





# Government support for indigenous knowledge for sustainability in Southern Africa

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**Dates:**

Received: 01 July 2024  
Accepted: 12 Sept. 2024  
Published: 23 June 2025

**How to cite this article:**

Ncube, I., Chigwada, J., Ngulube, P. & Maluleka, J.R., 2025, 'Government support for indigenous knowledge for sustainability in Southern Africa', *South African Journal of Information Management* 27(1), a1901. <https://doi.org/10.4102/sajim.v27i1.1901>

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**Background:** Government support for the use of indigenous knowledge (IK) for sustainable livelihoods assists in the achievement of sustainable development goals (SDGs). The integration of IK into formal development frameworks has been hindered by institutional barriers or a lack of policy recognition.

**Objectives:** The study sought to assess how the governments of South Africa and Zimbabwe support the use of IK to sustain livelihoods.

**Method:** A qualitative case study approach was used. Data were gathered through interviews and document analysis. Interviews were conducted with government officials and two were chosen from each department or ministry using purposive sampling, and a total of 10 participants were part of the study. The national development plans (NDPs) and indigenous knowledge systems (IKS) policies were analysed to gather information on government support for the use of IK for sustainable livelihoods. Thematic analysis and content analysis were the approaches to data analysis.

**Results:** The findings show that the South African government had implemented various mechanisms to support the use of IK for sustainable livelihoods while little efforts were made in Zimbabwe.

**Conclusion:** The South African government formulated policies that support the use of IK to sustain livelihoods, while IK policy formulation and implementation in Zimbabwe was not evident.

**Contribution:** The research adds to the conversation about the importance of acknowledging IK and promoting its incorporation into development interventions and policy frameworks that can help governments leverage the potential of indigenous communities as keepers of priceless knowledge and guardians of sustainable livelihoods.

**Keywords:** indigenous knowledge management; IKS policy; sustainable development; reliable sources of livelihoods; traditional knowledge.

## Introduction

In the dynamic landscape of sustainable development, the use of indigenous knowledge (IK) fosters resilient livelihoods, especially in regions rich with cultural diversity (Dasgupta, Dhyani & Basu 2023; Kohsaka & Rogel 2021). Indigenous knowledge systems (IKS) refer to the unique cultures, languages, values, histories, governance and legal systems of indigenous people (Gómez-Baggethun 2021). These knowledge systems were developed by a community as opposed to scientific knowledge, and they are usually passed from one generation to the other through oral means. Indigenous knowledge offers a unique lens through which communities can solve environmental challenges, preserve biodiversity and manage natural resources (Grey, Masunungure & Manyani 2020; Lottering, Mafongoya & Lottering 2021; Lwoga, Ngulube & Stilwell 2020; Turner, Cuerruer & Joseph 2020; Zongho et al. 2023). Sustainable livelihood is a development concept that comprises people, their capabilities and their means of living, including food, income and assets (Natarajan et al. 2022). This study aims to explore the pivotal role of government support in facilitating the utilisation of indigenous knowledge for sustainable livelihoods in South Africa and Zimbabwe.

Lack of government support for the use of IK for sustainable livelihoods presents a significant challenge to the achievement of sustainable development goals (SDGs) (McGregor, Whitaker & Sriharan 2020). Addressing this problem requires a multi-faceted approach, including increased awareness, legal protection and financial investment in research and development. Effective models for the ethical incorporation of IK into governance have remained elusive despite decades

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of attempts (McGregor 2021). However, some achievements have been made in the health sector where the *Traditional Health Practitioners Act* (Republic of South Africa 2008) was enacted in South Africa to regulate and formalise the practice of traditional medicine, which heavily relies on indigenous knowledge. The *Act* legitimised the role of traditional healers and has increased the use of indigenous knowledge in health care and promoted its integration into the formal health care system (Street 2016).

The predominant research paradigm of 'incorporating' IK into governance involves its extraction by external interests who seek to include specific aspects of this knowledge in their activities. McGregor (2021) posited that this approach continues to fail because IK exists as an integral component of IKS. It is often hollow and potentially damaging to consider any knowledge without understanding the societal systems and people that produced it. IK is not just knowledge but also a way of life as stated by Latulippe and Klenk (2020) because it is inseparable from the people who hold and live this knowledge. In the context of collaborative approaches to governance, scholars and practitioners have recognised that Western knowledge is not sufficient and that ideas, practices and knowledge from indigenous peoples are essential (Fernández-Llamazares et al. 2021; Zidny, Sjöström & Eilks 2020). Collaborative governance practice tends to make assumptions about how IKS can be incorporated into decision-making without satisfactorily reflecting on the contrasting perspectives of indigenous peoples themselves. This study sought to assess the support of the governments of South Africa and Zimbabwe on the use of IK to sustain livelihoods. The two communities that were studied have a Nguni origin but are located under different political jurisdictions. Zimbabwe faces challenges in integrating and supporting IK because of economic inequality, social marginalisation and political instability (World Bank 2024). However, these countries have significant opportunities to leverage technology, education and community-based approaches to preserve and promote IK (Government of Zimbabwe 2015; Republic of South Africa 2008).

