

A New Era of Entrepreneurship: The Transformative Potential of African Traditional Medicine

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Abstract: Empirical evidence and extensive literature reviews have confirmed the dire state of South Africa's economy, which is characterized by high unemployment rates and economic inactivity. Unfortunately, the COVID-19 pandemic and recent civil unrest have only exacerbated the situation, leading to the closure of several businesses. However, amidst this economic turmoil lies a dormant wealth of unique indigenous knowledge that can be harnessed to empower indigenous communities and promote self-sustainability. In this paper, the researchers propose the use of indigenous knowledge (IK) to effectively empower indigenous communities. By focusing on the abundant medicinal plants, numerous entrepreneurial opportunities can be created. Indigenous Knowledge and communal land are often the assets that indigenous communities have access to and control, making them familiar with their use. It is crucial to recognize the potential of indigenous knowledge in promoting economic growth and self-sustainability. By leveraging this knowledge, South Africa can create a more equitable and inclusive economy that benefits all members of society. Therefore, the research aims to shed light on the untapped potential of indigenous knowledge and provide practical recommendations for its implementation. The paper is grounded in the Sankofa theory, which emphasizes the importance of looking back to move forward.

Keywords: Traditional Medicine, Entrepreneurship, Health

1. Introduction

Empirical evidence and extensive literature reviews confirm the dire state of South Africa's economy, characterised by high unemployment rates and economic inactivity [1]. The COVID-19 pandemic and recent civil unrest have only exacerbated the situation, leading to the closure of several businesses [2]. However, amidst this economic turmoil lies a dormant wealth of unique indigenous knowledge that can be harnessed to empower indigenous communities and promote self-sustainability. In this paper, the researchers propose the use of indigenous knowledge (IK) to effectively empower indigenous communities. By focusing on the abundant medicinal plants, numerous entrepreneurial opportunities can be created. IK and communal land are often the assets that indigenous communities have access to and control, making them familiar with their use.

It is worth noting that the World Health Organisation

reports that 80% of South Africa's population relies on African traditional medicine [4]. Therefore, integrating IK into development programs and innovation can increase their sustainability. The IK integration process provides for mutual learning and adaptation, which in turn contributes to the empowerment of local communities [5]. Therefore, harnessing indigenous knowledge can be a game-changer in promoting self-sustainability and economic empowerment in South Africa. By tapping into this dormant wealth of knowledge, South Africa can create a brighter future for indigenous communities and the country as a whole.

Therefore, this paper aims to shed light on the untapped potential of African traditional medicine in promoting entrepreneurship initiatives in South Africa. By examining the role of African traditional medicine in indigenous knowledge systems, this paper will provide insights into how it can be leveraged to create economic opportunities for

individuals and communities. Furthermore, this paper will delve into the negative consequences that are often linked with the use of conventional medicine. Overall, this paper will contribute to the ongoing discourse on the importance of indigenous knowledge in promoting sustainable economic development in South Africa.

2. Background of the Study

Over the past decade, South Africa has been hit hard by economic recession, leading to a surge in unemployment and poverty rates, particularly among young people and recent university graduates [6]. This is due in part to historically low levels of investment in African education, resulting in a surplus of unskilled and low-skilled job seekers [6]. Unfortunately, the situation has only worsened in recent years. In 2021, South Africa's unemployment rate grew by 0.5% to a staggering 34.9%, the highest official rate since 2008 [7]. These findings paint a bleak picture of a struggling economy with significant employment losses and high levels of economic inactivity. The COVID-19 pandemic lockdown restrictions and civil unrest in some parts of the country have only exacerbated the situation, resulting in the permanent closure of some firms [2]; [3]. Most industries have seen a reduction in employment in 2021, with the exception of finance, which saw a gain of 138,000 jobs [8]. The trade sector has been hit the hardest, losing 309,000 jobs, followed by community and social services (210,000) and construction and private residences (65,000) [8]. Job losses have been greatest in the formal sector, while job gains have been recorded in the informal sector, with an increase of 9,000 jobs [8].

