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African medicine and Indigenous knowledge transmission in African languages

Abstract

This study examines the precarious state of Kenyang ethnobotanical knowledge, characterized by a decline in the linguistic and cultural transmission, thereby threatening the perpetuation of traditional medicinal practices in Cameroon. Employing a speaker-centred approach, coupled with snowball and purposive sampling methodologies, this study documents the available disease remedies through digital archiving, revealing a significant intergenerational decline in traditional knowledge, despite its pertinence to contemporary health challenges. These findings underscore the imperative for expedited documentation and preservation of Kenyang ethnobotanical knowledge to revitalize linguistic and cultural heritage, thereby promoting a holistic development.

Keywords: Indigenous knowledge systems, language endangerment, traditional medicine, ethnobotany, digital archiving

Introduction

Approximately 5400 plant species are utilized in traditional African medicine for their medicinal properties (Van Wyk 2015). Polygenetic evidence suggests that plants and herbs evolved prior to the emergence of humans, with fossil records indicating their presence on earth for millions of years (Kenrick/Crane 2017). Initially, humans and animals coexisted with these species, exploiting them for sustenance, medicinal purposes, shelter and other essential resources. As human knowledge and populations expanded, the demand for more effective and accessible health solutions led to the development of synthetic and processed foods and medicines, transforming the traditional uses of plants and herbs to

address the growing health challenges and needs of human societies. In response to this, human focus has diverted from the natural environment, which, despite being increasingly inconsiderate, is deteriorating rapidly due to climate change, land-use expansion, and associated processes like deforestation and desertification (Intergovernmental Panel on Planet Change 2020). The preference for traditional medicine as a rapid therapeutic solution to various health conditions, owing to its established administration preservation protocols (Iwu 2013), has prompted a paradigm shift among African populations, from botanical-based remedies to conventional pharmaceuticals. However, concerns persist regarding the optimal dosage regimens, shelf life, and specific clinical indications for these traditional African medicines. This study aims to systematically document and preserve the traditional Knowledge of Kenyang medicinal plants and herbs, which are essential for promoting holistic development and revitalizing the declining Kenyang cultural heritage. Additionally, the research seeks to evaluate the economic potential of these medicinal resources and elucidate the urgent need for their conservation and sustainable use.

Related Issues

African perspectives on medicines

African perspectives on traditional plant and herbal medicines are complex and multifaceted (see Vaughan 1991). Historically, these natural resources were valued for their remedial and curative properties, However, a prevailing belief among some Africans associates traditional medicine with witchcraft and exorcism, leading to varied attitudes towards its use. In Cameroon's Manyu division, misconceptions about traditional medicine have contributed to the endangerment of medicinal plants and herbs, exacerbated by environmental degradation, deforestation, urbanization, industrialization, and climate change (Rimlinger et al. 2021). Also, the lack of comprehensive documentation and digitalization of research on African medicinal plants, particularly in Kenyang, poses a significant threat to the preservation of this knowledge (see Nji et al. 2018; Tabi et al. 2020). However, the COVID-19 pandemic has prompted a re-evaluation of traditional medicine, resulting in increased aware-

ness and demand (El Alami et al. 2020; Srivastava/Chaurasia 2020). To address the problem interdisciplinary collaboration among linguists and researchers is essential, for holistic digital documentation, (see Bodeker/Kronenberg 2002) knowledge valorisation, and conservation of these endangered resources for future generations. Medicinal plants and herbs digitization cannot be discussed in isolation of language endangerment, revitalization aspects and reasons for digitizing documentation.

Language endangerment

Language is the cornerstone of culture, identity and heritage, and its endangerment has severe consequences for minority languages, particularly in Africa (UNESCO 2019; Crystal 2000; Fishman 1991). Regrettably, its endangerment also threatens the very existence of human society (Sapir 1949). The precarious state of African languages, including in Cameroon, necessitates urgent action to document and preserve these languages (UNESCO 2019). Language documentation is crucial for rescuing endangered languages, as it helps preserve cultural norms and values embedded in language – it provides a safeguard against language shift and cultural erosion (see Diamond 2002; Whorf 1956). Thus, the decline of minority languages threatens cultural diversity, as prestigious languages diminish their use (Wardhaugh/Fuller 2015).

The endangerment of African languages is attributed to the presence of dominant exoglossic languages, which diminish the use of minority languages (see Enoachuo 2021). This has led to a decrease in language domains resulting in structural shifts or language demise (Wardhaugh/Fuller 2015). The loss of language and culture is intertwined as culture is embedded in language (Whorf 1956). The decline in minority languages threatens cultural diversity, making language preservation essential for maintaining cultural heritage (Chiatoh/Nkwain 2022).

Language endangerment in Cameroon remains a pressing concern, with the over 270 languages spoken in the country at the risk of falling out of use due to language shift and decline (Enoachuo 2019; Lewis 2009). The dominance of exoglossic languages such as English and French, as well as urbanization and modernization, have contributed to language shift and decline, leading to a reduction in language use and

transmission to younger generations (Enoachuo 2019). Also, the lack of documentation and support for indigenous languages has further exacerbated the issue, leaving many languages without a written form or educational materials, thereby hindering language maintenance and revitalization efforts. This is why many Cameroonian languages are considered endangered, with some spoken by only a few fluent speakers, again necessitating urgent documentation and preservation efforts (see Watters 2003).

