

## **Integrating Indigenous Knowledge Systems in Higher Education in Kenya: A Possibility, Impossibility or A Mirage?**

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### Abstract

This paper explores the potential of integrating Indigenous Knowledge Systems (IKS) into Kenya's higher education curriculum. Rooted in the historical legacies of colonialism, the current education system marginalises IKS, favoring Eurocentric curricula that often fail to resonate with the lived realities of Kenyan students. Drawing on various scholarly perspectives, the paper evaluates the significance of IKS, emphasising its role in fostering sustainable development, promoting cultural identity, and addressing socio-economic challenges. The study also highlights barriers, including systemic biases, resource constraints, and tensions between Africanisation and internationalisation. By analysing the Kenyan Competency-Based Curriculum (CBC), the research identifies opportunities for introducing IKS at higher levels of education. However, the limited application of IKS, confined to lower primary schools, underscores the need for reforms. The paper contrasts the romanticisation of IKS with its practical implications, arguing that integrating IKS is not merely a preservation of cultural heritage but a dynamic process essential for holistic education. Recommendations include curriculum revision, financial investment, and teacher training to bridge gaps in implementing IKS. By demonstrating the transformative potential of IKS in higher education, the paper makes a compelling case for its integration as a means to empower local communities, enhance self-reliance, and achieve educational relevance in Kenya.

*Keywords:* Indigenous Knowledge Systems (IKS), Higher Education, Kenyan Education System, Colonial Legacies, Competency-Based Curriculum (CBC), Eurocentric Curricula, Africanization, Decolonising Education, Sustainability, Curriculum Reform.

### Introduction

Whenever the subject of integrating Indigenous Knowledge Systems (IKS) into an educational curriculum arises, a series of pertinent questions naturally follows: What is an Indigenous Knowledge System? Who will teach these systems? Is it feasible to integrate them into our curricula? What is their relevance in today's modern world? Perhaps these questions echo a common sentiment of skepticism— "one of those futile academic endeavors... colonialism is too deeply rooted." It is in the backdrop of these

piercing questions that this paper was born: *Is integrating Indigenous Knowledge Systems a possibility, impossibility, or a mirage?*

In 2018, Kenya ushered in a groundbreaking era with the introduction of the Competency-Based Curriculum (CBC). This innovative system takes strides in integrating indigenous knowledge but remains confined to lower primary schools, focusing on athletics, dress etiquette, counseling, and indigenous language activities (Lumonya, 2020). While this represents a promising beginning, the broader endeavor of seamlessly incorporating Indigenous Knowledge into Kenya's educational fabric remains an unfinished venture.

To address these gaps and challenges, this paper examines seven interconnected thematic areas. First, it defines Indigenous Knowledge Systems (IKS), exploring their characteristics, methods of transmission, and evolving role in modern society. Second, it analyzes the relationship between education and IKS, focusing on how formal, nonformal, and informal learning frameworks either support or hinder the integration of indigenous knowledge. Third, the paper situates these discussions within the broader African context, drawing on examples from Uganda, Eritrea, South Africa, and Kenya to illustrate the transformative potential of IKS integration.

Fourth, it reviews research on the effects of excluding and including IKS in educational settings, particularly in Kenya and South Africa. Fifth, it highlights the importance of IKS in fostering cultural relevance, sustainability, and socio-economic development, while addressing systemic biases and resource constraints that impede integration. Sixth, it examines the challenges of integrating IKS into education systems. Seventh, it considers the balance between romanticizing and practically implementing IKS. Finally, the paper concludes with actionable recommendations for embedding IKS into Kenya's higher education system, including curriculum reforms, inclusive pedagogy, and policy strategies to bridge the gap between local realities and global aspirations.

### ***Indigenous Knowledge Systems and Their Characteristics***

To address the question of whether integrating Indigenous Knowledge Systems (IKS) into Kenya's education curriculum is a possibility, impossibility, or mirage, it is essential to first understand the essence of IKS. Defining and characterizing these systems provides

a foundation for exploring their potential role in education. Indigenous Knowledge Systems are not monolithic; they encompass a rich and dynamic interplay of cultural, historical, and practical dimensions. Understanding their unique features and their capacity to adapt and evolve offers crucial insights into how they can be woven into modern educational frameworks.

Indigenous Knowledge Systems (IKS) represent a combination of knowledge domains such as technology, philosophy, social structures, economic frameworks, educational methods, legal principles, and governance systems. These systems are deeply connected to the culture and historical evolution of communities, playing a fundamental role in shaping civilizations. Traditionally, they guided local-level decision-making across various domains within rural communities. However, this dynamic has shifted in modern societies, with IKS increasingly marginalized (Bitzer & Menkveld, 2004).

IK operates on three interconnected levels. First, it encompasses heritage from the past, preserving rich knowledge systems in areas like botany, medicine, and governance passed down through generations. Second, it represents a distinct African mode of thought, embodying unique approaches to learning and teaching rooted in cultural contexts. Third, IKS extends into proactive knowledge creation, where cultural heritage, individual insights, and contemporary development challenges intersect to produce new knowledge. This creative process adapts and reinvents tradition to meet present-day needs (World Bank, 2004).

Additionally, IKS is a comprehensive and dynamic system rooted in the practical experiences of communities. It spans diverse domains, including agriculture, animal husbandry, hunting, fishing, healthcare, and environmental management, reflecting a holistic approach to addressing daily needs and long-term sustainability. Unlike Western knowledge systems, which often emphasize specialization, IKS thrives on diversity and complexity. As individuals within communities age, they are expected to acquire knowledge across multiple domains, creating a broad and interconnected understanding of their environment. This diversity underscores the adaptability and depth of IKS, enabling it to evolve and meet the changing needs of its holders (Crawhall, 2016).

