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Institutionalizing the Intangible through Research and Engagement: Indigenous Knowledge and Higher Education for Sustainable Development in Zambia

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Dear reviewers,

Thanks so much for taking the time out of your busy academic schedule to attend to the article captioned **“Institutionalizing the Intangible through Research and Engagement: Indigenous Knowledge and Higher Education for Sustainable Development in Zambia”**

Your comments were well received and considered in the attached revision of the manuscript. Most of these revisions have been highlighted in red for easy identification. In particular, we have carried out the following edits:

- 1) Thorough editing for English grammar, spelling and syntax as requested
- 2) The conclusion section has been strengthened to provide a more solid summary of the article's findings, as well as suggestion for future research.
- 3) An additional couple of relevant articles have been captured in the article to enhance its connection to the Zambian context
- 4) Other comments on the manuscript have been attended to.

On a separate note, we maintained the capitalisation of “Indigenous” and not “indigenous”. We wish to argue that the word is a proper noun and an identity, just like British or American. We therefore spelt the word Indigenous as a matter of respect for Indigenous people. Furthermore, the United Nations (and other supranational organisations) spells the word similarly and it is present as such in most, if not all style guides. We trust this should be the case in our article and in accordance with how Indigenous people themselves want the word spelt.

Kind regards!

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Institutionalizing the Intangible through Research and Engagement: Indigenous Knowledge and Higher Education for Sustainable Development in Zambia

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Abstract

Universities have an integral role in the development of communities. This is underpinned by the notion that universities possess a social responsibility to be agents of change in relation to society's socio-economic, political, and environmental issues. In Africa, the quest for sustainable development necessarily engages a consideration of the different forms of knowledge available. This is as a result of the rich and varied patterns of beliefs, behaviour, and values that permeate the continent and have persisted despite colonialism. In this paper, we assert that there is much to be gained from engaging Indigenous knowledge through scholarship and public responsibility. Through a qualitative case study design based on relational dialogues with academic researchers and university managers, we emphasize the attributes associated with constructing and acting upon Indigenous knowledge at one university in Zambia and the ways in which Indigenous knowledge can contribute to sustainable development through a community engagement remit. This work also **seeks** to centre African research and researchers in the discourse on higher education in Africa.

Keywords: Indigenous Knowledge; Sustainable Development; Higher Education; Zambia

Declarations

This work was produced through a Research Grant from the Society of Research into Higher Education. The authors thank the granting agency for their generous support. The authors report no conflicts of interest. Ethics approval to conduct this research was granted by the case institution and the authors' organizations. The authors explained the purpose of the research to participants who then signed informed consent documents agreeing to participate in the study.

Introduction

In academic discourses on Africa, there is a plethora of outputs that captures the need for sustainable development in the continent and the role of higher education. However, sustainable development is an elusive concept, subject to varying interpretations and contextualization. The premise at the foci of this paper goes beyond the Brundtland Report that asserts it is ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED, 1987, p. 43). As several developmental endeavours thrive to address the challenges of the present age, guaranteeing the potential of future generations to meet their economic, environmental and human development needs is fundamental to the concept. However, questions need to be asked on how present and future needs can be ascertained, addressed, who the key actors are and what alternative forms of knowledge systems are needed for sustainable development. It can be acknowledged that indigenous knowledge holders can play a critical role and this is essential as in more recent times, governing bodies such as the United Nations have highlighted the need to include and protect indigenous peoples and their cultures in interventions aimed at benefitting them (Breidlid, 2009; Kaya, 2014; Magni 2017). It can be argued that one cannot expect lasting results from a development mission amongst a population without recognising, respecting, and sustaining the particular views, practices, representations, expressions, knowledge, know-how, and other forms of intangible heritage held by the community.

In Africa, the quest for sustainable development necessarily engages a consideration of the different forms of knowledge available, given the rich and varied patterns of beliefs, **behaviour**, and values that permeate the continent and have persisted despite the epistemic violence associated with colonial encounters (Awuah-Nyamekye 2015; Mawere 2014). As Dei

(2014) asserted, constructions of education and development in Africa should first start with what African people and communities *know*. This know-how, often conceived of as Indigenous knowledges, practices, and adaptations, brings together a localized understanding of the ecological, social, political, economic, and historical environment – what Mawere (2014) referred to as African science -- and are increasingly being engaged in education, both formally and informally, particularly in South Africa (Breidlid 2009).

However, despite its potential for expanding epistemologies and addressing community challenges, there has been little institutionalization of Indigenous knowledge. It can be posited that “for several reasons in a post-independence Africa, those in charge of designing education structure continue to advance the colonially bequeathed foundations of education across the region” (Ezeanya-Esiobu 2019, 107). This is also perpetuated by Northern actors who heavily influence the *business* of African development (Okolie 2003). Therefore, much of the literature on the incorporation of Indigenous knowledge in education is aspirational in nature, with little documentation of how an institution, as an agent of development, collects and incorporates Indigenous knowledge into its policies and practices.