Despite the wealth of traditional knowledge in South Africa that can be utilized to produce marketable products such as food and medicine, the majority of black people in the country remain economically disadvantaged and poor [9]; [10]. However, indigenous knowledge offers potential for entrepreneurship that goes beyond traditional state-led employment, creating sustainable employment opportunities [11]. The current development debate in South Africa is centered on two critical issues: inclusion and sustainability. For development to be worthwhile for its beneficiaries, it must be both inclusive and sustainable. While inclusive development, which unites the formal and informal sectors, has only recently made its way into development literature, sustainable development has long been a hot topic. It is essential to recognize that traditional knowledge can play a significant role in achieving both inclusive and sustainable development. By incorporating indigenous knowledge into development programs, South Africa can create opportunities for marginalized communities to participate in the economy and improve their livelihoods. This approach can lead to a more equitable and prosperous society for all.

Given the current circumstances, this paper seeks to explore the importance of African traditional medicine as a fundamental aspect of indigenous knowledge in driving entrepreneurial endeavors in South Africa.

3. Methodology and Theoretical Framework

This section will explore the methodology and theoretical framework that form the foundation of the research. It is essential to understand the approach and theoretical perspective used in the study to ensure the validity and reliability of the findings. Therefore, this section will provide a comprehensive overview of the research methods and theoretical concepts employed in the study.

3.1. Methodology

The methodology employed in this paper was a literature review, which involved gathering and analyzing existing research and literature on the topic at hand. This approach allowed for a thorough examination of the current state of knowledge and identified gaps in the literature that could be addressed through further research. By utilizing this method, the study was able to build upon previous findings and contribute to the advancement of the field. The objective of this study was to provide a deeper understanding of the topic and offer insights that can inform future research and decision-making [12]. This methodology is widely recognized as a valuable tool for synthesizing existing knowledge and identifying areas for further investigation [12]. By conducting a literature review, the study was able to provide a comprehensive overview of the topic and offer valuable insights for researchers and practitioners alike. Overall, this approach was highly effective in achieving the study's objectives and advancing the field.

3.2. Sankofa Theory

The Sankofa theory is highly relevant in providing insight into how African traditional medicine can be utilised by Black indigenous South Africans to promote modern-day entrepreneurship and mitigate the high levels of poverty and unemployment that plague the country. African traditional medicine stems from Indigenous Knowledge (IK) and is found within the domain of African communities [13]. It is easily accessible and economically viable. The Sankofa theory emphasizes the importance of looking back to one's roots in order to move forward. In the context of African traditional medicine, this means recognising the value of indigenous knowledge and practices that have been passed down through generations [14]. By incorporating these practices into modern-day entrepreneurship, Black indigenous South Africans can create sustainable businesses that not only provide economic opportunities but also preserve their cultural heritage.

Furthermore, African traditional medicine has the potential to address the healthcare needs of underserved communities in South Africa [15]. With its emphasis on holistic healing and natural remedies, African traditional medicine can provide an alternative to expensive and often inaccessible Western medicine [15]. This not only benefits individuals but also contributes to the overall health and well-being of

communities. Overall, the Sankofa theory highlights the importance of recognising and utilising African traditional medicine in promoting modern-day entrepreneurship and addressing the challenges of poverty and unemployment in South Africa. By embracing their cultural heritage and incorporating it into their business practices, Black indigenous South Africans can create a brighter future for themselves and their communities.

4. The Use of African Traditional Medicine

Indigenous knowledge, including African traditional medicine, has long been a vital part of African culture [16]. Since the 1990s, the use of African traditional medicine (ATM) has been on the rise in developing countries. South Africa, a country that is classified as a mixture of both developing and developed, is no exception. In fact, like many other African countries, South Africa has a pluralistic healthcare system that incorporates modern medicine alongside non-conventional health systems, including various indigenous systems based on traditional practices and beliefs [16]. According to Mothibe *et al.*, the Draft Policy on African traditional medicine for South Africa defines African traditional medicine “as a body of knowledge that has been developed and accumulated over tens of thousands of years” [16]. This knowledge is associated with the examination, diagnosis, therapy, treatment, prevention of, or promotion and rehabilitation of the physical, mental, spiritual, or social well-being of humans and animals. According to Kleinman, African traditional medicine encompasses a wide range of health practices, knowledge, and beliefs that incorporate plant, animal, and mineral-based medicines, spiritual therapies, manual techniques, and exercises [41].