Transmission of IKS is primarily intergenerational, occurring through oral traditions and culturally grounded practices such as storytelling, songs, and rituals. These methods preserve its relevance and adaptability while embedding it deeply within the cultural identity of the community. As a communal resource, IKS emphasizes collective ownership rather than individual possession, playing a vital role in managing and governing natural resources. Its cultural relevance is evident in its reflection of local norms, values, and beliefs, safeguarded through rituals and social structures that dictate access and sharing, ensuring protection and continuity (Crawhall, 2016).

Beyond its cultural significance, IKS contributes to sustainability and resilience. It offers practical strategies for coping with environmental changes, conserving biodiversity, securing food resources, and reducing disaster risks. However, engaging with IKS demands ethical sensitivity, particularly in respecting local customs and the sacred nature of certain knowledge. Outsiders must approach IKS with cultural awareness, ensuring that custodians maintain control over how it is shared. These characteristics highlight the profound role of IKS in preserving cultural heritage, promoting environmental stewardship, and supporting sustainable development (Crawhall, 2016).

### ***Education and Indigenous Knowledge***

Having explored the defining characteristics and cultural significance of Indigenous Knowledge Systems, the next critical question is how these systems interact with education. Education, in its various forms—formal, nonformal, and informal—plays a pivotal role in the transmission and preservation of Indigenous Knowledge. Yet, traditional education systems have often marginalized IKS, favouring standardized curricula over localised knowledge. Examining the relationship between education and IKS reveals opportunities and challenges for integration, highlighting the potential for education systems to bridge the gap between traditional wisdom and contemporary learning needs.

**Formal education** is characterised by structured and systematic learning environments, such as schools and universities, and is predominantly diploma-oriented, designed to confer recognized qualifications and degrees. In contrast, **nonformal education** encompasses organized learning that occurs outside the boundaries of formal education

systems, including literacy programs, vocational training, and traditional initiation ceremonies. **Informal** education, on the other hand, represents lifelong learning that unfolds through daily experiences and interactions. This form of education is unstructured and occurs in various contexts, including families, communities, and workplaces (World Bank, 2004).

Historically, formal education has been the primary mode of learning in many societies. However, its emphasis on standardized curricula often marginalizes IKS and local cultural practices, as these frameworks fail to align with the lived experiences of local communities. Nonformal education, by contrast, is more adaptable, addressing the specific needs of these communities by integrating elements of IKS. This approach not only complements formal education but also bridges traditional knowledge systems with modern developmental goals. Informal education further supports the transmission of IKS by allowing individuals to learn organically through their environment and cultural practices, free from the rigid structure of formal curricula. Together, the interplay of formal, nonformal, and informal education forms a comprehensive framework for learning, each contributing uniquely to the preservation, adaptation, and application of Indigenous Knowledge (World Bank, 2004).

### **A Brief History of Kenyan Education System**

While education provides a pathway for transmitting Indigenous Knowledge, its effectiveness is influenced by the historical and structural frameworks within which it operates. To contextualize the challenges facing IKS integration in Kenya, it is necessary to delve into the historical evolution of the country's education system. This historical analysis sheds light on how colonial legacies have shaped contemporary education and perpetuated systemic biases against indigenous epistemologies.

The education systems in most African countries, including Kenya, are underpinned by colonial foundations. These systems were designed to produce what Macaulay—speaking of India—described as a class of interpreters: “a class of persons, Indian in blood and colour, but English in taste, in opinions, in morals, and intellect” (Macaulay, 1994, as cited in Murungi, 2019). This racially motivated colonial education aimed to strip those subjected to it of their distinct identity and comprehensive understanding of their past.

The educational framework imposed by colonialists acted as a cultural bomb, strategically annihilating indigenous perspectives. European culture became the extreme benchmark for standardization, demanding blind conformity while denying African people's recognition as rational and historical beings (Murungi, 2019).

In this context, the notion of "Africanising institutions" becomes particularly relevant. As articulated in a compelling argument: "...while no one would ever envisage 'Anglicising' Oxford University or 'Americanising' Harvard University, the notion of 'Africanising institutions in Africa' makes sense, on the basis of past fundamental inequalities. Africanisation therefore makes sense not only because curricula are alienating, but also because of the past injustices of our society..." This perspective underscores the urgent need to reform educational curricula to reflect African realities and histories (Letsekha, 2013).

In their historical analysis of Kenya's post-independence education reforms, Inyega et al. (2021) trace the evolution of the country's curriculum to highlight the interplay between cultural, political, and economic forces shaping its educational landscape. The introduction of Western education during colonial rule in the 1800s set the stage for subsequent reforms aimed at aligning education with Kenya's national priorities. Following independence in 1963, the Ominde Commission (1964) became the cornerstone of Kenya's educational transformation, seeking to promote national unity and equity. This commission abolished racial segregation in schools, established Kiswahili as a compulsory subject, and introduced English as the medium of instruction from Grade One. To reinforce national identity, rituals such as singing the National Anthem and flag-raising ceremonies became integral to school routines (Inyega et al. 2021).