University actors often connect with communities and their knowledge as part of a broader institutional engagement strategy and mission. Community engagement is a critical element of the university’s development orientation, evidenced through teaching, research, and leadership, and ostensibly, making the university morally accountable to the communities they serve (Bernardo, Butcher, and Howard 2012). Comparative efforts at understanding community engagement have underscored the shared nature of applied research and interrogation of institutional policies that impact the well-being of the community (ibid; Watson, Hollister,

Stroud, and Babcock 2011), situating community engagement as a site of knowledge (co-) production (Bawa 2014).

The conceptual ideas of community engagement, Indigenous knowledge, and adaptations mediated through research are crucial for developing competent and development-oriented actors (Mbah and Fonchingong 2019). Through a qualitative case study design, based on relational dialogues with academics and university managers, we emphasize the attributes associated with institutionalizing Indigenous knowledge at one university in Zambia and the ways in which Indigenous knowledge can contribute to sustainable development through a community engagement remit.

Conceptual Framework

We have nested our exploration of Indigenous knowledge at the case institution within an engagement remit. The discussion below draws upon concepts broadly associated with an engaged university that provide the fabric for this analysis, focused on the connections between community engagement, Indigenous knowledge, and institutional action toward sustainable development.

Conceptualizing the Engaged University in Africa

Higher education in Africa has been perceived by many, both internally and externally to the continent, as a way to further development goals (often defined externally, though), by promoting unity, self-reliance, and equity through the creation of knowledge, economic growth, and educated citizenry (Samoff and Carroll 2004). It has been suggested that the African university must take responsibility for setting and achieving national development objectives and ‘to educate itself to be development conscious and development oriented’ (Ajayi et al. 1996, 203). This notion, associated with the developmental ideals espoused in the post-colonial era of

the African university (*ibid.*), has increasingly been operationalized in policymaking and institutional strategies (Assié-Lumumba 2007; Cloete, Bailey, and Maassen 2011).

However, there has been and continues to be considerable, and often warranted, critique of the structures, stratifications, and inequalities perpetrated on and perpetuated by universities (Darvas, Gao, Shen, and Bawany 2017) and the dependencies sustained by external forces (associated with the North, historically) (Okolie 2003; Samoff and Carroll 2004; among many others), not to be remunerated here, that undermine institutional will, despite the optimism of the developmental ideal. ‘The African university is a colonial satellite of the Western academy’ (Dei 2014, 169). The model is contextually impoverished. However, ‘[t]hat “there is no alternative” to the form now being taken by the university is precisely not the case: now, there are lots of alternatives’ (Barnett 2011, 440). Higher education in Africa should be **re-examined** through a more localized lens in order to bring to the fore knowledge produced by and for African communities to address African problems (Okolie 2003).

Taking up this call, researchers and practitioners alike, have begun a re-envisioning of the relationship between universities and communities in Africa. Dei (2014) conceived of the university as an African Academy in which academic excellence is context-specific, anti-colonial (see also Dei 2013), community engaged through reflexivity, and, most importantly, epistemically Indigenous. It can be maintained that ‘such Indigenous knowledges take the learner to history, culture, tradition, past, and identity as both contested, concrete, and meaningful to how we come to de-colonize the school/university curriculum and create social and academic excellence’ (2014, 165). From this perspective, the university’s method of engagement with knowledge goes beyond the acquisition of knowledge for knowledge’s sake, but aims to form a wide and varied network, starting from the local community in which it is placed to ensure a

balanced and equitable approach to the development of itself, the local community, and the environment (Mbah 2016).

Indigenous Knowledge and the Engaged University

Whereas intangible cultural heritage (ICH) consists of different domains such as oral traditions and expressions, including language as a vehicle of the intangible cultural heritage; performing arts; social practices, rituals and festive events; knowledge and practices concerning nature and the universe, and traditional craftsmanship (UNESCO, 2003), particular attention in this paper is being placed on oral traditions, expressions and practices. These facets of ICH is situated in indigenous knowledge systems, understood as reflecting traditional, empirical, and revealed understandings of the world, expressed by a given people (Castellano, 2000), which has been passed from one generation to the other and constitute their embodied cultural capital.

The reciprocal relationship inherent to concepts of community engagement assumes that knowledge flows between both the university and the community, each ostensibly contributing to the development of the other (Moore 2014, among others). Although not without challenges, given the power imbalances, exploitation, and what Preece (2009) referred to as ‘subjugated knowledges,’ community cultural knowledge engaged through these partnerships is often considered intangible as ‘[i]t incorporates experiences, skills, and techniques, remembered and accumulated’ (Turner et al. 2008, 46) and has often been relegated to the annals of superstition and ‘epistemic othering’ (Keet 2014) by both majority and minority world scientists and scholars. As a result, there has been an unnecessary dichotomization of knowledge: Western science versus Indigenous knowledge. As Dei (2011) underscored, Indigenous knowledge is not static, but in constant flux as it engages with the world: ‘no one is calling for a return to a mythic

past...It is a recognition of the need to renegotiate knowledge and develop multiple ways of knowing to allow us to be able to read, know, understand, and interpret our complex world' (23).