The consequences of language endangerment in Cameroon are far-reaching, with potential losses in cultural heritage, traditional knowledge, and community identity (Chiatoh/Nkwain 2022; Hinton 2001). The practical consequences include limiting access to education and economic opportunities, thereby perpetuating social and economic inequalities. While efforts to document Cameroonian languages are underway, more support is needed to address the scale and complexity of the issue, including the development of language education programmes, language documentation projects and community-based language revitalization initiatives (Djomeni 2022).

Decline in the use of traditional names for plants and herbs, and counter-efforts at preservation

Decline in the use of traditional plant and herb names for both practical and communicative purposes has contributed to a significant reduction in their utilization (Krauss 2007). Rapid deforestation and climate change have also accelerated the disappearance of these plants and herbs from the healthcare landscape (Barnett 2001). As a result, the knowledge of their curative properties and cultural significance is minimal, and efforts to nurture or protect them are lacking (Mignolo 2009). However, a growing awareness and retrospective concern among linguists and stakeholders have sparked a desire to revive the existence of these plants and herbs, with many acknowledging that: “I have forgotten” or “I do not know the original name”. As the names of these plants and herbs fade, language speakers are left with limited knowledge of their values and significance to the community. There would exist greater harm, if left unaddressed, the loss of this cultural heritage will erase the rich tap-

etry of global experiences and identities, underscoring the importance of preservation and digitization efforts (see Crystal 2000).

Language is a vital tool for preserving cultural heritage and traditional knowledge, particularly in the context of medicinal plants and herbal medicine (Sapir 1949). The Kenyang language, spoken in the Equatorial Rainforest, embodies the community's understanding of their environment and the medicinal properties of surrounding plants and herbs. However, the influence of multilingualism and modernization has disrupted the transmission of this knowledge to younger generations, rendering it endangered (Krauss 1992). The Kenyang community's reliance on prestigious languages like English, French, and Pidgin English has led to a decline in the use of their indigenous language, resulting in a loss of cultural heritage (Crystal 2000). The traditional healing practices and knowledge of medicinal plants, once tied to specific families, are now attributed to sorcery and mysticism, further threatening their preservation (Berlin 1992).

The revival process necessary to address the above anomaly involves the documentation of ethno-botanical knowledge through annotation and interpretation in a digitized resource channel. This "linguistic Noah's Ark" would serve as a repository for Kenyang traditional knowledge and practices, ensuring their preservation for future generations. However, this endeavour requires the active participation and belief of Kenyang speakers in their language and cultural heritage (Fishman 2001). By communicating traditional medicines and practices in the endangered Kenyang language, community members can help safeguard their cultural legacy and contribute to the holistic welfare of their community (see Linn 2014) and the world at large.

Methodology for this research

The digital age offers a unique opportunity for preserving indigenous knowledge in minority language, such as Kenyang, through digital documentation and archiving. This study proposes the following methods for data collection.

1. Community involvement: 3 traditional healers and 5 speakers of the Kenyang language (2 youths and 3 adults) collaborated with

the researcher, who is also a native speaker, to develop and digitize a repertoire for Kenyang medicinal plants and herbs.

2. Data collection: Primary data were collected on 10 Kenyang medicinal plants (see Mahomoodally 2013) and herbs, using ethnographic methods, including participant observation, interviews, and focus groups (Hymes 1974).
3. Digitization: The collected data were digitized using audio and video recordings, as well as photographs and notes.
4. Online platform: The digitized data were uploaded to an online platform, creating a digital archive of Kenyang medicinal plants and herbs.
5. Information-oriented approach: Due to the limited and uneasy access to secondary data of Kenyang medicinal plants and herbs, an information-oriented approach was taken, focusing on primary data collection and preservation.

Data analysis

1. Ethnographic Analysis: The collected data were analysed using ethnographic methods, including content analysis and thematic analysis (see Bernard 2017).
2. Language Documentation: The digitized data were analysed to identify patterns and themes in the Kenyang language, including grammatical structures and vocabulary related to medicinal plants and herbs.

Data presentation

The 10 medicinal plants and herbs were collected and documented using video and audio. For ethical reasons, the videos have not been made public. Rather, pictures have been shared in this research.

Kenyang Plants' names and incomplete remedies



Fig. 1: *agbòbàrà* – A Central African plant of South-West Region of Cameroon (Notable part of the concoction for fecundity in women)



Fig. 2: *nəm tákɔ* (PE: **king grass**)
A Cameroonian medicinal herb common in the Southern parts a specie of (*Amaranthus deflexus*)

Specie name highly endangered or moribund (translated from Pidgin English name)



Fig. 3: *éráhtákō* – A flower-leaf of a Cameroonian Tropical forest tree commonly known as 'umbrella' tree, Part of the concoction for the treatment of *jaundice*



Fig. 4: *érém nēfi* (*Eleusine indica*(L)) – Commonly known as 'bahama grass' found around the Southern part of Cameroon. A common African Tropical Forest grass

Part of the concoction for the treatment of sprains and fractures, 100 % of the research population do not know the Kenyang name; more than 65 % of traditional doctors as well do know not the Kenyang name.