These practices can be applied singularly or in combination to treat, diagnose, and prevent illnesses or maintain overall well-being. African traditional medicine has been used for centuries and is still widely practiced in many parts of the country [4]. It is often viewed as a more holistic approach to healthcare, as it takes into account not only physical symptoms but also spiritual and emotional well-being [4]. Despite its long history and widespread use, African traditional medicine is often overlooked or dismissed in Western medicine (Ansari, 2021). However, as more research is conducted and more people turn to alternative forms of healthcare, African traditional medicine is gaining recognition and respect. According to Adibe, a staggering 80% of Africans use African traditional medicine (ATM) [18]. The use of ATM has been reported for many years, with people turning to it for a variety of ailments and conditions, including HIV, diabetes mellitus, hypertension, pain, gynecological disorders, mental disorders, and asthma [19]. Interestingly, it has been found that people often consult traditional healers before seeking help from conventional health providers (CHPs) [15]. This can lead to a situation where patients withhold information about their use of ATM

when consulting a CHP. This is particularly common among the Black population, who often use both traditional and conventional medicines depending on the ailment.

In fact, it has been estimated that 72% of the Black African population use ATM, with the average frequency of use per consumer being 4.8 times per year [16]. This is in contrast to the number of medical doctors available, with only 77 doctors per 100,000 people compared to 500 traditional healers [16]. Recent cases have highlighted the duality in health-seeking patterns, particularly in the treatment of HIV infection. Studies have shown that a majority of individuals living with HIV and AIDS first consult traditional healers before seeking conventional medical treatment (Bhuda & Marumo, 2020; Mothibe & Sibanda, 2019). Additionally, Feyissa *et al.*, (2022), argues that many patients on antiretroviral treatment (ART) also use African traditional medicine alongside their prescribed medication. Traditional healers often refer their suspected HIV patients to relevant conventional health practitioners, but continue to treat those with higher CD4 counts who are already on ART (Feyissa *et al.*, 2022). The use of African traditional medicine is not limited to any particular class or category of society, as it is practiced by individuals of all ages, education levels, religious practices, and occupations (Shewamene, Dune & Smith, 2020). There are numerous reasons why individuals turn to African traditional medicine (ATM) for their healthcare needs. One of the most common reasons is cultural practice, as many individuals have grown up with and trust the effectiveness of traditional remedies (Sadiku, Sadiku & Musa, 2022). Additionally, ATM is often more affordable and accessible than modern medicine, making it a practical choice for those who may not have access to or cannot afford conventional healthcare options [15].

Affordability is a significant factor in the decision to use ATM, as it often comes with a lower monetary cost than modern medical treatments and consultations [15]. Availability is also crucial, as the extent to which ATM treatments, providers, and products are geographically available to the user can impact their decision to use traditional remedies [15]. Other reasons for the use of ATM include spiritual and emotional reasons, as well as a general desire for wellness [21]. However, the decision to use a particular medical remedy is dependent on various socio-economic variables, such as the type and severity of the illness, past experiences with the illness, access to healthcare services, perceived quality of the service, and distrust in clinics [21]. African traditional medicine, although not always financially accessible, is more readily available in terms of physical, social, and cultural accessibility compared to allopathic treatment [15]. The practice of African traditional medicine is centered around the client and personalized, taking into account social and spiritual matters that are fundamental to African cultures [15]. Moreover, traditional healers play a vital role in the community, serving as counselors, social mediators, cultural educators, and custodians of African traditions and customs [25]. In addition to healing the mind, body, and spirit, traditional healers provide a holistic approach to healthcare

that encompasses the entire person [25].

In this context, the use and prevalence of African traditional medicine is widespread. Consequently, there is a lucrative opportunity to explore African traditional medicine as an entrepreneurial venture. With this in mind, the paper proceeds to examine the benefits of using African traditional medicine.