## Problem statement

The preservation and use of IK have become increasingly important for sustainable livelihoods in many countries (Arora et al. 2023; Mekonnen et al. 2021; Mugambiwa 2021; Negi et al. 2023; Sithole 2020; Wang et al. 2021). While IK has been recognised as an asset, its integration into formal development frameworks has been hindered by institutional barriers or a lack of policy recognition as noted by Mahendra (2021). South Africa and Zimbabwe are rich in IKS, which have significant potential for enhancing sustainable development. However, despite the recognition of the value of IK, there is a lack of sufficient government support in some of the IK initiatives (Grey et al. 2020; Ubisi, Kolanisi & Jiri 2020; Zongho et al. 2023). The absence of a comprehensive legal framework to protect IK further exacerbates the problem (Yeleliere, Antwi-Agyei & Nyamekye 2023). This lack of legal protection makes IK vulnerable to exploitation

and misappropriation, undermining the incentive for communities to share their knowledge (Mugambiwa, Rankoana & Tirivangasi 2023). Inadequate funding for research and development of IK prevents its integration into mainstream policies and programs, limiting its impact on sustainable livelihoods. Many indigenous practices and techniques remain undocumented or inaccessible to wider audiences, hindering their potential contribution to sustainable livelihoods (Marsh 2023; Selemani 2020). The absence of formal recognition and inclusion of IK in national policies and programmes further marginalises its role in sustainable livelihoods, undermining its potential contribution to economic development and social well-being (Grey et al. 2020). This research contributes to the discourse on indigenous knowledge and sustainable development by shedding light on the crucial role of government policies and actions in connecting indigenous knowledge for the well-being of society and the preservation of cultural heritage.

## Objectives

This study sought to assess government policies that support the use of IK to sustain livelihoods in communities in South Africa and Zimbabwe through the following objectives:

- To assess policies that support the use of indigenous knowledge in sustaining livelihoods.
- To study the perception of government officials on the benefits of having policies that support the use of indigenous knowledge for sustaining livelihoods.
- To determine the challenges faced when developing and implementing policies that incorporate indigenous knowledge to sustain livelihoods.

## Policies that support the use of indigenous knowledge

There are international, regional and national policies that support the use of IK in sustaining livelihoods, especially aimed at recognising, preserving and promoting traditional knowledge systems. These policies on indigenous knowledge provide frameworks for the recognition, protection and promotion of indigenous knowledge in sustaining livelihoods (McGregor et al. 2020). The policies emphasise the importance of respecting indigenous peoples' rights, facilitating their participation in decision-making processes and promoting the integration of traditional knowledge into broader development agendas (Hill et al. 2020; Latulippe & Klenk 2020).

The United Nations Declaration on the Rights of Indigenous People (UNDRIP) (United Nations 2007) recognised the rights of indigenous peoples to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions. It called upon states to consult and cooperate with indigenous peoples to obtain their free, prior and informed consent regarding matters that affect indigenous communities. In addition, the Convention on Biological Diversity (CBD) (United Nations Environmental Programme 2011a), an international treaty, emphasised the importance of traditional knowledge in biodiversity

conservation and sustainable use. Furthermore, the Nagoya Protocol (United Nations Environmental Programme 2011b) was a supplement to the agreement with the CBD, and it specifically addressed access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation, including traditional knowledge associated with genetic resources. The International Labour Organisation (ILO) Convention No. 169 (ILO 2013) recognised the rights of indigenous and tribal people to maintain their cultural identity, customs and institutions. It also emphasised the importance of consulting and cooperating with indigenous peoples in matters that affect them and ensuring their participation in decision-making processes.

The International Fund for Agricultural Development (IFAD) Indigenous Peoples' Policy (International Fund for Agricultural Development 2022) recognised the importance of IK and practices in sustainable agriculture and rural development. It emphasised the need for culturally sensitive approaches that empower indigenous peoples to participate in and benefit from development projects. In addition, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) Convention for the Safeguarding of Intangible Cultural Heritage (UNESCO 2022) encouraged states to identify and document traditional knowledge systems, promote their transmission to future generations and ensure their viability in contemporary contexts. Furthermore, the African Union Policy Framework and Plan of Action on Traditional Medicine (2001–2010) was developed by the African Union (African Union 2001) to promote the integration of traditional medicine into national health systems while respecting indigenous communities' knowledge, practices and resources. It recognised the role of traditional healers and indigenous knowledge holders in health care delivery and called for collaboration between traditional and modern medicine systems.