Often connected with intangible heritage, that is the social values encompassed within a specific site, Indigenous knowledge is unbound by disciplinarity (Mawere 2015) and the "concept is as diverse as there are voices that utter the term" (Ezeanya-Esiobu 2019, 6). **Although local and Indigenous knowledges are sometime used interchangeably (Mbah 2019), with the Indigenous referred to as local or native to a geographical context (Jacob et al. 2015), it can be maintained that**

the 'Indigenous' is about unbroken residence and the knowledge that comes with such a length of time. Indigenous is about land, place, body, and politics. While local knowledge addresses knowledge localized in a place, the question of land, connections with spirit and metaphysical realms of existence of a place, is central to a conception of Indigenous. (Dei 2014, 166-167)

Academics have an important role in constructing the engaged university by generating and disseminating context-specific knowledge to solve situated challenges to development, particularly when co-created through research that *engages* the community (McAteer and Wood 2018).

Academic Research, Indigenous Knowledge, and the Engaged University

Historically, community engagement through research, commonly known as community-based research (CBR), has been a political act, engaging feminist, ethnic, Indigenous, and Black community studies and praxis, tracing its roots to revolutionary movements in Latin America, Asia, and Africa (Ibhakewanlan and McGrath 2015). Grounded in a service orientation to the community, CBR draws on "the "situated knowledge" of both the researcher and the researched

(or research participants); that is, knowing depends on the contexts (space and time marked by borders and interruptions) in which it occurs' (Finley 2008, 98). Ibhakewanlan and McGrath (2015) underscored a social view of knowledge and knowledge construction, both epistemologically and ontologically, in African CBR. This necessarily evokes constructions of Indigenous knowledge.

Universities across Africa espouse service to the community as part of their missions, nested within national development frameworks. Given a weak civil society sector in many countries, the university often links up directly with community members (Preece 2013). As both institutional stakeholders and resources, academics serve as intermediaries between the community and the university's engagement mission, through engaged academic scholarship that cuts across the teaching, research, and service expected of academics as institutional representatives (Kruss 2012). These notions, however, are more robust in South Africa, where community engagement has been debated and institutionalized in both national and university policy, in response and opposition to Apartheid (Balintulo 2004; Bhagwan 2017; Cloete 2014; Kruss 2012; Preece 2013, among others).

In other countries, though, there are often little resources, support, institutional infrastructures, or incentives for academics to participate meaningfully in community engagement (Mtawa, Fongwa, and Wangange-Ouma 2016). Chipindi and Vavrus (2018) note in their exploration of the identity of academics in Zambia, that in the face of resource dependency and 'rapidly deteriorating working conditions' (144), the academics feel immense pressure to act as institutional 'fundraisers' and as well as academic researchers, thereby constraining their research agendas and service contributions. The possibility of academics serving as authentic

intermediaries in the university's service mission is confined by institutional conditions, priorities, and will.

Despite these challenges, the expectation that academics will engage with the community via teaching and research, producing socially relevant knowledge, is an oft articulated policy priority within national development frameworks (Cloete, Bailey, and Maassen 2011). Drawing on Gibbon's (1994) work on forms of knowledge production, in South Africa, policy discourse on the service mission of the university evolved to transpose Mode 1 knowledge, that is traditional, disciplinary knowledge produced by **academics**, with Mode 2, or transdisciplinary, contextual, problem-oriented knowledge produced by networked teams of diverse knowledge creators (Jansen 2002; Waghid 2002). This closely associates knowledge production with development goals and needs and it can be argued that 'the inclusion of normative social values in the disciplines problematises the expert/lay dichotomy, and has the potential to foster new partnerships between higher education and the society it serves' (Winberg 2006, 169). This expectation has implications for the type of research an academic engages in, the problems they grapple with, the sites of knowledge production, and the participation of university and non-institutional actors in the process. Transdisciplinary and contextualized knowledge for development may emerge from engaged partnerships between academics, students, and community members through problem-based learning, community service, volunteerism, service learning, and community-based research (Bawa 2014; Ibhakewanlan and McGrath 2015; Preece 2013; among others).

While there is robust literature on the nature of the engaged university in South Africa, there is little on the other 53 countries and territories of Africa related to how universities employ Indigenous knowledge to address sustainable development through their engagement remit. How

does the university then institutionalize this knowledge? And how does it feature in the university's role as a development agent in Africa? This paper **seeks** to address these connections and intersections between the community-based research of academics, Indigenous knowledge, the university, and development in one particular African country, Zambia.

Context of the Study

This study focused on a country not commonly addressed in the African education literature: Zambia. This is for two important reasons: 1) The research on African education has been fixated on Commonwealth countries with large, stable education systems (see Nigeria, Kenya, and South Africa) to the impoverishment of our understanding of linguistically diverse and geographically isolated nations; 2) The country's development plan addresses sustainable development and the role of education in national growth strategies. Located in Southern Africa and a member of the Southern Africa Development Community (SADC), Zambia is a country of over 16 million people, claiming diverse ethnicities (Bemba 21%, Tonga 13%, Chewa 7%, Lozi 6%, among others), the majority of which reside in rural areas (60%) (UN Country Analysis 2015). In 2018, Zambia ranked 143 out of 189 countries assessed by the United Nations' Human Development Index (2019). Zambia is a Lower Middle Income Country (LMIC), whose economy relies heavily on copper mining exports. About 76% of the population participates in the **labour** market, at roughly even gender rates, with an average of 7 years of schooling, although the country has a high out of school population; about 47% of students drop out of primary school (2015). Zambia is also suffering from climate change, with an increase in temperatures and extreme weather events (2015; 2019) that have implications for management of natural resources and agricultural practices, key aspects of their economy.