5. African Traditional Medicine as an Effective Entrepreneurial Model

The justification for the use of African traditional medicine in South Africa is based on the fact that a significant number of the Black African population, approximately 72%, or 26.6 million people, rely on it for their healthcare needs [26]. This widespread use of African traditional medicine is not limited to the underprivileged, rural poor, or illiterate, but rather encompasses a diverse range of consumers [26]. Traditional healers primarily rely on indigenous plants as their source of medicine [21]. However, only a small fraction of these plants, approximately 50 tonnes annually, are farmed, while an estimated 20,000 tonnes are harvested from grasslands, forests, woodlands, and thickets in eastern South Africa each year [5]. This highlights the potential for medicinal plants to be a valuable natural resource that can be collected and traded to generate income for rural communities. For indigenous Black South Africans, medicinal plants present an attractive business opportunity. With their low volume and high value, they offer a sustainable source of income that can support local economies.

Furthermore, promoting the use and production of African traditional medicine in South Africa not only addresses healthcare needs but also presents an opportunity to revive the continent's cultural heritage [27]. By drawing on indigenous entrepreneurial models from the past, indigenous South Africans can tackle contemporary economic challenges. These models align with Africa's traditional values and systems, which have been neglected due to a lack of innovative entrepreneurial models and ineffective government economic policies. This has resulted in a significant gap between poverty and unemployment. Moreover, embracing African traditional medicine offers society a chance to look inward for solutions to economic problems. As Odora-Hoppers famously stated, solving these issues requires complex and decolonized frameworks to avoid economic instability [21]. By tapping into their cultural roots, indigenous South Africans can create sustainable economic solutions that are unique to their communities.

In light of this context, the paper delves into the current trend of commercializing African traditional medicine in South Africa.

6. Commercialisation of African Traditional Medicine

This section delves into the topic of commercialising

African traditional medicine. The primary objective is to ascertain whether African traditional medicine can serve as a viable means for Africans to achieve economic development through entrepreneurship. African traditional medicine (ATM) has long been associated with herbs, remedies, and advice from diviners or healers with strong spiritual and cultural components [21]. Typically, ATM would be obtained from traditional healers or by self-collection on advice from a knowledgeable source [21]. However, since the early 1990s, the commercialisation of indigenous medicinal plants has been gradually growing, with the aim of developing known medicinal plants into various health products. Commercialisation is the process of introducing a new product into the market, making it available for purchase [29]. Due to commercialisation, some ATMs are now readily available from various retail outlets, including grocery stores, *muthi* markets, health shops, street-side vendors, supermarkets, and over-the-counter (OTC) in pharmacies [16]. *Muthi* is the Zulu word for medicine. The producers of commercially available ATM are retail *muthi* shops, health shops that specialize in herbal medicines, pharmaceutical manufacturers, and laissez-faire manufacturers [16]. Some medicinal plants used for common ailments have been developed into medicinal products and commercialised by large manufacturing pharmaceutical companies [16].

These medicines are available as formal processed and standardised preparations in modern packaging and in dosage forms such as capsules, ointments, tablets, teas, or tinctures [16]. Some of the medicines are derived from plants that are common household traditional remedies such as *Aloe ferox*, *Artemisia afra*, *Harpagophytum procumbens*, *Hypoxis hemerocallidea*, *Lippia javanica*, *Sutherlandia frutescens*, and *Pelargonium sidoides*. These medicines are now available in modern packaging and dosage forms, making them more accessible to a wider range of people. The medicinal plant trade in South Africa is rapidly expanding, with a significant portion of it being conducted through informal or semi-formal channels [30]. This trade is a massive industry, generating billions of rands annually across various sectors [30]. While there are no clear statistics on the number of ATM (*muthi*) shops currently in operation, they are a common sight in many metropolitan areas of the country. As commercialisation takes hold, many of these ATMs are being processed and packaged as herbal mixtures or concoctions, similar to over-the-counter medicines and known herbal supplements [16]. These products come in a variety of forms, including coloured solids, brightly coloured and scented liquids, capsules, and incense sticks. In this regard, it is reasonable to conclude that the use and trade of plants for medicinal purposes is no longer confined to traditional healers. Instead, it has entered both the formal and informal entrepreneurial sectors of the South African economy.