### Zimbabwean policies

Zimbabwe has implemented several policies aimed at supporting the use of indigenous knowledge in sustaining livelihoods, although they are not stand-alone IKS policies. These policies demonstrate the recognition of the wealth of IK for the benefit of sustainable livelihoods, cultural preservation and national development. The Constitution of Zimbabwe (Government of Zimbabwe 2013) stipulated that the preservation of indigenous knowledge should be done, and the state must take measures to preserve, protect and promote IKSs, including knowledge of the medicinal and other properties of animal and plant life possessed by local communities and people (Nzomo & Raquo 2018). The National Culture Policy of Zimbabwe (2015) aimed to promote and preserve Zimbabwean cultural heritage, including IKSs (Government of Zimbabwe 2015). It recognised the significance of IK in shaping cultural identities, fostering social cohesion and promoting sustainable development. The *Traditional Medical Practitioners Act* (Chapter 27:14) regulated the practice of traditional medicine in Zimbabwe and recognised the role

of traditional healers in providing health care services (Government of Zimbabwe 2002). It established the Traditional Medical Practitioners Council which oversees the registration and training of traditional medical practitioners and promotes the integration of traditional medicine into the national health care system.

### South African policies

The National Policy on IKS (2004) provided a framework for the recognition, promotion and protection of indigenous knowledge systems in South Africa (Republic of South Africa 2004). It emphasised the importance of integrating indigenous knowledge into various sectors including agriculture, health, education and environmental management. In addition, the *Protection, Promotion, Development, and Management of Indigenous Knowledge Act, 2019* aimed to provide legal recognition and protection for indigenous knowledge holders and their intellectual property rights (Republic of South Africa 2019). It also sought to regulate the access to and use of indigenous knowledge, ensuring that indigenous communities benefit from the commercialisation of their knowledge and resources. Furthermore, the National Development Plan (NDP) Vision 2030 recognised the role of indigenous knowledge in promoting social cohesion, economic development and environmental sustainability (Republic of South Africa 2012). It called for the mainstreaming of indigenous knowledge into government policies and programmes to address poverty, inequality and unemployment.

The National Curriculum and Assessment Policy Statement (CAPS) stated that South Africa's education curriculum incorporates indigenous knowledge into teaching and learning processes across various subjects (Department of Basic Education 2021). It emphasised the importance of cultural diversity, local contexts and indigenous perspectives in education. The Department of Science and Innovation (DSI) supported research and innovation initiatives that leverage indigenous knowledge for socio-economic development and provided funding, capacity building and networking opportunities for researchers and indigenous knowledge holders (DSI 2022).

### Benefits of having indigenous knowledge policies

Having policies that support the use of IK for sustaining livelihoods yields many benefits across various domains (Cindi 2021; Magni 2017; Sangha et al. 2019). As a result, policies that support the use of indigenous knowledge for sustaining livelihoods not only benefit indigenous communities but also contribute to broader societal goals related to cultural diversity, environmental sustainability and inclusive development. By recognising the value of IK and fostering its integration into policy frameworks and development interventions, governments can harness the potential of indigenous communities as custodians of invaluable knowledge and stewards of sustainable livelihoods (Republic of South Africa 2012; Zinhiva, Chitakira & Mukwada 2021).



The preservation of cultural heritage is enhanced by having IK policies that support the use of IK to sustain livelihoods because indigenous knowledge is deeply rooted in cultural traditions and practices passed down through generations as stated by Masenya (2024), Mdhluli et al. (2021), and Oyelude (2023). Policies that support the use of IK help preserve and promote cultural heritage, contributing to the continuity of indigenous entities, languages and customs. By incorporating IK into sustainable livelihood practices, communities can enhance their resilience to climate change, natural disasters and other environmental stresses (Ford et al. 2020; Leal Filho et al. 2021; Schramm et al. 2020; Sithole, Mawere & Mubaya 2023; Ubisi et al. 2020) because IKSs are closely intertwined with local ecosystems and biodiversity. Policies that support the use of IK promote sustainable land management, agroecological practices and traditional resource management techniques, thereby contributing to biodiversity conservation and ecosystem resilience. Therefore, there would be improved livelihoods and food security among indigenous communities if there were policies that support indigenous knowledge systems. By integrating IK into agricultural and food production systems, communities can improve productivity, enhance food security and diversify livelihood opportunities (Chanza & Musakwa 2022; Ekobi, Mboh & Tanga 2023; Masango & Mbarika 2022; Rankoana 2022).