The research reported here also focused on public universities, one in particular, because they are often guided by and evaluated on their contribution to development (Ajayi, et al. 1996), and are more likely to have academics expected to conduct research (despite limited funding, support, training, and institutional infrastructure to do so) (Iteji and Njuguna 2014), and possess institutional policies related to the University's contribution towards economy development (Cloete, Bunting, and Maasen 2015).

The University of Zambia

At independence from Britain in 1964, Zambia faced an acute shortage of human resources with just 100 individuals with an undergraduate degree, and just under 1000 with a secondary school certificate (Achola 1990). Thus, the newly independent country was in dire need of human resources to fill the positions of responsibility in the government from the departing British (Chipindi and Vavrus 2018). To respond to the shortage of skilled manpower, the government embarked on a project to establish a university as a matter of great urgency (Chipindi and Vavrus 2018). A commission was set up, immediately after independence, to consider this problem and declared that the new university was to be 'responsive to the real needs of society' (Lockwood Commission 1963, 3). The University of Zambia (UNZA) was thus established in 1966 on a 290 acre-plot approximately 8 kilometers from the central business district of Lusaka, Zambia's capital and the seat of the government. This meant that the institution was to be shaped by the context in which it was situated, namely, the newly independent country. This made the institution permeable to the dominant regional discourses such as liberation and decolonization, specific to the Southern African region, and national

discourses such as nation building through human resource development and capacity building in all sectors of the economy.

Given an estimated number of around 30,000 as at the 2018/19 academic year, the student body at UNZA has grown tremendously ever since the founding of the institution. There is also an estimated academic workforce of 802 and 2,000 administrative staff members. The language of instruction is English, although the country itself boasts over 70 **Indigenous** languages and dialects.

Methods

This research engaged an instrumental, qualitative case study approach that required interacting and collaborating with participants in their contexts in order to understand the phenomenon under investigation (Stake 1995). Moreover, we sought to investigate this one case in order to understand more broadly how universities, in similar contexts, engage Indigenous knowledge to address sustainable development, capturing the case's instrumentality. Further, we attempted to decolonize the methodology by not relying on theory to 'identify and define the research issue' (Chilisa 2012), therefore we privileged participants' formations, the 'assemblage[s] of signs and symbols' (Lincoln and Guba 2013, 52), of Indigenous knowledge and the outcomes of this knowledge within the context of the university and sustainable development. In this **endeavour**, we were driven by the following questions:

1. How do academics involved in CBR projects construct the role of Indigenous knowledge within their activities?
2. How does the university act upon knowledge generated from CBR to contribute to sustainable development?

Sampling

Participants in this study were university managers and academics at UNZA (N=34) and were identified via two techniques: criterion and snowballing (Patton 2002). Criteria were knowledge of institutional policy, and role (academic/manager) for university members. We sought participants from a variety of disciplines, projects, and units in order to capture heterogeneity in participant experience and depth in our understanding of **their contexts**. Participants selected through criterion sampling were also asked to identify potential participants (i.e. **snowballing**) who met the criteria addressed above. Like a snowball rolling down a hill, this strategy enabled the identification of an increased number of informants familiar with the phenomena under investigation.

Academics (n=22) and managers (n=12) had on average 11 years of experience at the university and represented the humanities, natural sciences, social sciences, medical, and professional fields. Additionally, when constructing our sample we attempted to be **cognisant** of gender, specifically that women do not participate equally in higher education and are not represented equally within the academy in Zambia (Mwale-Mkandawire, 2019), and attempted to capture as many women's voices as possible. Eleven of the 34 academic and manager participants were women.

Data Collection

After receiving ethical clearance from UNZA, fieldwork began in March 2019 and entailed responsive and relational dialogues (interviews and talking circles) with academics engaged in community-based research and university managers that support the research mission of the institution (Chilisa 2012). These dialogues were guided by a protocol, but was flexible

enough to allow for serendipitous moments (Simons 2009). Conversations with academics were driven by questions regarding the participants' work with the community, how they understood Indigenous knowledge, how they were able to capture and represent Indigenous voices/practices within their research and findings, and how the university has engaged **with** the knowledge produced by research. We also asked participants to connect their work to sustainable development and to identify the partnerships both envisaged and created through CBR that supported the university's role in development.

Managers were asked to describe structures that support the university's engagement with Indigenous knowledge and practices within community-based research and what management mechanisms were in place to foster the process and benefits of Indigenous knowledge and practices to research outcomes. University managers were also asked to connect these outcomes to the university's role in development. Fundamentally, the dialogues, as structured, placed the participants' expertise and experience at the **centre** of the engagement -- seeking stories, examples, and context-dependent definitions of concepts -- treating 'facts-as-experience' (Simpson 2008, 96). Depending on the nature and depth of the conversation, sessions with managers and academic members were between 30 minutes to 1 hour in length.