Commercial herbal medicines (CHMs) have gained popularity through various forms of advertising, including print and electronic media [16]. Social networks, the internet, radio, television, and newspapers have all provided new

platforms for marketing CHMs [31]. In fact, a study found that THPs have utilised these platforms to promote CHMs, leading to an increase in their market demand [32]. The convenience of CHMs has contributed to their growing popularity. By allowing individuals to self-medicate, CHMs save both time and money by bypassing the need for consultation with a traditional healer [15]. These medicines are readily available in retail outlets, muthi shops, from street vendors, and in pharmacies [15]. African traditional medicine has been a part of human culture for centuries, and its commercialisation has become a significant industry. However, the lack of formal regulations and policies has created a market that is rife with loopholes [4]. These loopholes can lead to the sale of substandard products that can harm people's health. Moreover, the absence of regulations has created an environment of unfair competition, which hinders the growth of legitimate businesses [4]. Therefore, it is crucial to examine the challenges posed by the prevailing unregulated commercialisation of African traditional medicine. The objective is to identify gaps that can inform recommendations and future policies and regulations.

7. Challenges of Unregulated Commercialisation of Traditional Medicine

Despite advancements in packaging and marketing, commercialised African traditional medicine lacks proper testing for efficacy and safety [33]. The labels on these medicines often fail to provide adequate information, and inconsistencies and deceptive tendencies are common [33]. As a result, the labels cannot be trusted to accurately reflect the contents of the containers. The use of these medicines is often based solely on manufacturer claims and marketing tactics. Many people mistakenly believe that because these medicines are sold in pharmacies, they are guaranteed to be safe and effective. Additionally, the perception that natural products are inherently pure and safe is not always accurate [34]. The fact that something is labeled as “natural” does not necessarily mean it is safe [34]. Moreover, the lack of regulation in African traditional medicine is a cause for concern as it raises questions about the purity and potential contamination of these remedies [35]. This can occur during production, storage, or dispensing, and may involve the use of chemicals or biological agents. Biological contamination, in particular, can be a serious issue, as it refers to the presence of impurities in medicinal herbs and their preparations. These impurities may include living microbes such as bacteria, yeasts, molds, viruses, protozoa, insects (including their eggs and larvae), and other organisms [35]. The risk of microbial contamination is especially high in herbal medicines sold in unregulated markets or on the streets, which can pose a significant threat to the health of patients [35].

Furthermore, aside from microbial contamination, heavy metals have been identified as a significant contributor to the

toxicity of herbal products, which can lead to life-threatening situations [36]. Numerous plants contain toxic bioactive compounds that can disrupt normal physiological activities by binding with cellular macromolecules like DNA and proteins, resulting in cellular toxicity and mutation [37]. The issue of herbal toxicity can arise from various production factors, including the incorrect use of plants, species or plant parts, the quality of herbal products, high levels of impurities, contaminants, and adulterants [36]. Despite the potential risks associated with African traditional medicine, there has been a significant increase in the number of indigenous black South Africans interested in herbal products [36]. This is evidenced by the rapid growth in the commercialisation of African traditional medicine throughout the country. As a result, it is important to view this trend as a new opportunity for entrepreneurship and business for many unemployed and impoverished South Africans. However, it is crucial to manage and eliminate the adverse effects on public health that may arise from the use of these herbal products. Therefore, it is imperative to monitor their production, educate the public about their toxicity, and provide adequate advice on their consumption and use.

Given the current context, this paper aims to offer practical recommendations on how African traditional medicine can be effectively promoted to create entrepreneurial opportunities for the economically disadvantaged population of South Africa, while ensuring the safety and well-being of consumers.

8. Recommendations

The following recommendations are presented in this paper:

8.1. Providing Education and Training

The paper proposes that governments, NGOs, and institutions provide education and training programs to individuals interested in starting and managing their own traditional medicine businesses. These programs would equip individuals with the necessary knowledge and skills to pursue their passions and contribute to the growth of the traditional medicine industry. By offering such resources, ordinary individuals from low-income backgrounds can be empowered to achieve their goals and make a meaningful impact in their communities. To achieve this, it is recommended that these education and training programs cover a range of topics, including the history and cultural significance of traditional medicine, the identification and preparation of medicinal plants, and the business skills necessary to successfully manage a traditional medicine enterprise. Additionally, these programs should be accessible and affordable to individuals from all backgrounds, regardless of their socioeconomic status.