Indigenous knowledge also includes traditional medicine systems and healing practices that are culturally relevant and accessible to local communities (Asamoah et al. 2023; Eshete & Molla 2021). Policies that support the use of IK in health care promote holistic approaches to health and well-being, complementing modern health care systems and addressing the health care needs of marginalised populations. In the process, there would be empowerment and social cohesion through recognising and valuing IK and empowering indigenous communities to assert their rights, participate in decision-making processes and reclaim ownership over their cultural heritage (Chapman & Schott 2020; Shrestha et al. 2024).

### **Challenges faced when developing policies that incorporate indigenous knowledge**

Developing and implementing policies that incorporate IK to sustain livelihoods can be faced with various challenges (Lauter 2023; Njoh et al. 2022; Risiro 2019; Yeleliere et al. 2023). Indigenous communities face social, economic and political marginalisation, exacerbating power imbalances in policymaking processes as pointed out by Buric (2023). Ensuring meaningful participation and representation of indigenous voices in decision-making can be challenging in contexts where their rights are not fully recognised or respected (Boadu, Ile & Oduro 2020). Policies that incorporate IK must be developed and implemented with sensitivity to cultural protocols, beliefs and practices as indicated by Hayward et al. (2022) and Jessen et al. (2022). Failure to respect cultural values and traditions can lead to resistance, mistrust and alienation within indigenous communities.

In some instances, IK systems are often marginalised or dismissed as inferior to Western scientific knowledge (Koopman 2018; Paul 2023). It might be challenging to overcome this bias and gain recognition for the validity and relevance of indigenous knowledge within policy frameworks. In addition, IK is often held collectively within communities, making it difficult to establish clear ownership and intellectual property rights (Chigwada & Ngulube 2024; Cox 2023; Zondi 2021). As a result, developing mechanisms to protect indigenous knowledge from misappropriation while ensuring equitable benefit sharing can be complex. Furthermore, IK is primarily transmitted orally and experientially, making it vulnerable to loss or erosion over time as stated by Madeja (2023). Therefore, documenting and codifying IK in a culturally appropriate manner requires significant time, resources and community involvement.

Indigenous knowledge systems may conflict with dominant modern development paradigms and economic interests (Ray 2023), and balancing the preservation of IK with the pressures of economic development and globalisation requires careful negotiation and compromise. Additionally, developing policies that incorporate IK requires adequate funding, resources and support (Antonelli 2023; Mills et al. 2023), and government agencies and institutions may lack the expertise, resources and infrastructure needed to effectively engage with indigenous communities and integrate their knowledge into policy processes (Hunt 2013). Limited budget allocations and competing priorities may hinder efforts to effectively integrate IK into policy frameworks and development initiatives. Building institutional capacity and fostering collaboration between government and indigenous stakeholders are essential.

### **Research methods and design**

This study utilised the interpretivism paradigm to investigate the role of government policies in supporting the use of IK for sustainable livelihoods in South Africa and Zimbabwe using interviews and document analysis. A qualitative multiple-case study design was chosen to address the research questions and achieve the set objectives to allow for a deep exploration of the specific contexts in which the policies are implemented and understand how policies interact with the local context because IK is context-dependent, shaped by local culture, environments and histories (Gómez-Baggethun 2021). The target population consisted of policy formulators and implementers from government departments that are responsible for indigenous knowledge use, management and preservation. Interviews were held in South Africa with government officials of the National Planning Commission (NPC), which is responsible for developing the NDP; the Department of Higher Education, Science, and Innovation, whose mandate is to develop the IKS policy; and National Indigenous Knowledge Systems Office (NIKSO), which is responsible for overseeing the implementation of the IKS policy. In Zimbabwe, government officials included the Ministry of State for Presidential Affairs and Monitoring

Implementation of Government Programmes and the Ministry of Higher and Tertiary Education, Innovation, Science and Technology Development (MHESTD), which are responsible for developing policies and programmes for human capital development for the transformational needs of the country. Purposive sampling was used to select two government officials from each department that formulates policies that support IK for sustainable livelihoods.

Semi-structured interviews were conducted with four officials from Zimbabwe and six officials from South Africa, and document analysis was used to collect data from policy documents on IK policy formulation in South Africa and Zimbabwe. The data were collected from October 2023 to February 2024. The policies that document the importance and use of indigenous knowledge were looked at in line with how they can be utilised to sustain the livelihoods of people living in South Africa and Zimbabwe. The policies that were analysed in Zimbabwe were the *Constitution of Zimbabwe*, *National Development Strategy 1*, *National Culture Policy of Zimbabwe* and *The Traditional Medical Practitioners Act*, while the IKS Policy, *Protection Promotion Development and Management of Indigenous Knowledge Act*, NDP, *The National Curriculum and Assessment Policy Statement* were from South Africa and the United Nations SDGs Policy document. Content analysis and thematic analysis were used to reduce the data for interpretation (Braun & Clarke 2022; Naeem et al. 2023). The data were analysed manually and presented according to the objectives. The first step was the transcription of the data, and then, the authors familiarised themselves with the data to discern initial themes and important sections. The data were examined to identify terms that were designated as keywords. Short phrases were then assigned to segments of the data that captured the themes that were created and classified guided by the objectives, leading to the presentation of the findings. Blocks of direct quotations that answered the research questions were presented as they were presented by the respondents to emphasise the objective being discussed.