Data Analysis

The first two phases of our analysis strategy used coding to parse the data, or taking the data corpus apart in order to make sense of the whole (Stake 1995). Coding began with structural coding that captured conceptual phrases and participant-driven examples consistent with the research questions (Saldaña 2016). This first phase of coding focused on defining concepts (Indigenous knowledge, CBR, sustainability), generating examples, connecting to institutional support frameworks, and understanding participant experiences.

The second phase of analysis entailed pattern coding that grouped the structural codes into a smaller number of categories, effectively reducing the data into analytic units, and identifying emerging explanations of the case (2016). As the name suggests, pattern coding generated ‘patterns’ in the data segments, or what Stake called ‘correspondences’ (1995, 78). Pattern codes both organize the data corpus and begin to attribute meaning to the organization (2016), well suited for case studies. Here we connected codes associated with Indigenous knowledge, CBR, and university engagement and sustainable development. We also noted connections between Indigenous knowledge and decolonization, as well as challenges with incorporating Indigenous knowledge into the structures of the university. Analytic memoing during coding facilitated capturing intersecting concepts in the analysis process and generating preliminary propositions about the case (2016).

Importantly, we also isolated participant stories and examples from the corpus to exemplify the case. ‘Stories formed in everyday conversation, which may include those generated in research processes, are directly linked to the experience of organisational members and their desire to account for and make sense of their lives’ (Simpson 2008, 94-95). The third and final phase focused on constructing the case. Using categorical aggregation, we put the parts of the corpus deconstructed during coding back together to create a whole (Stake 1995), or rather an interpretation of the phenomenon under investigation. In the findings below, we represent the case in the form of naturalistic generalizations, or verisimilar researcher conclusions about the case (ibid). We use participant stories and other descriptions -- also a method of validation of case study research (ibid) -- to illustrate aspects of the case, as we are unable to portray the totality of our analysis or the case here.

Findings

Our experience at the university provided the foundation for a rich, thick description of the case. Alas, there are limitations on what we can share, so as an instrumental case study, we focus on three naturalistic generalizations that have the most significance for other institutions: (1) the experience of university stakeholders with Indigenous knowledge and community-based research, which we describe as ‘taking the intangible seriously’; (2) how the participants then connected this knowledge with development, what we call ‘relevance, re-learning, and resilience’; and finally, (3) how the university then institutionalized these connections, or ‘engaging the intangible.’ We describe these generalizations below.

Taking the Intangible Seriously

Prior to understanding how the university employed Indigenous knowledge, identified through academic driven CBR, for sustainable development, we needed to explore how our participants, at the university, defined and connected to Indigenous knowledge; subsequently uncovering a great deal of variety in comprehensions. Some participants juxtaposed and disconnected it from ‘Western’ knowledge, while others identified a co-evolution between scientific knowledge and Indigenous knowledge, and many focused on its nature: the context, history, temporality, dissemination of that knowledge, and its fundamental *intangibility*. One participant exhorted:

Okay now, in the first place these terms are terms that you also need to [be] very careful because during the colonial system, the local knowledge was given very negative terms, when you call it native education, native was taken in a very negative connotation and so is Indigenous. So quite a number of times when you are using these terms, you are already [devaluing] that knowledge because of that history. (An academic, Education)

A manager in Education underscored that defining Indigenous knowledge must be a concerted effort in ‘selling it’ and in showing analogues to so-called conventional knowledge:

This knowledge is already there, it’s not a new knowledge. We have had it except that it was poorly packaged; let’s [repackage] it and bring out certain concepts of

knowledge...There is still negativity in some people who have not embraced Indigenous knowledge... But most academics will separate two things: something else when they go back home from Indigenous knowledge which actually they live with every day. Very strange; it's a paradox right?

The data above also show that academics, themselves, were culpable in dismissing Indigenous knowledge, despite their lived experiences. Another participant put it: 'So you are looked down upon and you are not taken seriously and that's another challenge if you are into African Indigenous knowledge systems and even you publishing that. I don't think people will take you serious' (An academic, Religious Studies). Others spoke about the 'disease of disciplinarity' and siloing at the university that prevented knowledge sharing that might validate the subject. So while definable, participants expressed concern over the legitimacy of Indigenous knowledge in the academy.

Other participants underscored the criticality of acknowledging Indigenous knowledge in their work as researchers. An academic engaged in CBR operationalized his definition of Indigenous knowledge within his methodological approaches, questioning 'conventional' approaches, and underscoring that this had implications for his research relationships with the community.

First of all, the Indigenous knowledge in my research has been a source of problem identification because often Indigenous knowledge is not reflected in conventional knowledge and in policies. The second part of Indigenous knowledge has to do with the methodology,... for instance when you read in a textbook which says a focus group discussion should have not more than eight people and then you wondered and say 'but this guy, does he really know that actually in my rural area I cannot chase someone who wants to add to the number?' So I ended up in trying to say, 'no no no,' I think, in terms [of] methodological approach, there is something that the conventional science can learn and that has motivated me to go much deeper into participatory research methods, this action research oriented approaches in research. (Manager and an academic, Natural Sciences)

His was a two-part critique: one of representation and one of methodology. Another participant highlighted how taking Indigenous knowledge seriously in her work helped her to understand the role of context in how the community uses the outcomes of research.