Structural changes accompanied the Ominde Commission's recommendations, including the creation of the Kenya Institute of Education (now the Kenya Institute of Curriculum Development) and the East African Examinations Board. These initiatives expanded access to quality education for Africans, particularly through bursaries that allowed increased enrollment in elite schools, traditionally dominated by Europeans and Asians (Agonga & Muhingi, 2020). By 1970, African representation in such institutions had significantly grown. The introduction of the 7-4-2-3 education system—seven years of

primary, four years of lower secondary, two years of advanced secondary, and a minimum of three years of university—sought to address the country's labor and developmental needs. However, criticisms of this system's rigidity and its limited alignment with labor market demands led to further reforms (Agonga & Muhingi, 2020).

The Mackay Commission (1981) spearheaded the shift to the 8-4-4 system in 1985, which emphasized vocational and technical training to reduce unemployment and promote self-reliance. While the 8-4-4 system was an ambitious attempt to modernize education, it faced several challenges. The increased costs of infrastructure and equipment, such as workshops and home-science facilities, placed a heavy burden on parents. Teachers, underprepared for vocational training, struggled to deliver the expanded curriculum, and students faced longer hours and more demanding coursework. Over time, critics deemed the system too broad, expensive, and politically driven, questioning its effectiveness as an educational reform (Amutabi, 2019).

To this day, African educators remain bound to predominant Western scholarship and its methodological frameworks, creating a disconnect between intellectual teaching and students' lived experiences. Curricula designed with these benchmarks contribute to alienation, failing to resonate with learners' realities or address the philosophical and social contexts of their communities (Letsekha, 2013). Post-independence Kenya sought to restore African dignity through education by expanding schools and introducing practical-oriented curricula like the 8-4-4 system in the early 1980s. This system aimed to enhance self-reliance and provide diverse employment opportunities, but persistent gaps between educational objectives and graduates' self-reliance remained (Murungi, 2019).

As a result, Kenya transitioned to the Competency-Based Curriculum (CBC) in 2018, a transformative shift toward practical skills and competencies (Amutabi, 2019). The CBC prioritizes critical thinking, creativity, and problem-solving, contrasting the teacher-centered methods of the 8-4-4 system. Key features include formative assessments, ICT integration, and inclusivity for marginalized groups. The CBC's structure, divided into Early Years, Middle School, and Senior School, tailors education to developmental needs and future aspirations (Amutabi, 2019).

Key features of the CBC include its use of formative assessment techniques, which emphasise continuous evaluation of a student's progress rather than relying solely on high-stakes final exams. This shift offers a more comprehensive understanding of learners' abilities and development. Additionally, the curriculum integrates Information and Communication Technology (ICT) into the learning process, reflecting the need to align education with technological advancements and global trends. The CBC's structure organizes education into three levels—Early Years, Middle School, and Senior School—each tailored to the developmental needs and future aspirations of learners (Amutabi, 2019).

Inclusivity is an important aspect of the CBC, ensuring that all students, including those with disabilities and from marginalized backgrounds, have equal access to education. The curriculum recognizes and accommodates diverse learning needs, promoting equity and opportunity for success. This comprehensive and forward-thinking approach seeks to address the shortcomings of previous systems by fostering a well-rounded and adaptable generation equipped to contribute meaningfully to society. The CBC's emphasis on competencies, inclusivity, and continuous assessment marks a significant milestone in Kenya's pursuit of a modern, effective, and relevant education system (Amutabi, 2019). While the CBC represents progress, the application of IK remains confined to lower primary schools, with indigenous knowledge integration still limited to athletics, dress etiquette, counseling, and indigenous language activities. (Lumonya, 2020). Challenges like inadequate stakeholder involvement and unclear implementation strategies reflect tensions between ambition and practicality (Inyega et al., 2021; Murungi, 2019). The CBC aims to address prior systems' shortcomings by fostering a dynamic, inclusive, and competency-focused education system, aligning with Kenya's goals for cultural preservation and global relevance.

Despite the progress, achieving meaningful reform requires a broader effort to decolonise education by reframing curricula to reflect African cultural heritage while maintaining global adaptability. This balance is crucial for aligning education with the needs and aspirations of African societies (Agonga & Muhingi, 2020).

### **Case examples of Integration of IKS in Africa**

Kenya's challenges in integrating Indigenous Knowledge Systems are not unique; they mirror broader struggles across Africa. Examining cases from other African countries provides valuable insights into the transformative potential and practical challenges of incorporating IKS into formal education. These comparative examples highlight both the shared legacies of colonialism, and the diverse strategies employed to reclaim and integrate indigenous epistemologies into modern education.

**In Senegal, the communities of Malicounda-Bambara and Nguerigne-Bambara** demonstrate the transformative potential of collective decision-making rooted in indigenous practices. These communities successfully spearheaded a movement to abandon Female Genital Cutting (FGC), a practice deeply embedded in their cultural fabric. The initiative began with community discussions led by local leaders, including the Imam of Malicounda-Bambara, who educated villagers on the health risks of FGC while respecting their cultural values. This grassroots campaign expanded through neighboring villages, fostering solidarity and illustrating the power of shared cultural knowledge to drive positive change (World Bank, 2004).

**Eritrea's Indigenous Knowledge Initiative** highlights a systematic approach to documenting and preserving traditional practices for educational purposes. By engaging communities in conversations and using questionnaires, this initiative captured valuable insights into agricultural techniques, traditional medicine, and cultural rituals. The project emphasized community validation of the collected knowledge, ensuring its authenticity and relevance. This repository of IK serves as a vital educational resource, bridging the gap between traditional wisdom and modern development frameworks (World Bank, 2004).