## Ethical considerations

All applications for full ethical approval were made to the University of South Africa's Department of Information Science Ethics Review Committee, and ethics consent was received on 02 March 2020. The ethics approval number is 2020-DIS-0006. Written informed consent was obtained from all individual participants involved in the study. For the sake of anonymity, the participants were informed that only the number will be provided in journal articles to avoid positive identification.

## Results and discussion

It was noted that the government plays an important role in the development of policies and programmes that address social and economic justice, expand opportunities, improve the quality of life for all and improve social conditions for the indigenous communities of the country.

## Policies that support the use of indigenous knowledge

In South Africa, the DSI seeks to boost socio-economic development through research and innovation. It spearheaded the development of the IKS policy (Republic of South Africa 2004) and formed NIKSO which functions as the coordinating office for IK systems-related issues alongside the DSI. The NPC is a government wing that was set to develop a long-term vision and strategic plan for South Africa. It was responsible for the formulation and implementation of the South African NDP. Participants from the NPC indicated that the NDP supports the use of indigenous knowledge to sustain livelihoods in communities.

Participant 1 from NPC indicated that:

'By drawing on the energies of its people and promoting leadership and partnerships throughout society, the NDP seeks to involve people in the achievement of sustainable livelihoods, and this includes the knowledge they possess.'

It was added that 'the NDP encourages the learning of indigenous languages in schools and workplaces'. Furthermore, it was noted by Participant 1 that:

'The NPC put in place the funding instruments of studies at the tertiary level through various research institutions such as the National Research Foundation (NRF) and the Human Sciences Research Council (HSRC) among others. This is aimed at encouraging academics to conduct IK-related studies to assist the government in gathering data related to IK to inform policy.'

Participant 2 from NPC stated that:

'Building partnerships with communities ensure knowledge sharing and this will lead to further recognition of the contributions IK can make towards the attainment of sustainable livelihoods, the NDP goals, and the United Nations Sustainable Development Goals.'

In addition, Participant 2 pointed out that:

'Learning IK is encouraged because it ensures that culture is perpetuated and that knowledge is shared within various cultures.'

Moreover, the participant noted that 'The NPC supports the various efforts of other government departments to improve the use of IK for sustainable livelihoods'. This shows that South Africa has put in place some policy frameworks that support the use of indigenous knowledge in sustaining livelihoods as stated by McGregor et al. (2020).

However, an analysis of the NDP showed that although it addresses poverty alleviation, food security, health welfare, education, environmental and natural resource management, social cohesion and governance, it does not elaborate on how IK can be used to achieve these, in addition to focusing on learning indigenous languages. While it also states that it seeks to achieve its goals by drawing from the energies of the people, one might assume that this includes utilising the knowledge possessed by the people.

In Zimbabwe, various ministries deal with indigenous knowledge. The role of the Ministry of State for Presidential Affairs and Monitoring Implementation of Government Programmes is to supervise the implementation of government policies, projects and programmes in Zimbabwe. The MHTESTD seeks to provide a dynamic system for human capital development to sustain a science and technology-led socio-economic transformation. It was noted that there was no IKS policy in Zimbabwe, and little efforts have been made to support the use of IK for sustainable development. The Ministry of State that is responsible for policy implementation pointed out that they:

‘[H]ad been majorly involved with formulating policies that were directed at ensuring the economic turnaround of the country but had not turned a blind eye to formulating the IKS policy.’ (Participant 1)

Participant 2 indicated that the ministry:

‘had discussions with various stakeholders including academics to formulate the IKS policy but due to lack of financial resources and other pressing issues, the process was put on hold.’

The MHTESTD also ‘had engaged with academics and other stakeholders to discuss how IK can be adopted into mainstream education but not much had yielded from the discussions’. This was also noted by Buric (2023) who pointed out that economic challenges might hamper the development and implementation of policies that support indigenous knowledge use in sustainable development.