Well I learn a lot definitely, sometimes you go there and you think that things work in a particular way but when you go there you listen to them...in Zambia we have about 73 ethnic groups, some of them are matrilineal, some of them are patrilineal, and if you forget that then you will find that you are missing something...so now I pay attention to them; there is a reason why they have some of these systems. So what happens to the widow when the husband dies, does she still access land and whatever. Those are sort of insights I have learnt from the Indigenous knowledge which I never used to think about before. Before I would go like, 'Why aren't they adopting this technology?' but then I realized you have to think about how the community is arranged traditionally and that will affect how they manage resources. So definitely I've had real insights because of paying attention to the Indigenous knowledge. (An academic, Natural Sciences)

A climate researcher noted that, in his experiences, communities wouldn't take research outcomes seriously unless they were connected to Indigenous conceptions and **contexts**.

So my contribution currently will be to see how to bridge the different gaps between scientific knowledge and Indigenous knowledge because currently it looks like that's the only way it will work, that's the only way people on the ground will actually accept even the working technology. They have to see it even being locally driven for them to adopt it. (An academic, Environmental Science)

Defining and operationalizing Indigenous knowledge both in opposition to and in conjunction with so-called conventional science seemed to be an important epistemological struggle for community-based researchers. In each case, engagement with Indigenous knowledge necessitated that the researchers reconsider their approaches to community-based inquiry and knowledge, both that **of** being produced from and that **of** being engaged **with** in the research process.

Relevance, Re-learning, and Resilience

Linkages between Indigenous knowledge and sustainable development were readily accessed by participants engaging in community-based research. Participants connected to development through the idea of locally-generated solutions as being inherently more relevant and thus *sustainable*.

Going by my understanding, something which is Indigenous is local and can go on forever, because it plays with local conditions. And if you are working on something which is local, to me it's sustainable. Because you can't get an idea from another country and bring that technology to that country without looking at what the local people are using. To me when you are looking at local technology, it's more sustainable because it deals with local conditions, what the the community wants. (An academic, Natural Sciences)

Using Indigenous knowledge, according to some participants, could also play a decolonizing role in communities while also contributing to sustainable development.

So my plea and appeal for modern people is to re-learn, re-think and unlearn what they have been carrying all these years because some of the knowledge they are carrying may not be quite useful anymore, hence there need to unlearn and re-learn knowledge. (An academic, Environmental Education)

Fundamentally, using Indigenous knowledge to address problems led to empowerment and resilience:

It has a very big role to play in sustainable development in the sense that it actually leads to self-confidence in an individual...once a people possess self-confidence in themselves, they will be able to solve their own problems. So sustainability comes in because they will be able to solve their own problems. (An academic, Food Science)

By legitimizing Indigenous knowledge, cooperating with the community, and closing the gaps between scientific knowledge and Indigenous knowledge, the academic played a role in sustainable development, and without this connection, solutions leading to development may be slow coming. As one academic in psychology stated, 'What a young man cannot see even when [they] he stands on the top of the anthill, a grandmother can see while seated.'

Institutionally Engaging the Intangible

Integration, and attitudes associated with integration, of Indigenous knowledge at the university was demonstrated at different levels: the individual/the classroom, the unit, and the institutional. Academics often spoke of their individual efforts and commitment to expose students to Indigenous knowledge through course content and activities:

You see, we are training our students, our graduates to have an impact on the community, alright. So we are not training them for export to Europe, we are training to have an impact on the community... I think it's strongly important for our students to understand the contexts of Indigenous knowledge, we highlight this kind of knowledge as we teach. (An academic, Epidemiology)

The curriculum and associated content should be localized or indigenised for development purposes. Participants added that the College of Education had also started a program on Zambian Cultures & Ceremonies, in addition to courses that incorporated Indigenous knowledge and service learning opportunities with communities, extending prioritization of community engagement beyond that of the individual instructor to that of the unit. Additionally, an assistant dean marked the creation of an Indigenous knowledge stream within her college's overall research scheme and addressed the inherent interdisciplinarity of this agenda:

When I inherited this office, I found very clearly tabulated research agenda and some cases of an international work with South Africa, Namibia, Botswana, SADC countries...we have seen a lot of research and aspects of Indigenous knowledge colleagues are researching on but they are linked to other fields: Indigenous knowledge and culture, Indigenous knowledge with economics and indigenous knowledge and language; there are always linked to another discipline, so that's relevant. (Manager, Education)

At the classroom and college level, we see efforts to harmonize Mode 1 and Mode 2 in order to increase the relevance of teaching and research to capacity building.

There were also broader, more comprehensive, approaches to integrating this knowledge into the framework of the university.