8.2. Creating a Legal Framework

The paper proposes the establishment of a legal framework

for traditional medicine and emphasizes the importance of registering and licensing traditional medicine practitioners. This approach can foster entrepreneurship and encourage more individuals to pursue a career in traditional medicine. Registering and licensing traditional medicine practitioners provides a clear path for individuals to enter the field, which can promote entrepreneurship. Additionally, this can create a more diverse and competitive market for traditional medicine, ultimately benefiting patients and practitioners alike.

8.3. Providing Access to Financial Resources

The paper proposes that entrepreneurs in the traditional medicine industry should be granted access to financial resources. Microfinance loans or grants are suggested as potential initiatives that can provide funding for individuals to establish their own traditional medicine businesses. This can be especially advantageous for those who may not have access to conventional forms of financing. By providing financial support, the growth and development of the traditional medicine industry can be promoted, which can have a positive impact on both the economy and the health and well-being of individuals. 8.7.4. Support from the Government.

Governments ought to offer financial support, mentorship, and advisory services to traditional medicine practitioners. Such assistance would enable these practitioners to navigate the intricacies of establishing and managing a business successfully. By doing so, the government can help preserve and promote traditional medicine practices, which have been passed down through generations and are an essential part of many indigenous people's cultures. Additionally, this support can help traditional medicine practitioners gain access to a broader market, which can lead to increased revenue and growth opportunities.

8.4. Collaboration Between Traditional Medicine Practitioners and Other Healthcare Professionals

The paper proposes that traditional medicine practitioners collaborate with other healthcare professionals to promote traditional medicine as a complementary form of healthcare. This collaboration can establish trust and legitimacy for traditional medicine, which can encourage more individuals to become entrepreneurs in this field. To achieve this, it is essential to establish a framework for collaboration between traditional medicine practitioners and other healthcare professionals. This framework should include guidelines for communication, information sharing, and mutual respect.

8.5. Promotion of Traditional Medicine and Its Benefits

It is recommended that the government and related institutions promote the benefits of traditional medicine to raise public awareness and demand for traditional medicine products and services. This can inspire more individuals to establish traditional medicine businesses, thereby contributing to the growth of the industry.

8.6. Networking Opportunities

The paper proposes a strategy to foster entrepreneurship in traditional medicine by connecting practitioners with potential clients and other entrepreneurs. This can be accomplished through various means, such as business networking events, online forums, and mentorship programs. These activities not only facilitate the exchange of information on traditional medicine and its benefits but also raise awareness and encourage more individuals to explore entrepreneurship in this field. By leveraging these resources, traditional medicine practitioners can expand their reach and build a thriving business while promoting the use of natural remedies and holistic healing practices.

9. Conclusion

For centuries, African traditional medicine has been utilised in South Africa and other parts of the world to cure diseases and promote overall well-being (Adamolekun, Akpor, Olorunfemi & Akpor, 2023). This approach to medicine is holistic, taking into account the physical, emotional, and spiritual aspects of an individual's health. Recently, there has been a growing interest in African traditional medicine due to its transformative potential (Süntar, 2020). African traditional medicine is viewed as a way to promote entrepreneurship, sustainable healthcare, and reduce healthcare costs, particularly among the impoverished black majority in South Africa [15]. It is also seen as a way to preserve the cultural heritage of South Africa and promote traditional knowledge systems.

The transformative potential of African traditional medicine lies in its ability to provide a holistic and culturally sensitive approach to healthcare (Kleinman, 2022). It recognizes the interconnectedness of different aspects of health and the need for a community-based approach to healthcare (Kleinman, 2022). Additionally, it is based on the use of natural remedies that are often readily available and affordable, promoting economic viability, sustainability, and reducing dependence on expensive pharmaceuticals. African traditional medicine has the potential to promote the health and economic well-being of individuals, communities, and the nation as a whole. However, increased investment in research and education is necessary to promote the integration of traditional and modern medicine and ensure the safety and effectiveness of traditional remedies.