The NDP in Zimbabwe seeks to achieve an empowered and prosperous upper middle-income society by 2030. This was set to be achieved by setting medium-term strategic goals which were targeted at achieving the vision 2030. The National Development Strategy 1 (NDS1) 2021–2025 was the first 5-year medium-term plan aimed at fulfilling the country’s vision, while simultaneously addressing the global aspirations of the SDGs and the Africa Agenda 2063. However, it was noted from the findings that IK was not incorporated into the NDP in Zimbabwe. Participant 1 from the Ministry of State stated that:

‘[A]t this juncture, IK has not been incorporated into the NDP as there is still a long way to go in terms of recognising the value of IK use in Zimbabwe.’

Participant 2 said, ‘The NDP has not addressed IK in any way. If there are no lower-level efforts, incorporating IK into the NDP will be an impossible mission’. From the MHTESTD, Participant 1 indicated that:

‘[T]he Zimbabwe NDP does not incorporate any form of IK. There is a need to first realise that there is IK in the country that needs to be documented and a policy to support the use of such knowledge be formulated, then we can go no to draft our NDP around it.’

Participant 2 pointed out that:

‘There have been no efforts to incorporate IK into the NDP that I am aware of.’

## Benefits of policies that support the use of indigenous knowledge

It was noted that the IKS policy in South Africa had been supporting the use of IK to sustain livelihoods, and the government had shown its commitment to the recognition, promotion, development and affirmation of IKS. This had shown the indigenous communities the value of the knowledge they possess and had put the IK held in South African communities on the map. It was stated that the IKS policy seeks to assist knowledge holders in ensuring that their knowledge is recorded and protected leading to the formation of IK-based businesses that provide economic gains and employment.

The participants were asked how incorporating IK into policies helps to achieve sustainable livelihoods as a way of addressing the notion of people-centred policies and their effectiveness. Participant 1 from the NPC posited that:

‘IK can be used as a tool for community-centered development; hence, the need to protect it and ensure that it is documented. Such acknowledgement from the government will encourage sharing of this knowledge and engagement from various stakeholders such as academics, community development groups, and many others.’

Participant 2 from NPC indicated that:

‘The publication of the IKS Policy represents an important achievement in terms of engaging IKS in the drive to eradicate poverty, improve food security, provide all forms of education, manage environmental and natural resources, provide all forms of health resources, improve social cohesion, and governance systems, among others. Although many intervention projects are involved in that noble cause, the IKS policy provides a basis upon which IK can be used to make more appropriate and community-based interventions.’

This was supported by Sithole et al. (2023) and Ubisi et al. (2020) who pointed out the importance of indigenous knowledge when dealing with climate change.

The findings showed that indigenous people’s views were incorporated in the formulation of the IKS policy. Participant 1 from DSI stated:

‘The process of formulating this policy involved discussions with government departments, science councils, tertiary institutions, and [Non-governmental Organisations] NGOs and individual knowledge holders in communities. Community members were included in every step of this process so that their views could be highlighted.’

In terms of the benefits, Participant 1 also indicated that:

‘This policy reflects the commitment of the South African government to the recognition, promotion, development, protection, and affirmation of IK systems. This, therefore, validates that IK exists in communities and it is recognised by the government, thereby encouraging communities to be proud of their knowledge resource, use, and share it.’

Participant 2 from DSI pointed out that:

'The IK policy is the product of consultations, scholarly reflection, debates, and participation from various stakeholders. The participation of IK practitioners and holders was highly valued to ensure that their views are captured.'

Participant 2 further added that:

'The process of collecting this knowledge has revived some practices and knowledge that had been put on the back banner as people were striving to adopt western knowledge, and the affirmation by the government that this knowledge is legitimate has encouraged communities to use it to sustain their livelihoods.'

These sentiments were stated by Zinhiva et al. (2021) who indicated the importance of recognising the value of indigenous communities as custodians of indigenous knowledge.

Participant 1 from NIKSO said:

'The views of indigenous people were incorporated into this policy as consultations were held with individual IK holders in communities, and academic studies that addressed IK-related issues were also analysed to ensure that no issues were missed.'

Participant 1 added that:

'Having a policy has encouraged communities to claim their knowledge resources and protect them from the appropriation of this knowledge by other people, companies, or communities without acknowledging their contributions. During this period of pandemic, IK helped indigenous people protect themselves from this deadly virus using an old method of steaming with a mixture of indigenous herbs [*umhlomyane*].'

Participant 2 from NIKSO buttressed this by pointing out that:

'The IK policy did incorporate the views of indigenous people as consultations were held with community members and discussions with academia to share experiences and opinions. Whenever there was an issue that needed to be clarified, it would be returned to the community to seek clarification. So, it was a back-and-forth process to ensure that it is comprehensive.'

Participant 2 also noted that:

'Having an IK policy has enlightened indigenous communities in South Africa of the value that their knowledge possesses and how it can be used to solve modern-day problems and reverse the effects of modernity and globalisation. It has also enlightened them on how their IK can co-exist with Western knowledge without feeling inferior.'