Fig. 5: **ákákón** – Commonly known as ‘umbrella’ tree. Ghanian hiking routes ‘outdoor active’



Fig. 6: **mâmbèp** – *Crassocephalum crepidioides* (Benth) S. Moore



Fig. 7: **ndêré-màk** – Local appellation: ‘bush groundnut’, Family of *Chipilin Guatemala*



Fig. 8: **nsók-pàn** – Family of *Cecropia peltata-Canarius*, also in the secondary forest of Southern part of Cameroon, Africa. Used as part of concoction for difficult childbirth



Fig.9: *βήσσο-βάηε̃* – Scientific name unidentified (still under investigation), Part concoction treatment for STDs



Fig. 10: *tám̃báñ-nèháýĩ* – Commonly known as 'starleaf' tree, *Adansonia digitata* L (BOMBACACEAE), Part concoction for malaria fever treatment

Results

The collected plants and herbs: *àgbòbàrà* (fig. 1) is a common plant, but its usage is not known among the younger generation. Each of the three traditional healers, all Cameroonians and native speakers of Kenyang, identified the medicinal plant and its importance;

Each of the three traditional healers, all Cameroonians and native speakers of Kenyang, identified the medicinal plant and its importance; *nàm-tákò* (fig. 2) is a very common medicinal herb found mostly around human habitations and on farmlands; *éráñ-tákò* (fig. 3), represents a leafy tropical forest plant mostly found in the forests of Southern parts of Cameroon. *Èrém-nèfí* (fig. 4), unlike figure 2, is a compound herb commonly found around human habitations, though this can also be in farmlands. Figures 5, 6, 8, 9, and 10 (*ákákò*, *mám̃bè̃p*, *nsók-ñan*, *βήσσο-βάηε̃*, *tám̃báñ-nèháýĩ*, respectively), are typical secondary tropical forest plants and herbs of the South-West Region, that richly empower traditional medicines.

The knowledge of these traditional medicinal plants and herbs is restricted to the immediate family members that offer curation to the

community for little or no economic benefits. The 3 traditional healers (2 females and 1 male) agree up to 80 % on the Kenyang names, but diverge above 50 % on their use. They substitute the names of the medicinal plants with Pidgin English names commonly used or with the scientific names that they have researched on. However, *ndèré-màk* ('bush groundnut') (fig. 7) is a name formulated by a younger speaker due to its resemblance with groundnut leaves, not that it produces nuts.

The motivation of some of the consultants to preserve their knowledge as a legacy led to a deliberate withholding of comprehensive information regarding traditional medicine and its applications. This strategic omission aimed to stimulate further research and potentially secure economic benefits. However, this approach has resulted in a significant knowledge gap among the younger generation. Notably, only two of the five interviewees were able to provide names for the medicines which were based on common hearsay (see fig. 2, 4, and descriptive names as in fig. 7). This suggests that the traditional nomenclature of herbs and plants is no longer being transmitted effectively to the younger generation, rendering this knowledge moribund.

In contrast, the older generation exhibited a prolonged reflexive response when attempting to recall traditional names, indicating a decline in cognitive accessibility. This phenomenon highlights the pressing need for systematic documentation and preservation of the knowledge of traditional medicinal knowledge in order to prevent its loss and ensure its continued transmission to future generations. The findings of this study underscore the importance of intergenerational knowledge transfer and the need for targeted efforts to preserve traditional medicinal practices. By exploring the complexities of knowledge preservation and transmission, this research aims to contribute to the development of effective strategies for safeguarding cultural heritage and promoting the continued relevance of traditional medicine.

Conclusion

A comprehensive and systematic inventory of the array of tropical forest herbs and plants in the Manyu region, as well as throughout Cameroon, is imperative for the preservation of traditional medicinal knowledge.

This documentation research serves as a catalyst for rekindling the community's interest in their environmental heritage, cultural practices, and traditional ways of life. Moreover, this study's findings have sparked a renewed enthusiasm among the younger generation who could not identify these medicinal plants and herbs to engage in their cultural legacy, with a notable inclination towards apprenticing with and eventually succeeding the older generation as well as researchers' interest to document more of the medicinal and herbal plants in Kenyang. However, this transition necessitates targeted training and funding initiatives to ensure a seamless knowledge transfer and the perpetuation of traditional practices. Ultimately, this research underscores the importance of integrating traditional ecological knowledge with modern conservation efforts, highlighting the need for a multidisciplinary approach that incorporates community engagement, ethnobotanical research, and capacity-building initiatives. By doing so, we can ensure the long-term preservation of Cameroon's rich biodiversity and the cultural heritage associated with it.

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