References

- [1] Phiri, A. and Mukuku, D., 2020. Does unemployment aggravate suicide rates in South Africa? Some empirical evidence. *Review of Social Economy*, 78 (4), pp. 532-560.
- [2] Mongale, C. O., 2022. Social Discontent or Criminality? Navigating the Nexus Between Urban Riots and Criminal Activities in Gauteng and KwaZulu-Natal Provinces, South Africa (2021). *Frontiers in Sustainable Cities*, 4, p. 46.

- [3] Mbunge, E., 2020. Effects of COVID-19 in South African health system and society: An explanatory study. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 14 (6), pp. 1809-1814.
- [4] Khan, M. S. A. and Ahmad, I., 2019. Herbal medicine: current trends and future prospects. In *New look to phytomedicine* (pp. 3-13). Academic Press.
- [5] Caniglia, G., Luederitz, C., von Wirth, T., Fazey, I., Martin-López, B., Hondria, K., König, A., von Wehrden, H., Schöpke, N. A., Laubichler, M. D. and Lang, D. J., 2021. A pluralistic and integrated approach to action-oriented knowledge for sustainability. *Nature Sustainability*, 4 (2), pp. 93-100.
- [6] Datzberger, S. and Parkes, J., 2021. The effects of COVID-19 on education in sub-Saharan Africa. *Austrian development policy: Covid-19 and the global south—Perspectives and challenges*, pp. 45-56.
- [7] Flaming, D., Orlando, A., Burns, P. and Pickens, S., 2021. Locked out: Unemployment and homelessness in the COVID Economy. Available at SSRN 3765109.
- [8] Statistics South Africa (Stats, SA)., 2022. Available at <https://www.statssa.gov.za/?m=2022> (Accessed 04 April 2022).
- [9] Hoveka, L. N., van der Bank, M., Bezeng, B. S. and Davies, T. J., 2020. Identifying biodiversity knowledge gaps for conserving South Africa's endemic flora. *Biodiversity and Conservation*, 29, pp. 2803-2819.
- [10] Francis, D. and Webster, E., 2019. Poverty and inequality in South Africa: Critical reflections. *Development Southern Africa*, 36 (6), pp. 788-802.
- [11] Leach, M., MacGregor, H., Scoones, I. and Wilkinson, A., 2021. Post-pandemic transformations: How and why COVID-19 requires us to rethink development. *World Development*, 138, p. 105233.
- [12] Snyder, H., 2019. Literature review as a research methodology: An overview and guidelines. *Journal of business research*, 104, pp. 333-339.
- [13] Hlalele, D. J., 2019. Indigenous knowledge systems and sustainable learning in rural South Africa. *Australian and international journal of rural education*, 29 (1), pp. 88-100.
- [14] Dompere, K. K., 2022. The Theory of Knowing and the Theory of Knowledge: Comparative Analytics. In *The Theory of Problem-Solution Dualities and Polarities: Information-Decision-Choice Foundations of the Unity of Knowing and the Unity of Science* (pp. 1-20). Cham: Springer International Publishing.
- [15] Ozioma, E. O. J. and Chinwe, O. A. N., 2019. Herbal medicines in African traditional medicine. *Herbal medicine*, 10, pp. 191-214.
- [16] Mothibe, M. E. and Sibanda, M., 2019. African traditional medicine: South African perspective. *Traditional and Complementary Medicine*, pp. 1-27.
- [17] Ansari, S., 2021. Overview of traditional systems of medicine in different continents. In *Preparation of Phytopharmaceuticals for the Management of Disorders* (pp. 431-473). Academic Press.
- [18] Adibe, C., 2022. Reimagining Africa: A Continent in Transition and Its Implications for World Order. In *Oxford Research Encyclopedia of International Studies*.
- [19] Balogun, F. O. and Ashafa, A. O. T., 2019. A review of plants used in South African traditional medicine for the management and treatment of hypertension. *Planta medica*, 85 (04), pp. 312-334.
- [20] Bhuda, M. T. and Marumo, P., 2020. African traditional medicine and healing in South Africa: Challenges and prospects before and during Covid 19. *Ife Centre for Psychological Studies/Services*, 18, p. 16710.
- [21] Feyissa, M., Gedif Fenta, T., Asres, K. and Gebremariam, T., 2022. Prevalence, Perception and Predictors of Concomitant Herbal Medicine Use among HIV/AIDS and Tuberculosis Patients in Metekel Zone, Northwest Ethiopia: A Cross-Sectional Study. *Evidence-Based Complementary and Alternative Medicine*, 2022.
- [22] Shewamene, Z., Dune, T. and Smith, C. A., 2020. Use of traditional and complementary medicine for maternal health and wellbeing by African migrant women in Australia: a mixed method study. *BMC complementary medicine and therapies*, 20 (1), pp. 1-12.
- [23] Sadiku, M. N., Sadiku, J. O. and Musa, S. M., 2022. *Traditional Medicines Around the World*. universe.
- [24] Gallego, M., 2020. 'Cultures of healing': spirituality, interdependence and resistance in the African diaspora. *African and Black Diaspora: An International Journal*, 13 (1), pp. 68-79.
- [25] Pemunta, N. V. and Tabenyang, T. C. J., 2020. The Debate on the Integration of Traditional Medicine into the Mainstream Healthcare Delivery System in South Africa. In *Biomedical Hegemony and Democracy in South Africa* (pp. 121-158). Brill.
- [26] Signé, L., 2023. *Africa's Fourth Industrial Revolution*. Cambridge University Press.
- [27] Odora Hoppers, C., 2021. Research on Indigenous knowledge systems: the search for cognitive justice. *International Journal of Lifelong Education*, 40 (4), pp. 310-327.
- [28] Medase, K. and Barasa, L., 2019. Absorptive capacity, marketing capabilities, and innovation commercialisation in Nigeria. *European Journal of Innovation Management*.
- [29] Nieman, W. A., Leslie, A. J. and Wilkinson, A., 2019. Traditional medicinal animal use by Xhosa and Sotho communities in the Western Cape Province, South Africa. *Journal of ethnobiology and ethnomedicine*, 15, pp. 1-14.
- [30] Tangkiatcumjai, M., Boardman, H. and Walker, D. M., 2020. Potential factors that influence usage of complementary and alternative medicine worldwide: a systematic review. *BMC complementary medicine and therapies*, 20 (1), pp. 1-15.
- [31] Kasilo, O. M. J., Wambebe, C., Nikiema, J. B. and Nabyonga-Orem, J., 2019. Towards universal health coverage: advancing the development and use of traditional medicines in Africa. *BMJ global health*, 4 (Suppl 9), p. e001517.
- [32] Patnala, S. and Kanfer, I., 2021. Quality control, extraction methods, and standardization: Interface between traditional use and scientific investigation. In *Herbal Medicine in Andrology* (pp. 175-187). Academic Press.