**In Uganda, traditional agricultural practices rooted in IK** have played a pivotal role in food security and sustainable farming. The cultivation of indigenous crops like Matoke (plantain) and the use of climate-adapted farming techniques have proven resilient in the face of environmental challenges. The World Bank's Indigenous Knowledge for Development Initiative supported the integration of these practices into national agricultural policies. By training local farmers and incorporating traditional methods into

research programs, the initiative strengthened the role of IK in sustainable agricultural development (World Bank, 2004).

Across Africa, **traditional healers have been instrumental in addressing public health challenges**, particularly in rural areas where modern medical facilities are scarce. Their extensive knowledge of local herbs and healing practices has been leveraged in HIV/AIDS prevention programs. Collaborating with traditional healers in public health campaigns ensures culturally sensitive health education, enhancing the acceptance and effectiveness of such initiatives. This approach not only acknowledges the expertise of indigenous healers but also builds trust within communities (World Bank, 2004).

Additionally, **South Africa** serves as a powerful example, having officially recognised indigenous medicine practitioners, historically referred to as Isangomas, as doctors. Structures now exist in South Africa to support their professional development, elevating their societal roles and setting a benchmark for other nations, including Kenya (Amutabi, 2019).

**The traditional hunters of Burkina Faso** exemplify the integration of IK in biodiversity conservation and natural resource management. Known for their sustainable hunting techniques and deep understanding of local ecosystems, these hunters have contributed to wildlife conservation efforts. By involving them in policy discussions and conservation initiatives, their knowledge is recognized as a critical asset for sustainable environmental stewardship (World Bank, 2004).

**In countries like Cameroon, Tanzania, Ethiopia, and Zimbabwe**, community telecentres have emerged as hubs for capturing and disseminating indigenous knowledge. These centres enable rural communities to share insights about local practices, such as farming techniques and cultural traditions, while gaining access to information from other regions. This initiative underscores the role of technology in bridging knowledge gaps and fostering connectivity among indigenous communities (World Bank, 2004).

**Participatory action research in Mali** demonstrates how community-driven approaches can effectively integrate IK into development solutions. By involving community

members in the research process, this initiative created opportunities for locals to contribute their knowledge and co-develop strategies to address challenges. For example, training programs encouraged collaboration between researchers and community members, fostering a sense of ownership and empowerment while ensuring that solutions aligned with local realities (World Bank, 2004).

### ***Research Conducted on the effects of Inclusion and Exclusion of IKS in Universities***

#### ***Kenya***

According to research conducted by Murungi (2019), the role of curriculum decolonization in fostering self-reliance among Kenyan students was investigated through a comprehensive mixed-methods study. The research aimed to address the gap in Kenya's education system, which has traditionally emphasized theoretical and Eurocentric approaches that inadequately prepare students for self-reliant livelihoods. The study focused on the integration of African indigenous curriculum elements into the contemporary system as a means of enhancing self-reliance.

The study employed both descriptive survey and correlational research designs, targeting 537,211 participants, including 520,893 students and 16,318 academic staff from public and private universities in Kenya. A sample of 384 respondents, composed of 60 academic staff members and 324 final-year Bachelor of Education students, was selected using stratified random sampling. Data was collected through a combination of structured questionnaires and interview schedules. To ensure reliability and validity, the instruments underwent expert evaluation, peer review, and statistical testing using Cronbach's Alpha, yielding a reliability coefficient of  $\alpha = 0.862$ .

Quantitative data was analysed using descriptive and inferential statistics, while qualitative data from interviews was categorized into themes. Measures such as mean scores, standard deviation, and Pearson's correlation coefficient were used to examine the relationships between curriculum decolonization and self-reliance. Regression models were employed to determine the extent to which curriculum changes influenced self-reliance among students.

The findings revealed that while the contemporary Kenyan curriculum supports self-reliance to a moderate extent, its effectiveness is limited by an overemphasis on theoretical content and a lack of alignment with the socio-economic realities of learners. Murungi found that integrating African indigenous knowledge and practices significantly enhanced self-reliance among students. The practical skills taught through indigenous methods, such as farming, craft-making, and home management, were identified as critical components. These skills not only equip learners for the job market but also instill creativity, problem-solving abilities, and adaptability.

Statistical analysis provided robust evidence of the impact of decolonizing the curriculum. Regression analysis showed that a unit increase in decolonizing curriculum corresponded to a significant increase in self-reliance (coefficient = 0.936,  $p < 0.01$ ). The study also found that decolonizing curriculum explained 54.2% of the variation in self-reliance, demonstrating its substantial influence. Correlation analysis reinforced these findings, revealing a strong positive relationship between decolonized curriculum elements and self-reliance (Pearson's  $r = 0.736$ ,  $p < 0.01$ ).

Qualitative insights highlighted the role of curriculum contextualization and indigenous pedagogical approaches in achieving self-reliance. Respondents noted that integrating indigenous knowledge, such as environmental management and community-based problem-solving, into the curriculum aligns learning with real-world challenges. Practical subjects received the highest mean scores in terms of their contribution to self-reliance, while respondents also emphasized the importance of replacing rote memorization with creativity-focused evaluation methods.

Murungi's research concluded that the hypothesis asserting no significant relationship between decolonizing curriculum and self-reliance was unsupported. Instead, the findings underscored that decolonising education through the inclusion of African indigenous elements is vital in fostering self-reliant, adaptable, and resourceful learners. This study not only offers a compelling argument for curriculum reform in Kenya but also serves as a blueprint for other African nations grappling with similar educational challenges.