Intangible cultural heritage [ICH]...funding was secured for that, it awakened the debate in the nation about what is intangible knowledge or Indigenous knowledge and it is such

a discussion that made people understand that indeed you can have Indigenous knowledge away from witchcraft. With every uproar that was there last year, we were quite sure that there will be zero entry in this program and I think this is what UNESCO has brought about to say we can have a discussion, a national discussion, national debate on what do we think is beneficial; from Indigenous knowledge and how can we promote it and by introducing and reviewing curriculum like the university has done.
(An academic, Veterinary Medicine)

Here the participant described a new, externally funded, socio-cultural research program that promotes and preserves intangible cultural heritage. Interestingly, this program also incited national conversation on the role of Indigenous knowledge in modern education - one that many participants noted was hotly debated. An academic, stated, ‘People mistakenly...started saying, “You want to teach witchcraft.” But that’s Intangible Cultural Heritage, that’s what we are doing in this particular course which we have started... sponsored by UNESCO’ (An academic, Literature and Languages). These efforts did more than expose students and the readers of academic research to the value of Indigenous knowledge, but the nation, enabling the university and its stakeholders to dispel pervasive misconceptions about knowledge.

As the broader organizational efforts were promoted, increased awareness occurred among university stakeholders and influenced individual academics to reconsider Indigenous knowledge in their work. An academic asserted:

I think from all these works that we have been doing and I will be frank with you... has so made me to think about this more differently...I realized you know, maybe when we are doing this research we are not deliberate about understanding Indigenous knowledge’
(An academic, Agriculture and Natural Resources).

As the university institutionalized Indigenous knowledge into its curriculum and engagement endeavours, it **legitimised** the knowledge and interactions between it and other forms of knowledge among its stakeholders to support sustainable development efforts. A manager in Animal Sciences noted: ‘A number of our guiding principles help us to ensure that sustainable development is always at the *back of our mind* when we plan and whatever you are doing.’

Although concrete efforts were taking place at the university to incorporate Indigenous knowledge, into different facets of scholarship, its presence as an **institutionalised** element of community engagement and sustainable development, present in policy documents and institutional directives to stakeholders, was still largely rhetorical.

Discussion

We discovered that academics at UNZA were becoming deliberate in their engagement with Indigenous knowledge through their research practices. Furthermore, exogenously supported initiatives propelled Indigenous knowledge onto the national stage and fed back into the individual awareness and work of an academic, uncovering a critical feedback loop in the acceptance of Indigenous knowledge as a serious subject matter at the university. The need for concrete policy steerage in the incorporation of Indigenous knowledge into the community engagement practices emerged as an area for continued praxis and reflection. Below we address the research questions that guided this inquiry.

Constructing Indigenous Knowledge in the Engaged University

The first research question that guided the study asked about how academics constructed Indigenous knowledge in their CBR activities. Two characteristics of construction emerged from that data analysis: contrasting and harmonizing with Indigenous knowledge. Not unexpectedly, most participants engaged in CBR defined Indigenous knowledge in light of and in contrast to conventional scientific knowledge. Participants highlighted negative attitudes associated with Indigenous knowledge, broadly, and *within* the academy. This is not unsurprising if we position

this response within the discourse on epistemic othering discussed in the conceptual framework. Furthermore, as Dei (2014) writes, '[t]he African university is a colonial satellite of the Western academy' (169); African academics are often educated abroad, where disciplinary biases are rewarded and reinforced, and may thus act as carriers and promoters of Western institutional culture (Nyamnjoh 2012) -- a culture that prioritizes and valorizes Mode 1 knowledge.

If we dig a little deeper into contrasting, we see that an aspect of contrasting was **legitimising**: Indigenous knowledge would *improve* both the academy and research outputs, according to participants, if actually taken seriously. Participants spoke of 'packaging' Indigenous knowledge to make it more acceptable to the academy, as well as integrating the everyday lived experiences of academics, as members of Zambian communities, into knowledge formation. Legitimizing, in these descriptions, entails determining what the university knows and how it uses what it knows (Assié-Lumumba 2006, 151), evoking constructions of the university as a knowledge manager. Knowledge management processes at universities entail knowledge creation, sharing, and transfer, enabled by human resources, institutional platforms, and incentives (Veer Ramjeawon and Rowley 2017).

Knowledge sharing, in particular, arose as a problem associated with the legitimacy of Indigenous knowledge in our case, as participants expressed concerns about the 'disease of disciplinarity' and knowledge siloing at the university, a not uncommon problem at African universities (Maponya 2005). Veer Ramjeawon and Rowley (2017) reported in their work on public universities in Mauritius that knowledge sharing, in particular, is often inhibited by competitive cultures and knowledge hoarding. However, in our case, data also demonstrated nascent knowledge sharing as controversies around the creation of the ICH program brought conversations about Indigenous knowledge to the fore, potentially dispelling these silos.

Participants also noted that by ignoring Indigeneity and Indigenous knowledge in their work associated research outcomes would be impoverished. Expressing explicit awareness in institutional policy regarding research and engagement strategies would validate Indigenous knowledge in the eyes of academics as a legitimate form of knowledge and as a research subject.