These views put into perspective the need to involve the indigenous communities when formulating policies that concern them as a way of respecting their rights as stated by Hill et al. (2020) and Latulippe and Klenk (2020).

Taking note of the views of the participants, further analysis of the IKS policy showed that on paper, the policy addresses various contentions such as the inclusion of IK in the educational curriculum and innovation frameworks, recognition and

protection of IK as a form of knowledge, and policy and legislative regulatory frameworks of international and national imperatives. It also covers the various aspects of livelihoods such as education, health, food security, environmental, natural resources management, and governance, among others in which IK can make valuable contributions. However, on the ground, there is still a long way to go, as IK has not yet been included in the education curriculum, while traditional medicine has not been included in mainstream health care, nor has the use of indigenous natural and environmental management practices. There is also minimal activity in terms of informing IK holders in rural communities about the importance of IK and how this information needs to be documented to enable its incorporation.

In Zimbabwe, the participants indicated that it is beneficial to incorporate IK into the NDP to achieve sustainable livelihoods. Participant 1 from the Ministry of State stated that:

'IK has helped indigenous communities use locally available resources for food security, health, education, and environmental security, among others, and incorporation in the NDP will help the government formulate and implement informed policies and strategies to achieve sustainable livelihoods and the UNSDGs at the national level.'

Participant 2 indicated that:

'Incorporating IK into the NDP will bridge the gap between community practices and government policy. At this moment there is a discord between government policy and what is happening at the community level mainly because the government is adopting policies from other countries without assessing the situation on the ground.'

Participant 1 and Participant 2 from MHTSTD pointed out that:

'Incorporating IK into the NDP will help government to adopt people-centred policies and strategies that are effective, unlike the ones that we are witnessing currently, and they keep failing to address the issues that the country is facing.'

Participant 2 indicated that:

'The IK that communities possess has the power to inform policy and can help turn the current economic, environmental, cultural, and social challenges that the country is facing. As a country, we suffer from an identity crisis and we lack the confidence to be self-dependent, we look elsewhere for solutions instead of looking within, it is time we look internally for solutions that are sustainable and are aligned with our environment.'

This shows that although the participants appreciate the use of indigenous knowledge to sustain livelihoods, there were no policies to support that.

### Challenges faced when developing policies that incorporate indigenous knowledge

Developing a policy like other processes comes with challenges, and the findings indicated that various challenges were faced in the formulation and implementation of the IKS policy. Participant 1 from DSI pointed out that:



'Bringing together various departments presented challenges as other departments were more focused on their departmental mandate than the national mandate for formulating this policy, and this presented some contentions.'

Participant 2 stated that:

'Getting the knowledge holders to open up and share their knowledge was one of the challenges faced in developing this policy, and it is still a work in progress as the department has engaged academics and research councils to ensure the collecting of this knowledge so that it can be documented and since this knowledge is not standardised, various efforts have to be made to collate and ensure that the instruments of this policy protect it.'

Participant 1 from NIKSO noted that:

'One of the major challenges faced in developing this policy is that we are playing catch up, hence this policy is a reactionary measure with some of the knowledge being lost and some distorted. Therefore, it was a challenge to ensure that the knowledge collected is not distorted and to ensure that the contexts in which this knowledge was created were also documented.'

Participant 2 from NIKSO added that:

'Funding was a major constraint faced during the development of this policy. This knowledge is vast and cannot be collected in a day; therefore, there was a need for financial resources that ensured that all this knowledge was captured over a period.'

These challenges were also stated by Antonelli (2023) and Mills et al. (2023) who talked about the need for adequate resources including financial as well as the necessary support to make the project a success.

Participants were asked for the reasons for the lack of an IKS policy in Zimbabwe. Participant 1 from the Ministry of State pointed out that:

'Colonisation has dealt us a major blow as a country because it has taught us to conform to Western standards, and as a result, we have had an identity crisis and lost our pride as a nation by seeking the approval of the west. This has also led to us losing confidence in our capabilities and reliance on provisions from other countries while overlooking the power of the knowledge we possess.'

Participant 1 added that:

'[F]inancial resources are needed to engage the indigenous communities and understand the knowledge available as well as the environment in which the knowledge was created. The financial strain being faced by the country had delayed the process.'

Participant 2 indicated that:

'The lack of funding as the country has been facing an economic crisis for decades now. I would say that it is a lack of prioritisation on the part of the government and the various stakeholders involved. Everyone is casting responsibility on the next person to take charge of the process.'

This buttresses the need for resources and willingness to engage with the indigenous communities in developing IK policies as pointed out by Millis et al. (2023).