- [33] Ardoin, R. and Prinyawiwatkul, W., 2021. Consumer perceptions of insect consumption: A review of western research since 2015. *International Journal of Food Science & Technology*, 56 (10), pp. 4942-4958.
- [34] van Wyk, A. S. and Prinsloo, G., 2020. Health, safety and quality concerns of plant-based traditional medicines and herbal remedies. *South African Journal of Botany*, 133, pp. 54-62.
- [35] Okaiyeto, K. and Oguntibeju, O. O., 2021. African herbal medicines: Adverse effects and cytotoxic potentials with different therapeutic applications. *International Journal of Environmental Research and Public Health*, 18 (11), p. 5988.
- [36] Genchi, G., Sinicropi, M. S., Lauria, G., Carocci, A. and Catalano, A., 2020. The effects of cadmium toxicity. *International journal of environmental research and public health*, 17 (11), p. 3782.
- [37] Adamolekun, M. M., Akpor, O. A., Olorunfemi, O. and Akpor, O. B., 2023. Traditional medicine use during pregnancy and labor in African context: A scoping review. *Journal of Integrative Nursing*, 5 (1), p. 66.
- [38] Süntar, I., 2020. Importance of ethnopharmacological studies in drug discovery: role of medicinal plants. *Phytochemistry Reviews*, 19 (5), pp. 1199-1209.
- [39] Kleinman, A., 2022. Indigenous systems of healing: Questions for professional, popular, and folk care. In *Alternative Medicines* (pp. 138-164). Routledge.