugwuogu, 2015). Similarly, Chisita (2011) and Mole, Ekwelem and Din (2018) used information repackaging to refer to how information centres and services select materials and repackage the materials according to user specifications. Repackaging can take various forms, for example, through celebrity theatre, drama, storytelling, dance and songs.

Libraries are also vital to preserving indigenous knowledge because they play a critical role in providing answers to users' epistemological needs through information provision. Librarians should collaborate with the host communities to appropriately use, document, maintain and disseminate indigenous knowledge. They should be a resource for locating, identifying, and preserving indigenous knowledge sources in their communities (Ngozi, Ihekwoaba & Ugwuanyi, 2014). Professional ethics, local and international legal frameworks, beliefs, aspirations, and values of the communities should guide the roles of libraries in repackaging information/ knowledge. Various activities should be undertaken, such as documenting and preserving knowledge, indexing and abstracting traditional knowledge, advocating, raising awareness through education, incorporating Intellectual Property into meta-literacy programs, and forging strategic partnerships with other memory institutions involved in preserving indigenous knowledge. Maundu (1995) suggests that before any collection of indigenous knowledge can take place, there is a need to formulate a plan the following: the purposes, aims, and goals; profile the community; develop data-gathering strategies; identify community leaders and key informants, including the community leaders; communicate the program to the community; and formulate the action plan, and mobilize the necessary resources. Libraries and related institutions should partner with the government, communities, lawyers, and development partners to map a feasible strategy for preserving indigenous knowledge. Advice from the stakeholders mentioned above is critical because government policies and laws and the interests of the communities should inform a plan to protect indigenous knowledge. Libraries as citadels of combative decoloniality ought to cooperate and work closely with indigenous knowledge practitioners who are custodians of unpublished records and within the purview of Library and Information Science

of unwritten information to close the gap between the practice of information management by non-professionals who had concentrated mainly on unpublished information resources (Sarah, 2015). Shiri, Howard and Farnell (2022) highlighted the importance of embarking on Indigenous digital projects that have become so popular among Indigenous communities worldwide. Additionally, continuously repurposing and reselling technology solutions and disseminating out-of-context solutions that increase reliance on Global North resources allow them to preserve their asymmetrical power relations (Abede et al., 2021). Udensi (2010) discussed the forms of information repackaging and highlighted the following points, which include, but are not limited to reformatting and synthesizing basic information, combining expertise or consulting on a subject with access to relevant information sources, providing training or assistance to a user in accessing an information product, drama, song, dance, storytelling, audiovisual materials, translation, oral transmission, group discussions, poetry, and technological tools including digital storytelling. However, the librarian should be conversant with the laws affecting *sui generis* works (collectively owned) of collective, such as indigenous knowledge).

CONCLUSION AND RECOMMENDATIONS

African countries are central to cultural and social transformation as traditional knowledge intersects with research and teaching in educational settings. The weak laws that protect traditional Knowledge in Zimbabwe and Uganda should be revisited and strengthened through further consultation with key stakeholders. The roles of libraries in repackaging conventional knowledge should be explicitly clarified. Governments in Uganda and Zimbabwe must emphasize preserving and conserving ancestral through memory institutions, including the communities, libraries, archives, galleries, and museums through praxis-oriented approaches that resonate with the aspirations of indigenous communities as a collective. Additionally, librarians should help promote conversations concerning converting indigenous knowledge into tangible through technology and applying management principles. There is a need for Africa, Uganda, and Zimbabwe to prioritize inter-disciplinary and inter-institutional research in traditional as it is part of the production. There is a need for African scholars to research indigenous Knowledge in Africa. This chapter should not be misinterpreted as a blind romanticization of the African past. The article serves as an escallier to the brighter world of an equipoised knowledge system. The chapter builds on the strength of classical African knowledge systems and methods to contribute towards decoloniality as espoused by (Ndlovu-Gatsheni, 2015). Finally, the researchers make the following recommendations:

- Governments and indigenous groups should continue advocating for an international legal framework that protects traditional or indigenous knowledge and such an instrument should consider technological shifts in generation and transmission. A preservation and conservation law should be comprehensive enough to cover the administrative costs of legislating and maintaining the law and take cognizance of the interests of diverse groups;
- Advocating for libraries as critical role-players in preserving traditional knowledge is necessary;
- Higher Educations institutions, including libraries, should invest more resources towards research on traditional knowledge concerning its inclusion into the curriculum at all levels, repackaging, IP rights and preservation;
- Libraries should advocate to be key role-players in traditional knowledge.

- Libraries should adapt combative decoloniality and be on the forefront in raising awareness of the value of for indigenous knowledge sovereignty;
- Indigenous knowledge has collective ownership, and ensuring adequate protection under current copyright regimes that have set rigorous registration standards requiring proof of protected ownership is challenging; and
- Librarians provide for people's epistemological needs and should seize the opportunity to play a critical role in protecting traditional knowledge to reposition themselves as indispensable professionals in an era of epistemic injustice and as a result they should assume the role of decolonial combatants whereby they energise and weaponise people towards total liberation and sovereignty.

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KEY TERMS AND DEFINITIONS

Afrocentricity: Aa conceptual framework that argues that African culture and assumptions of human behaviour are pivotal to any scrutiny involving the study of African experiences.

Indigenous Knowledge: This refers to a corpus of dissimilar knowledge and practices of societies accumulated through a serial interface with their natural milieu.

Knowledge: The familiarity, awareness, or understanding of someone, something, or phenomena, such as facts, information, descriptions, or skills, derived from experience or education.

Repackaging Indigenous Knowledge Refers: The process of repackaging IK to become more understandable, readable, acceptable, and usable, including its adaptation to the needs and characteristics of the individual or user group and matching it with the information provided, thereby facilitating the diffusion of knowledge.

Traditional Knowledge: This constitutes a community's knowledge, know-how, skills, and traditions created, maintained, and passed down from generation to generation.