Concerns for legitimacy connected to harmonization, the final characteristic of Indigenous knowledge construction among academic participants. Increased awareness of Indigenous knowledge among academic researchers led to harmonization between Mode 1 and Mode 2 knowledge within their methodological approaches to the community. This signalled movement towards the optimisation of Indigenous knowledge at the university and a nascent decolonization of knowledge production: ‘The advantage of this approach to decolonisation is that it recognises and respects other paradigms of knowledge while avoiding the fallacies committed by Eurocentric knowledge systems in silencing, dislocating and marginalising the African knowledge system’ (Ndofirepi and Gwaravanda 2019, 589). When engaged, in this case through harmonization, Indigenous knowledge can contribute more meaningfully to the epistemological diversity of the university.

Acting on Indigenous Knowledge for Sustainable Development

The second and last research question asked participants to describe the ways in which the university acted upon the knowledge generated from CBR to contribute to sustainable development. This is particularly significant for Indigenous or local people to avoid their native language, culture, identity and other insights from staying on the fence of interventions aimed at profiting them (Jacob 2015). Action and engagement of Indigenous people and their cultural assets are therefore required to not only preserve what could otherwise be lost but also make the most of it for sustainable development.

Participants focused on producing relevant knowledge, relearning local knowledge that would lead to sustainability, and devising local solutions. Awuah-Nyamekye (2015) argued that notions of sustainable development have been present in African Indigenous knowledge and understanding for generations, connecting balanced use of natural resources to social harmony. In contrast to ‘sustainable development’ as an exogenously defined project, participants locally defined sustainability, introducing notions of indexicality to the discussion. Weisser (2017) described sustainability a ‘floating signifier’: ‘Groups and individuals attempt to fix meaning to the term, thereby gaining hegemony over it, yet meaning can never be fully fixed and, therefore, must be constantly reproduced, reconstituted and renegotiated’ (1082). Therefore, meaning is context-dependent and definitions emerge through continued engagement. Here we see participants exerting local control over the definition of sustainability in light of often subjugated community cultural knowledges and practices (Preece, 2009). The university, as it negotiates its own understanding of sustainable development as institutional initiatives bring Indigenous knowledge to the fore, will no doubt wrestle with incorporating the local more meaningfully into the new policies borne from that process.

Conclusion

In this paper, we brought to the fore the need to recognise the role of the intangible or Indigenous knowledge systems in fostering sustainable development and through the architecture of the University’s research and community engagement.

Drawing on the discourse on the engaged scholarship in Africa (Mtawa, Fongwa, and Wangenge-Ouma 2016; Mbah 2016; Preece 2013) and beyond (Boyer 1996), transdisciplinary and contextualized knowledge for sustainable development may emerge within higher education

that takes the intangible serious via engaged partnerships between academics, students, and community members to address the public good. However, **organisational** culture and institutional influence may steer the **operationalisation** of the intangible for sustainable development in unique ways to capture, among other things, a prevalent understanding and agenda associated with Indigenous knowledge and how it should be institutionalised in different facets of a university's community engagement strategy (Mtawa et al. 2016). **In order to avoid impoverishing research and engagement outcomes, Indigeneity and Indigenous knowledge should not be ignored. This would take deliberate attempts to enact policies and promote engagement strategies that validate, legitimise and incorporate Indigenous knowledge into mechanisms aimed at promoting sustainable development.**

It can be argued that although Africa's Indigenous knowledge system has been considered to be undocumented and sometimes rigid, backward, underlined by superstition and incompatible with modern society (Banda 2008), yet it can be pivotal in stimulating context driven forms of development. By institutionalizing Indigenous knowledge through a context and culture driven mechanism that recognises and addresses local problems with local insights, the academy can begin to resolve the inequalities perpetuated by universities while also contributing to sustainable development. As Indigenous knowledge becomes increasingly recognised by different higher education stakeholders as a catalyst for sustainable development, the university must not relent from debunking pervasive views by legitimising Indigenous knowledge to counter epistemic injustice inherent to dominant Western structures and epistemologies governing the modern university. Whilst the study was limited by time constrain and the difficulties encountered in uncovering Indigenous voices, a subsequent study can benefit from a

thorough planning and methodological consideration that seeks to give an equal voice to grassroots Indigenous knowledge holders, as their academic counterparts.

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14/01/2021

Dear reviewers,

Thanks so much for taking the time out of your busy academic schedule to attend to the article captioned **“Institutionalizing the Intangible through Research and Engagement: Indigenous Knowledge and Higher Education for Sustainable Development in Zambia”**

Your comments were well received and considered in the attached revision of the manuscript. Most of these revisions have been highlighted in red for easy identification. In particular, we have carried out the following edits:

- 1) Thorough editing for English grammar, spelling and syntax as requested
- 2) The conclusion section has been strengthened to provide a more solid summary of the article's findings, as well as suggestion for future research.
- 3) An additional couple of relevant articles have been captured in the article to enhance its connection to the Zambian context
- 4) Other comments on the manuscript have been attended to.

On a separate note, we maintained the capitalisation of “Indigenous” and not “indigenous”. We wish to argue that the word is a proper noun and an identity, just like British or American. We therefore spelt the word Indigenous as a matter of respect for Indigenous people. Furthermore, the United Nations (and other supranational organisations) spells the word similarly and it is present as such in most, if not all style guides. We trust this should be the case in our article and in accordance with how Indigenous people themselves want the word spelt.

Kind regards!

Authors