*South Africa*

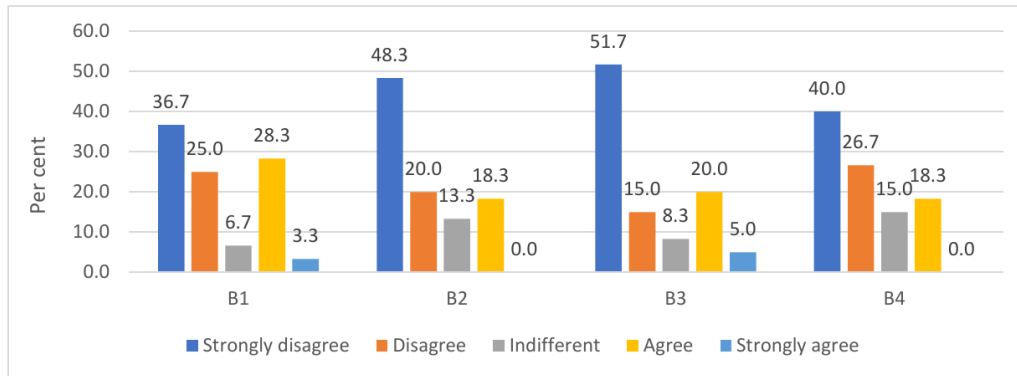
A study conducted by Anwana (2022) utilized a mixed-methods approach to investigate the decolonization of the first-year business law curriculum at the Durban University of Technology (DUT). This research integrated quantitative data collection through structured Likert-scale questionnaires and qualitative data via semi-structured interviews. The quantitative survey involved 60 second-year Business Law students, while qualitative insights were drawn from interviews with 10 third-year students. These instruments aimed to evaluate students' perceptions of the curriculum and identify indigenous epistemologies and knowledge systems that could be incorporated. Ethical guidelines were adhered to, with only participants aged 18 and above included. The demographic representation mirrored the DUT population, with 58.3% female, 41.7% male, and 92% African students. The findings revealed notable themes related to students' perceptions of the curriculum and the impact of excluding indigenous knowledge.

**The first theme** highlighted significant dissatisfaction with the first-year curriculum, as 61.7% of students disagreed or strongly disagreed that it included indigenous legal systems familiar to them. Additionally, 68.3% felt that traditional African practices were not addressed, while 66.7% reported no exposure to traditional sources of law or comparisons with traditional systems. Interviews further revealed that students viewed the exclusion of indigenous traditions and knowledge as indicative of the inferiority of their cultural customs.

Table 1 and Figure 1: from Anwana (2022, p. 66).

**Table 1:** Students' perceptions of the first-year law curricula

B1	The curricula contained indigenous legal systems which I am familiar with.
B2	The curricula made mention of traditional practices which are peculiar to African people.
B3	The curricula exposed me to become aware of traditional sources of law.
B4	The curricula made comparisons with traditional practices or systems when discussing certain legal topics.



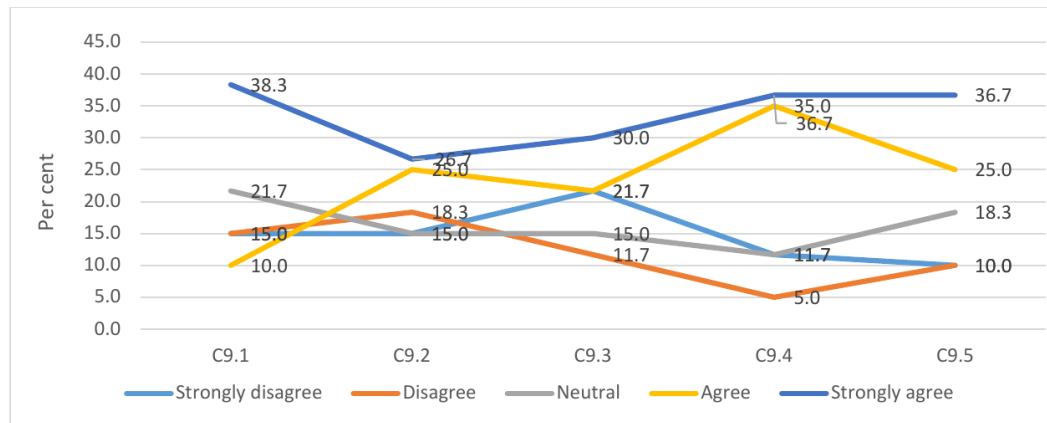
**Figure 1:** Students' perceptions of the first-year law curricula

**The second theme** focused on the effects of excluding indigenous content on student learning. A substantial proportion (48.3%) described the curriculum as foreign and disconnected from their lived experiences. Furthermore, 51.7% believed that the exclusion of indigenous legal systems suggested Africa lacked legal structures before European influence. The lack of recognition for African traditional legal systems was felt by 71.7% of respondents, and 61.7% reported that this exclusion contributed to feelings of inferiority. Interviews echoed these sentiments, with one student questioning the relevance of memorizing Latin legal phrases and expressing frustration over their lack of translation into isiZulu.

Table 2 and Figure 2: from Anwana (2022, p. 67).

**Table 2:** Effect of exclusion of indigenous content on student learning

C9.1	It felt foreign to me.
C9.2	I felt that we did not have laws in Africa before the arrival of Europeans.
C9.3	It didn't bother me.
C9.4	I felt that our traditional legal systems were not recognized.
C9.5	The exclusion made me feel inferior as an African student.



**Figure 2:** Effect of exclusion of indigenous content on student learning

Anwana's (2022) study underscores the importance of integrating indigenous knowledge into the curriculum to foster cultural inclusivity, relevance, and a sense of pride among students. These findings provide a compelling case for curriculum reform to align educational content with the socio-cultural realities of African learners.