Participant 1 from MHTESTD said:

'Prioritisation to my understanding is the reason there is no IK policy in this country. The IK is being overlooked, while the government scrambles to find solutions for the economic crisis elsewhere.'

Participant 1 also noted that:

'Lack of coordinated efforts among stakeholders. If various stakeholders can gather data and present this to the responsible ministries or their parliamentary representatives, it would take off the burden of employing people to conduct the discussions. However, everyone is more focused on the financial incentives that come with the coordination of such activities.'

Participant 2 noted that:

'The reason for the lack of IK policy is mainly due to the lack of coordinated efforts to discuss the issues surrounding IK systems in the country. Centralisation has hindered this process. Orders and all decisions must come from the headquarters in the capital city in Harare; therefore, until then our hands are tied even if other stakeholders are prepared to collaborate, we must await decisions from there.'

This shows the importance of a coordinated effort among the stakeholders for developing the IK policy to ensure that no one is left behind.

The effects of not having an IKS policy were discussed in Zimbabwe. Participant 1 from the Ministry of State pointed out that:

'This knowledge will be lost as no documentation efforts or other support measures are being made, such as the inclusion of this knowledge in the curriculum, medical, cultural, environmental and social practices at the national level.'

Participant 2 said:

'The lack of policy means that this knowledge remains undocumented and unprotected, thereby making it accessible to outsiders to use as they please without acknowledging or sharing benefit with the holders of the knowledge.'

Participant 1 from MHTESTD pointed out that:

'Lack of policy is greatly affecting the use of this knowledge, especially at the national level, as there is no inventory to consult with regards to solving our problems as a country. This knowledge is valuable for providing specific solutions to our environment. We have been looking at various external solutions that have not worked for this country but have caused even more damage instead of looking into IK to provide the answers.'

Participant 2 said:

'Without affirmation from higher authorities that this knowledge exists, communities are not encouraged to continue using this knowledge, as they might view it as backward and want to adopt western knowledge as colonisation-taught people.'



Therefore, the dangers of losing indigenous knowledge cannot be dealt with because it is vulnerable to erosion over time as stated by Madeja (2023).

## Conclusion and recommendations

The findings showed that the South African government formulated policies that support the use of IK to sustain livelihoods, while IK policy formulation and implementation in Zimbabwe were not evident. In South Africa, there is a general appreciation for the use of IK for sustainable livelihoods. The government has taken a proactive approach in implementing policy frameworks that support using this knowledge. It has also shown financial support for the documentation and protection of this knowledge. While there are areas of contention such as the teaching of IK in schools and the inclusion of traditional medicine in mainstream health care, among others, these areas are not totally neglected, as some efforts have been made. In Zimbabwe, little efforts were made by the government to support the use of IK for sustainable livelihoods although indigenous people were sustaining their livelihoods using traditional medicine, indigenous food and indigenous methods to alleviate poverty and manage environmental and natural resources.

Various challenges were encountered in incorporating IK into policy frameworks, and this highlights the need for continued efforts to effectively implement and support these policies. Challenges such as limited resources, inadequate infrastructure and insufficient skills and capacity were encountered in Zimbabwe. Addressing these challenges requires a holistic and inclusive approach that involves meaningful engagement with indigenous communities, respect for cultural diversity and rights, capacity building and collaboration across sectors and stakeholders. It also necessitates a commitment to decolonising policy processes and promoting equitable partnerships that empower indigenous peoples as custodians of their knowledge and stewards of sustainable livelihoods.

Overall, policies that support the use of indigenous knowledge for sustaining livelihoods not only benefit indigenous communities but also contribute to broader societal goals related to cultural diversity, environmental sustainability and inclusive development. By recognising the value of indigenous knowledge and fostering its integration into policy frameworks and development interventions, governments can harness the potential of indigenous communities as custodians of invaluable knowledge and stewards of sustainable livelihoods. There is a need for continued efforts to document, preserve and protect IK, and operationalise the inclusion of IK into government systems such as education and health care, among others, as a matter of policy. This can be achieved by decolonising policies and academic structures to incorporate IK. In Zimbabwe, there is a need for the formulation of an IKS policy that protects IK from theft and loss through engaging with all the stakeholders.

## Acknowledgements

This article is an output from the writing retreat organised by the School of Interdisciplinary Research and Graduate Studies (08 November 2023 – 10 November 2023) in the College of Graduate Studies at the University of South Africa.

## Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

## Authors' contributions

I.N., J.C., P.N. and J.R.M. contributed to the design and implementation of the research, the analysis of the results and the writing of the article.

## Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

## Data availability

The data that support the findings of this study are available from the corresponding author, J.C., upon reasonable request.

## Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency or that of the publisher. The authors are responsible for this study's results, findings and content.

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