### **The significance of integrating indigenous knowledge systems in the Kenyan Higher Education System**

The cases across Africa underscore the transformative power of Indigenous Knowledge Systems in addressing local and global challenges. Building on these examples, it is important to articulate the specific significance of IKS in education. This section delves into how IKS fosters cultural relevance, sustainability, and socio-economic development, emphasising its role as a critical resource for creating inclusive and contextually relevant education systems.

The question of whether Indigenous Knowledge Systems (IKS) hold significance in a modernising world often elicits skepticism. However, this skepticism stems not only from

a misunderstanding of the value of IKS but also from deeply entrenched historical and systemic biases. Bridging the gap between the potential of IKS and the challenge of its integration requires a comprehensive understanding of its transformative capacity, as well as a critical examination of the barriers that hinder its acceptance in formal education systems. This section explores the dualities of integrating IKS into higher education—its immense potential and the obstacles it faces—while drawing on diverse scholarly perspectives.

As Sekiwu, Akena, and Rugambwa (2022) argue, integrating African Indigenous Knowledge (AIK) into university pedagogy is critical for creating equitable, inclusive, and contextually relevant education systems. They highlight the historical marginalisation of AIK under colonial and neocolonial influences, which privileged Western epistemologies while dismissing indigenous contributions to global scholarship. To counter these inequities, the authors advocate reaffirming AIK's value within academia, enriching academic discourse, and fostering a balanced knowledge framework that respects diverse perspectives.

Despite this, the integration of Indigenous Knowledge (IK) into contemporary scientific and educational systems in Africa remains a complex endeavor, hindered by historical, cultural, and systemic biases. A key challenge lies in the perception of IK as inferior to Western scientific knowledge—a legacy of colonialism that continues to undermine the legitimacy of traditional practices. This bias fosters mistrust and marginalization, relegating indigenous systems to the periphery of academic and developmental discourse. To address this, African scholars must actively validate and articulate the contributions of IK, moving beyond Western benchmarks of legitimacy and recognising the unique value of African epistemologies (Naamwintome & Millar, 2015).

Curriculum development further complicates the integration of IK, as most educational systems prioritize Western methodologies while sidelining local knowledge and cultural practices. Misunderstandings about African sciences, often dismissed as superstitious or unscientific, exacerbate these challenges. Barriers such as language and cultural secrecy also hinder documentation and dissemination. Many indigenous practices rely on oral traditions, which may not translate easily into written forms, while some knowledge is

reserved for specific groups, limiting its broader accessibility and understanding (Naamwintome & Millar, 2015).

The legacy of colonial and global influences compounds these challenges. During colonial rule, IK was dismissed as primitive, a marginalization that persists today. Globalization further entrenches these biases by promoting homogenized, Western-dominated narratives that overshadow local knowledge systems. Addressing these issues requires meaningful community engagement and collaboration with local experts, including traditional healers and knowledge holders. Universities must redefine their roles to support such collaborations, developing inclusive frameworks like "Open University systems" tailored to local contexts. By fostering partnerships and honoring the cultural significance of IK, academic institutions can reclaim and elevate indigenous knowledge, ensuring its preservation and integration into modern practices (Naamwintome & Millar, 2015).

Building on this foundation, Sekiwu et al. (2022) propose transformative learning theory as a framework for integrating AIK into university curricula. This approach emphasizes reflective instruction, critical thinking, and re-evaluation of traditional knowledge structures, empowering learners to meaningfully engage with both AIK and Western paradigms. Practical applications include localized examples in teaching scientific theories, involving community elders in mentorship roles, and utilizing ethnographic projects to bridge academic knowledge with indigenous practices. Such initiatives enhance educational relevance, position students as agents of social change, and preserve culturally significant knowledge for future generations.

Furthermore, IKS offers valuable tools for sustainable development by equipping graduates with culturally relevant strategies to address local and global challenges. As Sekiwu et al. (2022) emphasize, AIK provides insights into sustainability, community development, and problem-solving that traditional Western methods often overlook. Addressing challenges like stigmatization and the dominance of Western research methodologies requires context-specific teaching approaches and institutional support to ensure effective integration of AIK into higher education

Mawere (2015) reinforces the importance of integrating IK into public education systems in sub-Saharan Africa, emphasizing its potential to motivate learners, instill cultural identity, foster interpersonal relationships, and promote sustainable development. He demonstrates how the Mandau people of Western Mozambique use traditional beer-brewing techniques akin to distillation processes taught in science classrooms, illustrating how IK enhances students' understanding of technology and development.

The inclusion of IK also plays a pivotal role in preserving cultural identity. Mawere (2015), citing Busia (1964) and Moumouni (1968), stresses the importance of teaching education rooted in African cultural heritage and indigenous languages. This approach fosters self-esteem, cultural preservation, and multilingual responsiveness to global and local educational needs. He contrasts Western education's individualism with the communal ethos of traditional African education, which integrates moral character-building, intellectual training, and practical skills. This communal approach prepares students for cooperative societal roles, highlighting the urgent need to reintroduce these values into modern education systems.

In the Kenyan context, Owuor (2007) argues that IK is crucial for addressing the deficiencies of Western-oriented development paradigms. By incorporating culturally relevant indigenous knowledge, Kenyan educators can validate local epistemologies while balancing global demands. Indigenous education in Kenya reflects the cumulative process of learning and sharing through storytelling, proverbs, and rituals, emphasizing communal well-being over individual wealth. The Kenyan proverb, "It takes a whole village to educate a child," underscores the shared responsibility of nurturing future generations (Owuor, 2007).

Research consistently shows that integrating IK into formal education fosters democratic living and liberates individuals. Msila (2016) advocates incorporating IKS to empower individuals through localized knowledge, promoting sustainability and environmental stewardship. Kaya and Seleti (2012) highlight how cultural forms like folk stories and proverbs can teach practical concepts while involving community elders in intergenerational learning. This approach enriches students with life skills and fosters a strong sense of identity.

### **Challenges facing integration of indigenous knowledge systems in Kenya**

While the potential of Indigenous Knowledge Systems in transforming education is undeniable, significant barriers hinder their integration. Understanding these challenges—ranging from systemic biases and resource constraints to the tension between Africanization and internationalization—is crucial for developing effective strategies to overcome them. This section explores these obstacles in detail, setting the stage for actionable recommendations.

In Kenya, integrating Indigenous knowledge systems into higher education is particularly challenging. One significant issue is the persistent dismissal of African culture, language, customs, and practices within the education system. Kenyan universities, built on Eurocentric models, continue to maintain predominantly Western curricula and structures despite decades of discussion about Africanisation.

Letsekha (2013) notes that a study across six African universities found that academics recognized this problem but felt constrained by insufficient resources and the pressure to conform to global education standards. This has led to a form of “xenophilia,” where Western frameworks are valued not necessarily for their effectiveness but because of their foreignness. The lack of an Africanized higher education system has created a sense of betrayal among scholars who feel torn between Africanization and internationalisation. There is a perception that prioritizing Africanization might compromise the pursuit of genuine intellectual activity or knowledge as per international standards. This conflict between Africanization and internationalization presents a complex challenge, where prioritizing one seems to contradict the benefits of the other (Letsekha, 2013).

Another profound challenge is the recognition and validation of Indigenous knowledge as a legitimate pedagogic and instructional tool in higher education. This requires hiring Indigenous and racial minority scholars, integrating Indigenous knowledge into curricula, and adopting instructional and pedagogic practices that reflect these frameworks (Sefa, 2002). Kenya’s education system, shaped by centuries of Western dominance, struggles with this integration. Owuor (2007) cautions against a one-size-fits-all approach, noting that bundling together Kenya’s diverse ways of knowing under a single category of “Indigenous knowledge” risks separating these knowledge systems from their specific

contexts. This generalisation could lead to superficial curriculum implementations, jeopardising the unique contributions of distinct Indigenous knowledge systems (Owuor, 2007).

Foreign aid also complicates efforts to integrate Indigenous knowledge into Kenya's education systems. For example, the USAID-sponsored "Tusome" project aims to improve early literacy among Kenyan primary school pupils. However, critics argue that such reliance on external funding allows foreign entities to influence curriculum content and teaching methods, often resulting in disconnection from local realities, cultures, and Indigenous knowledge (Murungi, 2019). This reliance highlights the broader issue of external influences shaping Kenya's education system in ways that may not align with its cultural priorities.

Validating the suitability of African Indigenous Knowledge (AIK) in academic contexts poses additional challenges rooted in historical, cultural, and institutional factors. The colonial legacy entrenched Western knowledge as the dominant intellectual framework, fostering skepticism toward AIK. This mindset often sees knowledge as universal and context-independent, conflicting with the local and culturally specific nature of AIK, leading to its marginalisation in academia. Compounding this is the lack of standardisation and formal documentation of AIK, which, unlike Western scientific knowledge, is often transmitted orally and tailored to specific cultural contexts. The absence of standardized methodologies and resources makes it difficult for researchers and educators to assess and integrate AIK into curricula, while minimal documentation increases the risk of losing valuable Indigenous knowledge over time (Madzivhandila, 2024).

Institutional resistance also hampers efforts to integrate AIK into education. Many universities remain rooted in Western epistemologies, resisting curricular changes and failing to support AIK-focused research or adequately train educators. This resistance is further complicated by the challenge of reconciling Indigenous ways of knowing with Western scientific methods. The disconnect between academic institutions and Indigenous communities further limits the application of AIK in research and policymaking. Overcoming these barriers requires recognizing the value of AIK,

fostering dialogue between knowledge systems, and creating supportive environments for its inclusion in education and scholarship (Madzivhandila, 2024).

In addressing these challenges, it is essential to validate Indigenous frameworks, emphasize community control, and foster systems that reflect the moral, social, and cultural values central to African societies. These efforts can help create equitable and culturally responsive education systems that truly reflect Kenya's diverse knowledge systems.

### **Weighing 'Romanticisation' and 'Practicality' of Indigenous Knowledge Systems integration**

This section of the paper intends to 'weigh' arguments made for and against integration of indigenous knowledge systems.

There always exists an unwavering dilemma when it comes to issues touching on integrating indigenous knowledge systems. This dilemma stems from the 'perceived' pulling in different direction of the objectives it intends to achieve. As seen above when it comes to the current trend of universities seeking to internationalize; the idea of integration of IKS is often seen as a compromise of the pursuit of a genuine intellectual activity or knowledge as per international standards. This conflict is a complex challenge, which is often seen as a divergence meaning that prioritising one seems to contradict the benefits of the other (Letsekha, 2013).

This argument has however been dismissed, research in fact indicates that the two are indeed compactable. Internationalisation is said to take strong cognisance of the local culture, and that, without the local, there would be nothing to offer the other and so a strong local culture would enhance the value of internationalisation. The reason being that knowledge production is deeply heterogeneous, because different viewpoints are constantly being added and reconciled, but the common element of all forms of international knowledge systems is their localness. This would therefore mean that without localisation, internationalisation is pointless (Letsekha, 2013).

Another, argument against integrating Indigenous Knowledge Systems (IKS) is that in doing so goes against the dominant or widely accepted ideas. This is because those who are being dominated adopt and accept the views and ideas of the dominant group. As a result, the goals and the actual practices within which efforts are made to bring about change are shaped by the beliefs and structures of the dominant group (Sefa, 2002). This is perhaps a perfect argument for the notion “A master’s tools will never dismantle the master’s house” which is a quote by André Lorde who is often cited to imply to the fact that the colonized cannot destroy the coloniser who created them and thus making them her ‘tools.’

Sefa further argues that this is an unfortunate situation however to him; the problem comes in when the argument is overstretched to imply that counter-hegemonic discourses can themselves become hegemonic. It is his position that critical discourses are still marginalized in our academies and, in fact, do not have the same space and the institutional structures and resources that support and reproduce conventional hegemonic discourses. He then proceeds to encourage Indigenous scholars to reclaim aspects about their cultures and traditions which can be narrated as a whole and fundamentally human and that they need to do so to affirm and to resist an amputation of their past, history and cultures (Sefa, 2002).

Sefa concludes, that emphasising the necessity of centering varied, alternative, and oppositional discourses and knowledge systems in academic practices. He encourages scholars to challenge the political economy of knowledge production and consider the broader social, political, cultural, and personal implications of academic colonisation (Sefa, 2002).

Additionally, the use of the term "indigenous knowledge" in the context of IKS has been critiqued, leading some to advocate for the adoption of the term "endogenous knowledge." This critique is rooted in the argument against racialising or ethnicising knowledge concepts by emphasising for the need of a criterion that looks beyond "indigeneity." The preference for "endogeneity" aims to sidestep unproductive debates on identity. Despite this proposal facing criticism for potentially promoting nativism or cultural nationalism, proponents of endogeneity assert that it recognizes the contextual

nature of scientific principles and their application, challenging the idea that adopting Western ideals and cosmopolitanism is the only path forward. (Crossman (2004) as cited in Letsekha, 2013).

Adésínà illustrates endogenous scholarship with examples from three schools of history: the Ibadan School, the Dakar School, and the Dar-es-Salaam School. These schools, driven by a commitment to their locale (Africa), demonstrate that local relevance is compatible with global and rigorous scholarship. The term "endogenous" is proposed as more justified and beneficial than "indigenous" in the discourse on Africanization, representing a process unrelated to geographical location, race, or ethnicity and focusing on the development of African universities in line with the changing cultural and material context of their communities and learners (Adésínà (2006) as cited in Letsekha, 2013).

### **Conclusion**

This paper concludes that integrating Indigenous Knowledge Systems (IKS) into Kenya's higher education curriculum is not an impossibility or a mirage but a transformative opportunity requiring deliberate and sustained effort. The historical analysis reveals that colonial legacies continue to shape Kenya's education system, often sidelining African epistemologies in favor of Western-centric frameworks. However, the adoption of the Competency-Based Curriculum (CBC) signifies a progressive shift toward skills-based and contextually relevant education. While the CBC's current integration of IKS is confined to lower primary education, its expansion to secondary and tertiary levels is imperative for achieving a holistic transformation of Kenya's educational landscape.

IKS has the potential to revolutionize higher education by fostering cultural relevance, sustainability, and socio-economic development. By embracing IKS, Kenya can address local challenges such as environmental conservation, food security, and community development while equipping students with critical thinking skills and a stronger sense of cultural identity. Furthermore, the integration of IKS can empower students to navigate global academic and professional spaces with confidence rooted in their heritage.

Nevertheless, several challenges impede the full integration of IKS into Kenya's higher education system. Resource constraints, systemic biases, and the perceived conflict

between Africanisation and internationalisation create significant barriers. Addressing these requires strategic curriculum reform, adequate funding, comprehensive teacher training programs, and active collaboration with community elders and local knowledge holders. Universities must also adopt pedagogical approaches that validate indigenous epistemologies while fostering dialogue with global knowledge systems.

Ultimately, integrating IKS represents a critical step in the broader project of decolonising education in Kenya. It offers an opportunity to align academic systems with local realities while retaining global relevance, thereby bridging historical divides and fostering equitable development. By valuing and institutionalising indigenous knowledge, Kenya can create an inclusive, sustainable, and transformative education system that not only preserves its cultural heritage but also propels its learners into a future defined by resilience, innovation, and social justice.

### **Further Recommendations (Addendum)**

From the above conclusions IKS has a great potential of transforming higher education by inculcating the quality of self-reliance amongst Kenyan students which will not only have an impact on the nation's socio-economy but also on the local community's development. For this reason, the government should:

- Revise the Competency Based Curriculum to ensure that this indigenous knowledge acquired in primary school is expanded and maintained through high school and universities.
- Provide finances that will ensure universities are able to integrate indigenous knowledge systems in their curricula.
- Train teachers on IKS and find ways to include community members well versed with indigenous knowledge to the education system.
- Need to advocate for the validation of expertise acquired through informal and non-formal sectors—what can be termed as learning from the "University of Life" (Amutabi, 2019).
- Recognition of indigenous medicine by creating structured pathways for these experts to share, refine, and professionalise their skills (Amutabi, 2019).

- Universities and tertiary institutions should foster an academic environment that values indigenous knowledge alongside formal expertise, Kenya can build a more inclusive and dynamic education system (Amutabi, 2019).

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